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RIHE International Seminar Reports

THE CHANGING ACADEMIC PROFESSION IN INTERNATIONAL COMPARATIVE AND QUANTITATIVE PERSPECTIVES

Report of the International Conference on the Changing Academic Profession Project, 2008

Organized by: Research Institute for Higher Education, Hiroshima University and
Research Institute for Higher Education, Hijiyama University

Research Institute for Higher Education
HIROSHIMA UNIVERSITY

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The Changing Academic Profession in International Comparative and Quantitative Perspectives

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FOREWORD

The changing academic profession is one of the very important typical phenomena that show us the continuous and fundamental change of the higher education systems around the world. Today many countries have experienced the expansion of higher education that is sometimes called massification. It was only several decades ago when we used to say that only the United States had reached the stage of "universal" higher education and a very limited number of countries, including Japan, were reaching the stage of "mass" higher education; while the majority of the rest still remained as "elite" higher education systems where only privileged people in small numbers could access the higher education services.

Today around the world, there are so many countries that confront massification of higher education. Massification does not mean only quantitative expansion of enrolment and growth of faculties and other staff. It causes qualitative changes within the higher education system as well as in the relationship with state and society. People say that universities are no more the ivory towers, as in the medieval era and pre-industrial economy, but social entities that should be supported by the state and society.

Indeed, universities, by their research, teaching and other activities, are expected to contribute to society in terms of economic development and social welfare far more than previously. They are not only schools for the youth but also for the adult students who have various different reasons for study. The continuous change of students as well as social and economic changes has required the higher education system to be more responsive to the needs of students and society. Thus governance and finance, as well as teaching and research, have changed rapidly in recent decades. The academic profession is no exception in terms of the changes.

This year the Research Institute for Higher Education in Hiroshima University hosted an international conference in close collaboration with Hijiyama University. The title of the conference was "The Changing Academic Profession in International Comparative and Quantitative Perspectives". We invited approximately 20 foreign scholars from various regions to attend the conference, which in itself shows the wide international character of this research activity.

The main purpose of the 2008 conference was to enable the participants to give preliminary country/regional reports based on their national/regional

surveys. These surveys had been conducted on the basis of a new version of the 1992-1993 questionnaire organized by the Carnegie Foundation for the Advancement of Teaching. In the two-day conference, international comparative and quantitative research was reported with a focus on six aspects concerning the academic profession. These constitute the core part of the questionnaire and include: careers and the professional situation, the general work situation and activities, teaching, research, management, and personal background. In addition to analysis and discussion of the similarities and differences existing among individual countries and regions, a detailed comparative study of the changes in the academic profession in Japan since the last international survey in 1992-1993 was presented.

This publication reports the proceedings of the conference. I hope that all readers will be helped to understand the changing academic profession and identify the core of the problems that we should respond to. In doing so, I would express my sincere respect to the leadership of Professor Akira Arimoto, who is a co-organizer and also the chair of Japanese research team; and also express my best thanks to Professor Keith J. Morgan, visiting scholar at the RIHE, who led the work of editing this publication.

July 2008

Shinichi Yamamoto
Director and Professor,
Research Institute for Higher Education,
Hiroshima University

CONTENTS

Asia-Pacific Region

Latin America

Africa

Conclusion

Appendices

Acknowledgement

We would like to acknowledge the invaluable contribution of Professor Keith J. Morgan, visiting professor at RIHE, Hiroshima University, who edited all the manuscripts in this report.

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Keynote Speeches

International Implications of the Changing Academic Profession in Japan

Akira Arimoto*

This keynote speech has two main purposes. First, it is intended to shed light on the current situation of a changing academic profession (CAP) in Japan. Second, it intends to consider the implications of an international survey related to the CAP project. The former involves introducing the research aims and traits of a Japanese research project entitled "An International Comparative Study of Construction of the 21st century type of Academic Profession". This project, "a base research project" sponsored by JSSP, will be under progress from 2006 to 2010. For convenience I shall call it the "Japan project" here in this paper. In fact, this international conference is conducted as a part of the Japan project and in this context a discussion of the project's outline actually explains also the relationship between it and the CAP project.

In addition to providing this explanation, it is necessary for me to introduce the recent environmental changes surrounding the academic profession (AP) in Japan and their effects on the changing academic profession so as to identify the Japanese situation in detail. About fifteen years have passed since the Carnegie International Survey of the academic profession was undertaken in 1992-93. During these years, Japanese academia has been subject to influences both from social changes outside academia and from knowledge changes inside academia to the extent that it has experienced a third large academic reform since the institutionalization of a modern higher education following the first in the pre-war period and the second in the immediate post-war period. The academic profession was inevitably expected to change and actually it has changed to a

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considerable degree.

In this context, this paper consists of the following four parts: 1. the purpose of the study: a perspective of the Japanese project; 2. the Japanese academic profession: its own characteristics; 3. the Japanese type CAP and its international implications; 4. the purposes of the CAP project.

1. The purpose of the study: a perspective of the Japan Project

(1) Japan Project

The Japan project entitled "An International Comparative Study of Construction of the 21st century type of Academic Profession" is mainly aimed to clarify the construction and the functions of the 21st century type AP in Japan and other countries.

(2) What is the AP?

The Daigaku Kyojushoku, or academic profession, consisted of *kyoju* (professor), *junkyoju* (associate professor), *koshi* (lecturer), *jokyo* (assistant professor). From 2004 new positions with new names replaced the old ones as follows: *kyoju, jokyouju, koshi, joshu*. The AP embraces all these positions (Central Council for Education, 2004).

(3) Function of knowledge: knowledge, society, university, and academic profession

The university is a knowledge society based on knowledge and so the AP cannot be discussed at all without recognizing its relationship to knowledge. Therefore, it is inevitable that knowledge fulfills an important role with certain proper functions of academia (Biglan, 1973; Bleiklie & Henkel, 2005; Becher, 1981, 1987, 1989). Related to the relationship between a knowledge function and academia, there are four basic functions consisting of discovery, dissemination, application, and control of knowledge. In terms of the four functions of academic work, they are research, teaching, service, and management and administration, respectively (Becher & Trowler, 2001, Becher and Parry, 2007; Clark, 1983; Arimoto, 2004).

In the 21st century, not only the university but also total society is moving toward a knowledge society where the concept of Mode 1 and Mode 2 knowledge is working as pointed out by M. Gibbons *et al.* (1974).

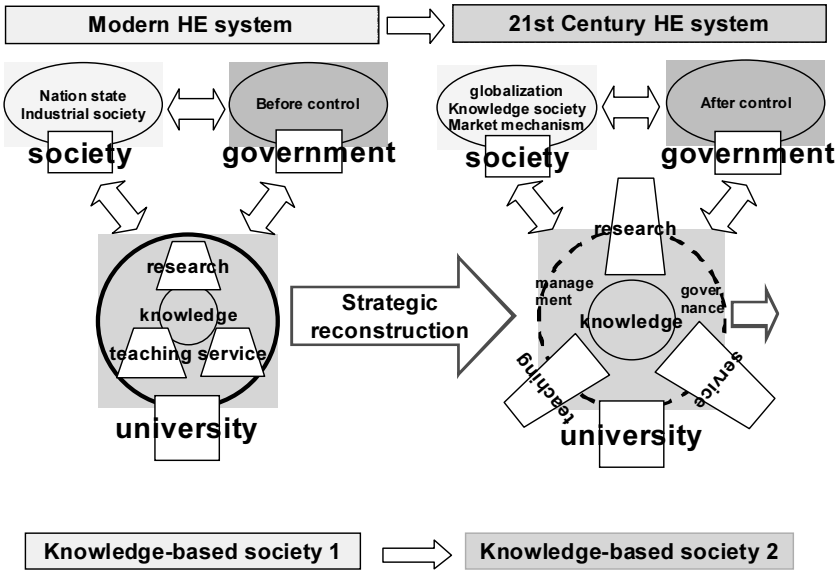

Figure 1. Knowledge, society, and university

Figure 1 represents the relationship between knowledge, society and the university. Modern higher education systems are now changing and adapting to a 21st century mode in response to a series of pressures partly deriving from the external environment, including social changes, and partly from the internal environment including scientific development.

There are global trends changing higher education, such as massification, bureaucratization, marketization, diversification and globalization. Every higher education system is attempting to construct a new type of system appropriate to the emerging social changes. Currently, the existing new type of international social changes derives from similar phenomena: knowledge-based society, globalization, and market mechanisms. At a macro-level, it is inevitable that the higher education systems established in response to industrial society should shift to systems responding to knowledge-based society.

This constitutes a transition from knowledge-based society 1 (KBS1), where university and society were clearly separated from each other, to KBS2, where university and society have become borderless on the basis of a shift from mode 1 to mode 2 (Arimoto, 2007a). In KBS1, knowledge is located inside the university and therefore research, teaching, service, and management and administration are constrained inside the university. Fundamentally, knowledge is solely accessible to the university and remains closed to the external society.

On the other hand, in KBS2, knowledge is related to research, teaching, and service and is connected to both university and society. Knowledge has become open to society as well as the university.

Naturally, the role of the university has to change from a community of knowledge in which CUDOS is working, as described by Robert Merton, to an enterprise of knowledge in which the knowledge economy prevails due to marketization and leads to an academic capitalism (Merton, 1973; Slaughter & Leslie, 1997). Today, conflict between CUDOS and the knowledge economy is apt to deepen (Sorlin & Vessuri, 2007).

The linkage of the knowledge economy to globalization has extended its impact throughout the world, so that the possibility of a unified model related to culture and values has increased. The university may contribute to extend such a unified model by research and teaching. On the other hand, the university may be better able to resist these trends and pressures by strengthening its academic freedom and autonomy. In this picture, conflicts will exist in the movements toward internationalization and globalization (Teichler, 2003). Indeed there are sufficient reasons to support internationalization rather than globalization in order to preserve cultural diversity (Arimoto, 2005a).

(4) Reconstruction of the AP in response to environmental changes

i) The AP around the world confronts the problem of reconstructing missions, roles and functions due to the effects of environmental changes (see Figure 2).

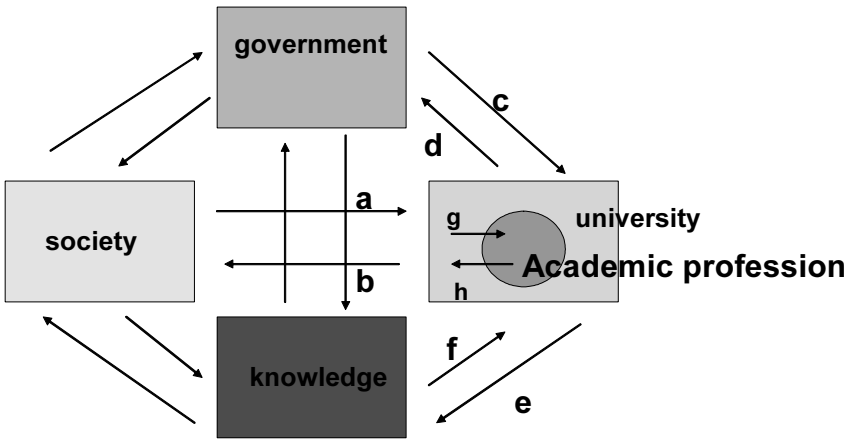

Figure 2. Environmental Change of the Academic Profession

Academic reforms are enforced by the interactions among society (international society, national society, regional society, *etc*.), government (national government, local government, *etc*.), knowledge (advanced knowledge, academic disciplines, *etc*.) and university (sector, type, *etc*.); particularly significant are the interactions between university and society; between government and university; and between knowledge and university. As a result, the vision, function and structure of the AP belonging to the university have to be reconsidered.

ii) It is said that building a new professional vision is an undertaking in both external control and in self-control by the interaction of the various effects and pressures due to the environmental changes on the AP and the AP itself.

In other words, factors such as the social changes (knowledge-based society orientation, globalization, marketization, *etc*.), governmental higher education policy, knowledge reconstruction as the basis of academic work in the university (including system, sector, type, region, *etc.*) and also its direct effect on the AP (for example, the demands for accountability). In the case of the relationship between knowledge (*i.e*. disciplines) and the AP, there can be an international scientific community effect operating directly on the AP without the mediation of the university. The AP is necessarily reconstructed by its reaction to these effects (for example, in orientation towards academic freedom and professional identity).

iii) Currently, models and typologies of the AP are formed at the level of the world, nation, institution, and organization.

First, at world level, the AP embodies knowledge as its intellectual substance just as in the university where academic work is composed of knowledge as operative material and has a deep relationship with academic disciplines as advanced knowledge. It is formation of a research network in the international scientific community by way of academic disciplines, yielding similar structures and functions to the extent that inclines it to make comparatively similar models and typologies.

In this regard, it is clear that the AP has conformed to the main models, such as the German, Anglo-Saxon, Latin-American ones in the 20th Century, corresponding to the birth of modern universities in the 19th century, and which were originally derived from the prototype that was imprinted upon the medieval universities such as Paris and Bologna (Rashdall, 1936).

Second, at the national system level, American, Korean, Japanese models, *etc*. which are derived from the prototype have developed in the process of institutionalization of modern universities.

Third, at the institution and organization level, below that of the system, various models have developed in response to the needs of their sectors, sections, and types. These models, developed across the worldwide and national systems, are proceeding by a "scrap and build" process of dynamic movement towards universalism and particularism. In this context, we can hypothesize that new models are developing today as part of the process of change from the 20th to the 21st century.

iv) To realize these hypotheses theoretically and positively on the basis of observing the real situations, it is necessary to make a comprehensive and comparative study of the formation, development, and reconstruction of the AP. In particular, it becomes most important to study systematically the various models of the AP, especially those national system models that are located at the core and that comprise the various stratifications of the AP in the world, system, institution and organization typologies. From this viewpoint, the study aims to shed light on the individual national systems of the AP through focusing on the four identifiable levels, **i) ii) iii)** and **iv)**. Analysis of the findings is based on the following frameworks.

(5) Framework of the study

In order to realize the process of institutionalization, development, and reconstruction of AP within and between each system, a theoretical study has been conducted by focusing on social change, government, knowledge, university and structure and function (and dysfunction) of the AP. The specific frameworks being used and the expected outcomes of the study are as follows:

i) to identify the effects of social changes (the development of knowledge-based society orientation, globalization, and marketization in the international, national and regional societies) (arrow a of Figure 2) on the AP and the functions that the AP contributes to society (arrow b).

ii) to identify the effects that national government (mainly through higher education policy and plans on budgets, academic affairs, evaluation, *etc*. and on the governance of the university) impose on the AP (arrow c) and the functions that the AP contributes to the government (arrow d).

iii) to identify the effects that knowledge (differentiation and integration of knowledge, reconstruction of knowledge, the international scientific community and research network related to individual discipline.) provides for the AP (arrow e), and the contributions that the AP makes to knowledge through academic work (arrow f).

iv) to identify the effects that university (system, sector, section, hierarchy,

etc.) gives to the AP (arrow g) and the functions that the AP gives to the university (arrow h).

v) On the basis of the perspectives related to the elements **i) ii) iii)** and **iv)**, to identify the transformation and reconstruction of the AP image caused by the structure and function of the AP itself (the institutionalization of the profession into the university; the relationship between the function and role of knowledge and disciplines [research, teaching, service, the administration and management, the international scientific community, research network, brain drain, the relation with formal knowledge and tacit knowledge, *etc*.], ascription [age, position, sex, *etc*.], culture and climate [ethos, value, mission, *etc*.], career pattern [scientific socialization, recruitment, promotion, contract system, tenure, retirement, labor, time spent for work, academic productivity, life-cycle, *etc*.], gender, the liaison of university and society, quality assurance, evaluation, *etc*.). This framework is used not only in theoretical research but also in the international and national surveys undertaken in relation to the project.

(6) Academic characteristics and original traits

The study plan is expected to show a series of academic characteristics and original traits in the study of higher education and the academic profession.

i) It is a creative study since it focuses on the construction and the formative process of the AP which is thought to lie at the core of construction of a 21st century university vision.

ii) An international comparative study on the construction of a 21st century AP system model is considered to be a top-research area for higher education research in the world.

iii) An international questionnaire survey that is to be one of exemplary standard for research on the AP and which is conducted in cooperation with distinguished researchers throughout the world. At the same time, a reconsideration of the Carnegie Survey after fifteen years is valuable with regard to recognition of new developments in the AP worldwide.

iv) A national survey is expected to have a fruitful outcome related to the main theme by conducting a supplemental survey covering matters such as gathering opinions of various stakeholders (administrators, students, academic staff and knowledgeable people in society) to shed light on the case studies of quality assurance of the AP and its evaluation.

v) From the standpoint of the study methodology, it is a unique in the point that it is a comprehensive study consisting of various approaches including theoretical study, questionnaire survey, interview, international seminar and case

study. In addition, it is notable in that it intends to analyze the main theme from an interdisciplinary approach, as the researchers participating in the project represent a variety of disciplines including comparative higher education, higher education, comparative education, sociology, history, educational technology, and science and technology policy.

(7) Expected outcomes and implications

i) to recognize the longitudinal transformation of the AP system model which was lacking in the Carnegie Survey because of its focus on the contemporary situation of the AP.

ii) to analyze specifically the present situations and problems related to individual system models, such as the German, Anglo-Saxon, and Latin American models.

iii) to identify the national and international reconstruction process occurring in the main system models.

iv) to establish by case studies the reconstruction process of the AP in the institutions and organizations connected to the national systems.

v) to offer proposals with regard to problems arising in the policy for construction of the 21st century AP system for Japan from an international perspective.

(8) Location of the project in the relevant researches from national and international perspectives

i) The project attempts to achieve the standing of the top-study in higher education research in the world. This is attainable by synthesizing the preceding body of systematic studies on the AP by outstanding research groups inside and outside Japan (Bowen & Schuster, 1986; Clark, 1987, Clark, ed., 1987; Altbach, 1996, 2002; Finkelstein, Seal & Schuster, 1998; Shinbori, 1984; Welch, 2005).

ii) A study of the process of constructing the AP is a challenge in higher education research to the extent that it focuses on the world models, including the German, Anglo-Saxon, and Latin American models, and also on the past, present and future of the individual system model in connection to, for example, the US, UK, China, and Japan. Our project has more methodological strength than the Carnegie Survey, which has been the most prominent research thus far in the relevant field, in that the latter focused only on the current structure and function of the AP (Altbach, 1996; Arimoto & Ehara, eds., 1996).

In addition, as far as methodology is concerned, our project deals with the

concept of knowledge as a digital model, by paying more attention to a concept of sociology of science, which was introduced into Japan since the 1970's by the publications of Robert Merton and others, than to the concept of higher education development, an analogue model, which became a prevailing model in Japan after its introduction by the publication of an article by Martin Trow in the1970's. It is interesting to note that this analogue model prevailed over the digital model for many years, although the two concepts were introduced into this country at almost same time. (*cf.* Arimoto, 1987, 2006b; Becher, 1989; Clark, 1983, 1993, 1995; Gibbons *et al*., 1994; Parry, 2005).

iii) The project incorporates various fields: academic work related to research, teaching, service, administration and management; academic productivity; faculty development (FD); academic nepotism and inbreeding; scholarship; quality assurance and evaluation. Some preceding researches addressed aspects of these fields (Shinbori, 1965; Shinbori & Arimoto, 1969; Arimoto, 1981, 2005a; Yamanoi, 1990, 2007; Arimoto, ed., 1994; Yamasaki, 1995; Boyer, 1990). A comprehensive comparative study of these various fields, from both vertical and horizontal axes, is included in the new research.

iv) Consideration of the relationship between society, government, knowledge and university is based on preceding researches done by the project leader (Arimoto, 1981, 2005a, b, c).

v) Finally, another important aspect resides in that the project seeks to propose policies useful in the construction of an appropriate Japanese AP from the systematic international comparative study of the AP around the world.

2. The Japanese AP: its characteristics

(1) Traits of population structure

i) In the fifteen years since the Carnegie study, the numbers of all universities, students, academic staff, non-academic staff have gradually increased. In 1990 the numbers were as follows: universities, 507; students, 2,133,362; academic staff, 123,838. By 2006 they had risen to: 744; 2,865,051; and 164,483 respectively (MEXT, 2008), corresponding to increases by factors of 1.5, 1.3, and 1.3, respectively.

ii) There are quite a few differences among the national, public, and private university sectors regarding the numbers of universities, students, academic staff and non-academic staff. Numerically the private sector is larger than the other two sectors. Table 1 illustrates this in the case of students where the proportion in the private sector is 73.7%.

Table 1. Trend in number of students 1995-2005

	Total	Female	National	Local	Private	Percentage of: Female (%)	Percentage of: Private (%)
1955	523,355	65,081	186,055	24,936	312,364	*12.4*	*59.7*
60	626,421	85,966	194,227	28,569	403,625	*13.7*	*64.4*
65	937,556	152,119	238,380	38,277	660,899	*16.2*	*70.5*
70	1,406,521	252,745	309,587	50,111	1,046,823	*18.0*	*74.4*
75	1,734,082	368,258	357,772	50,880	1,325,430	*21.2*	*76.4*
80	1,835,312	405,529	406,644	52,082	1,376,586	*22.1*	*75.0*
85	1,848,698	434,401	449,373	54,944	1,344,381	*23.5*	*72.7*
90	2,133,362	584,155	518,609	64,140	1,550,613	*27.4*	*72.7*
95	2,546,649	821,893	598,723	83,812	1,864,114	*32.3*	*73.2*
2000	2,740,023	992,312	624,082	107,198	2,008,743	*36.2*	*73.3*
01	2,765,705	1,026,398	622,679	112,523	2,030,503	*37.1*	*73.4*
02	2,786,032	1,059,944	621,487	116,705	2,047,840	*38.0*	*73.5*
03	2,803,980	1,087,431	622,404	120,463	2,061,113	*38.8*	*73.5*
04	2,809,295	1,100,839	624,389	122,864	2,062,042	*39.2*	*73.4*
05	**2,865,051**	**1,124,900**	**627,850**	**124,910**	**2,112,291**	***39.3***	***73.7***

Table 2. Universities and junior colleges

Universities

	Total	National	Local	Private	Percentage of private (%)
1955	228	72	34	122	*53.5*
60	245	72	33	140	*57.1*
65	317	73	35	209	*65.9*
70	382	75	33	274	*71.7*
75	420	81	34	305	*72.6*
80	446	93	34	319	*71.5*
85	460	95	34	331	*72.0*
90	507	96	39	372	*73.4*
95	565	98	52	415	*73.5*
2000	649	99	72	478	*73.7*
01	669	99	74	496	*74.1*
02	686	99	75	512	*74.6*
03	702	100	76	526	*74.9*
04	709	87	80	542	*76.4*
05	**726**	**87**	**86**	**553**	***76.2***
(Recounted)					
Universities providing:					
Evening courses	115	35	8	72	*62.6*
Master's courses	540	87	71	382	*70.7*
Doctor's courses	409	75	52	282	*68.9*
Professional degree courses	92	27	3	62	*67.4*
Universities providing programs by correspondence and mass media	(32) 35	—	—	(32) 35	*100.0*
Graduate schools providing programs by correspondence and mass media	(17) 19	—	—	(17) 19	*100.0*

(Note) Figures in parentheses refer to those providing regular courses as well as correspondence courses.

Junior Colleges

	Total	National	Local	Private	Percentage of private
1955	264	17	43	204	(%) *77.3*
60	280	27	39	214	*76.4*
65	369	28	40	301	*81.6*
70	479	22	43	414	*86.4*
75	513	31	48	434	*84.6*
80	517	35	50	432	*83.6*
85	543	37	51	455	*83.8*
90	593	41	54	498	*84.0*
95	596	36	60	500	*83.9*
2000	572	20	55	497	*86.9*
01	559	19	51	489	*87.5*
02	541	16	50	475	*87.8*
03	525	13	49	463	*88.2*
04	508	12	45	451	*88.8*
05	**488**	**10**	**42**	**436**	***89.3***
(Recounted)					
Colleges providing evening courses	31	—	4	27	*87.1*
Colleges providing programs by correspondence and mass media	(9) 9	—	—	(9) 9	*100.0*

(Note) Figures in parentheses refer to those providing regular courses as well as correspondence courses.

As Table 2 shows, the private sector quantitatively occupies a majority share of the market with 553 (76.2%) of the total of 726 institutions as of 2005. The national sector with 87 (12%) and the public sector with 86 (12%) provide smaller shares.

As far as academic research enterprise is concerned, the share of the private sector is still high, with 282 (68.9%) of the total of 409 doctoral courses.

However, it is the national sector that enrolls and graduates a large majority (approximately 70%) of doctoral students. For example, in 2005, new entrants to doctoral courses numbered 17,553, of which 11,937 (68.0%) were enrolled in the national sector, 4,526 (25.7%) in the private sector, and 1,091 (6.2%) in the public sector (MEXT, 2006a). The reason why the national research enterprise is so well developed is due to the history of higher education over the past century.

Table 3. Number of teachers in universities and colleges in 2007

	Total	Male	Female	National	Local	Private	% of female
University	167,648	137,124	30,524	60,995	12,786	94,867	18.2
Junior college	11,015	5,681	5,384	——	941	10,074	48.9

iii) During the period 1990 to 2002, the enrollment ratios in universities and colleges have increased from 24.6% (male 33.4%, female 15.2%) in 1990 to 40.5% (male 47.0%, female 33.8%) in 2002. These figures conform to the phenomenon of rapid higher education development from a massified to a universal stage. In 2007, the enrollment ratios reached 54% in which all students who seek to go to universities and colleges were able to be admitted somewhere without the necessity of passing any entrance examination. This amounts to provision of an Open Door University: while this is indeed theoretically true, in reality the differentiation between institutions is increasing in terms of competition in entrance standards.

iv) In accordance with the increasing diversification of students, a declining trend of student achievement has been often discussed among people inside and outside academia. When the Carnegie Survey was conducted in 1992, the enrollment ratio in universities and colleges was 26.4 (male 35.2%, female 17.3%). At that time, academic staff who responded to the questionnaire clearly opposed increased enrollment (Arimoto & Ehara, eds., 1996). However, contrary to their wishes, massification has been extended to the level of universal access. It is not surprising that academic staff's complaints about student quality and achievement have increased more and more during this time.

v) Accordingly, academic staff, who number 178,663 (university 167,643, junior college 11,015) in 2007 as shown in Table 3, are increasingly required to have enough expertise and ability to respond to a universal stage where students' diversification is predicted to increase to great extent. Academics are confronted with how to maintain, enhance, and provide quality assurance of students' achievement and learning ability in order to satisfy the level of higher education. For example, it is noticeable in recent years that a series of reforms and experiments have been introduced into universities and colleges: first year education; remedial education; career education; GPA and CAP; credit systems; syllabuses; office hours; tutorial systems; FD; self-evaluation; third-party evaluation. In 2007, the Central Council for Education proposed the concept of *gakushi-ryoku*, or achievement eligible for a bachelor's degree, in order to enhance the educational standards of undergraduate education to an internationally competitive level (CCE, 2007). From translating the outstanding work of the QAA (Quality Assurance Agency for Higher Education) on "Subject Benchmark Statements", we noted that the UK has developed further than Japan in terms of the quality assurance of academic degrees (Arimoto, ed., 2007).

vi) The size of the eighteen-year old cohort in Japan is declining and the trend will continue into the future. In 2007, the eighteen-year old cohort was

1.25 million and expectations are that it will decrease to 0.9 million in the foreseeable future. To sustain the current enrollment will require an increase the numbers of adult students as well as of international students in addition to a higher proportion of eighteen-year old students. Already about 40% of the private universities and colleges have not been able to achieve their planned enrollment in 2007 (Yomiuri, 2008).

vii) It is evident that the proportion of female academic staff remains fairly small by international standards. In 1992, the Carnegie Survey noted that female academic staff comprised 8% on average in the four-year universities and colleges (Altbach, ed., 1996; Arimoto & Ehara, eds., 1996). That was the second lowest proportion, following that of Germany, in the participating countries in the survey. In 2007, it remains low although the figure has improved to around 14% (Arimoto, Daizen, Fujimura & Urata, 2007d). Its improvement to a level of about at least 30% is an urgent problem to be solved by the universities and colleges.

viii) Aging of the academic staff is manifestly increasing. In the working of a traditional permanent employment system that is no longer expanding, aging is inescapable. This confronts the system with a difficult situation in the lack of recruitment of young staff to first stage positions in academic careers such as research associates (*jokyo*) and lecturers. There are quite a few post-doctorals who are waiting for job placement.

(2) Research orientation

i) The fact that Japanese academic staff have a strong research orientation in the world was evident in the Carnegie Survey (Arimoto & Ehara, eds., 1996). According to the results the orientation of AP falls into three groups: one group with a research orientation belongs to the German institutional type; a second group with a research and teaching orientation belongs to the Anglo-Saxon institutional type; and a third group with a teaching orientation belongs to the Latin American institutional type. Japan belongs to the German type, together with countries such as the Netherlands, Sweden, and Korea (Arimoto & Ehara, eds., 1996).

It is easily understandable that faculty members in research universities are inclined to show a research orientation, but it is surprising that the results clearly demonstrate that all academic staff, not only those in research universities but also those in other universities, show a research orientation. The extent of research orientation seems to be still high, even though we consider the rather high percentage of respondents in the sample who belong to the category of

research universities. As a result, the fact that a research orientation is higher than a teaching orientation in the Japanese AP is thought to be a systemic characteristic.

ii) The prototype of this inclination already existed in the pre-war period, though it was gradually promoted during the post-war period. Advanced models of higher education were intentionally introduced in Japan in the pre-war period, as the objective was to catch up with the advanced models in the western countries. At that time the German model was conceived to be the most advanced and worthy of importation. The integration of research and teaching that Wilhelm von Humboldt proclaimed was thought to be an ideal of higher education. However, as Burton Clark has pointed out, it was not realized well even in Germany in spite of the origin of the concept (Clark, 1995). After having imported the German model, the US invented the graduate school system where, to a considerable extent, the ideal was realized. In trying to import the German model during that time, Japan failed to import its spirit into the prevailing climate of degree-ocracy and bureaucracy in universities (Ushiogi, 1984; Amano, 1986; Arimoto, 2007e). In particular integration of the two functions of teaching and research was not successfully introduced to the extent that the research paradigm prevailed to a large extent across the universities and colleges, especially in the cluster of *teikoku daigaku*, or imperial universities.

iii) Research orientation has a close relationship with catching up with advanced countries in terms of the center of learning. In the 19th century, Germany provided the target to be caught up, while in the 21st century the US acquired the target status when it became the center of learning.

Making a comparison of the numbers of published papers and listings in the Science Citation Index, we can recognize the leadership of the US over at least the recent twenty years. It is remarkable that Japan, which in 1977 Ben-David described as located on the periphery of learning (Ben-David, 1977), has now become close to the center of learning.

It is a fact that the numbers of papers and citations related to Japan are dominated by the group of former imperial universities. In other words, the center of academic productivity is situated at the research universities, which constitute about 4% of all Japanese universities.

iv) Higher education policy has developed with an investment of funding largely concentrated in a few national universities since the pre-war period. Consequently a small number of some of these research universities have become leading institutions in academic productivity. As Burton Clark pointed out, a pinnacle of hierarchy has been established (Clark, 1983). It is manifest

that recent higher education policy has sought to raise the international competitiveness of academic productivity in Japan by way of heavy investment of resources in these universities. This is clearly demonstrated by the selection process for the global COE institutions in 2007. The application ratio of research groups in the former imperial universities was itself fairly high, amounting to 27%, or 75 among the 281 applicants, but the success rate was even higher at 51%, or as many as 32 among the 63 selected research groups, perhaps indicating a monopoly situation (Arimoto, 2007c).

(3) Relationship with the center of learning: US research universities and Japanese research universities

i) There is a question: "Can the Japanese research university become a center of learning, or a COE in the world?" This is an interesting question as we discuss the COE from a perspective of the culture and climate of the research universities in Japan and the US. Probably, it is not possible for any Japanese research universities to become *the* center of learning, or *the* COE, although it may be possible in specific fields, because a mechanism synthesizing culture and climate must affect the formation of such a center of learning.

The research orientation intrinsic to Japanese academic culture is unlikely to be valuable for attaining the status of center of learning. While integration of research and teaching has been successful in the US, it has not been successful in Japan. Moreover, the delayed institutionalization of the graduate school in Japan also confirms the delayed institutionalization of a home for science. There are many differences between the two countries with regard to policies on promotion of the research system based on graduate schools. For example, in the US, inbreeding has been controlled since the late 19th century as Pierson and other researchers have discussed (Pierson, 1952; Caplow & McGee, 1958; Brown, 1968; Shils, 1979). On the other hand, in Japan, it was not controlled and actually rather encouraged to the extent that it still exists to a considerable degree. For example, study of the 'big four' reveals a still high inbreeding ratio in 2003: Tokyo, 78.0%; Kyoto, 72.3%; Waseda, 71.2%; Keio, 63.8% (Yamanoi, 2007).

ii) Figure 3 compares the macro traits of culture, climate, and institution between Japan and the US, identifying fairly different traits of the two countries despite restricting the comparison to research universities.

Four quadrants are defined by a vertical axis representing achievement and ascription and a horizontal axis representing universalism and particularism. By these measures, Japan is located in the third quadrant, with the US in the first

quadrant. If the Japanese research university aims to become the center of learning, it has to conform to the culture and climate of the current center of learning. In other words, it requires a transformation from the third to the first quadrant, or Americanization.

In the field of sciences, especially natural sciences, the academic staff are accustomed to using universalism rather than particularism in evaluating their academic productivity. Accordingly, Americanization is not impossible. However, there are quite a few other differences between the two systems. Such differences cannot be resolved without recognizing the different cultures and climates proper to the two systems. In this sense the question remains, "Why is it inevitable in the scientific and academic community to have a shift from cultural diversity to cultural unification among the systems?"

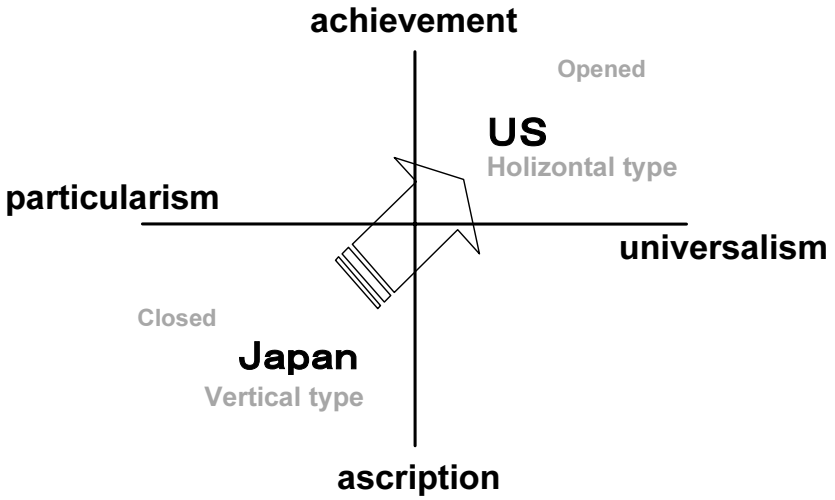

Figure 3. Shift from ascription to achievement and from particularism to universalism

(4) Less teaching orientation

It is true to say that strengths and weaknesses constitute two sides of the same coin: a large research orientation coexists with a small teaching orientation. In the 19th and 20th centuries when the research paradigm gradually prevailed throughout the world, it is also true to say that a commitment to teaching in terms of its institution, culture, climate, consciousness and behavior has declined in comparison with research not only in Japan but also in many other countries. Nevertheless, it is clear that a teaching orientation has been persistently weak in

Japanese higher education as is shown by the results of the Carnegie Survey. It is on this basis that the Ministry of Education, Culture, Sports, and Technology (MEXT) has paid much attention to teaching reforms since the 1990's with the introduction of a series of new policies (MEXT, 2005).

For example, institutionalization of Faculty Development (FD) has been rapidly promoted since the 1990's. A semi-obligation to FD was introduced into the universities and colleges in 1998 and expanded to a full obligation in 2004. The essence of its institutionalization is shown by the emphasis now placed on teaching (University Council, 1998). In a climate of strong research orientation, a policy of strengthening teaching seems reasonable. However, its implementation is likely to be problematic from the viewpoint that an integration of research and teaching is necessary. FD consists of two concepts: the broad concept is focused on a comprehension of various areas such as research, teaching, service, and administration; the narrow concept focuses on teaching. The fact that all academic staff are asked to practice the narrow concept as a legal obligation is probably effective in controlling the strong research orientation but is less effective in promoting research still further.

(5) Reconsideration of scholarship

Accordingly, separation of research and teaching is to be avoided as strongly as possible. Emphasis either only on research or only on teaching is not an adequate provision for academia in which the integration of the two functions constitutes an ideal. The former may be an obligation in research institutes, and the latter in elementary and secondary schools. Certainly, the research paradigm has become prevalent throughout the world by diffusion from Germany to other countries, even though integration of research and teaching has been proclaimed since the 19th century. It is also true in the US even though the integration has been more successful there than in many other locations.

In evidence, Boyer proclaimed the need for a reconsideration of scholarship and was grieved over the regression of a teaching orientation in the US (Boyer, 1990). He proposed a concept of scholarship consisting of research, application, integration, and teaching, and put teaching at the top of a stratified structure. If we view the Japanese situation from this perspective, it is apparently outdone by the US.

In the 21st century when universalization is promoted, it is said that the AP has to pay attention to learning even more than teaching. However, Boyer's model, which does not stress learning sufficiently, still has limitations for the 21st century when universal access will be substantially realized. How to resolve

the problem of coordination among research, teaching, and learning will become the next step after resolving the present problem of attaining an integration of research and teaching.

(6) Trait of administration and management

i) Internationally, academic administration and management has gradually encouraged rationalization and efficiency through the influence of marketization. In this regard, Japan is not exceptional. The establishment of the national universities as corporate bodies has strengthened the impact of market mechanisms so that a rapid change from bottom-up to top-down administration and management has become manifest (CCE, 2005).

ii) The status and prestige of the AP have clearly declined by 2007 in comparison with 1992. As the status of academic staff has declined, the statuses of administrators and students have been promoted to a considerable degree (Arimoto, Daizen, Fujimura & Urata, 2007d). Professors, who have traditionally had remarkable conformity with academic freedom and autonomy, are now experiencing feelings of alienation.

(7) Under-enrollment in and closure of private universities

i) As described previously, the private sector surpasses the national and public sectors in the numbers of institutions, academic staff, non-academic staff, and students. For example, the private sector provides 73% of all institutions and 75% of students. This fact really illustrates the results of governmental policies in the post-war period, which were to control the quantitative expansion of the national sector and to maintain the quality of higher education at the massification stage. However, the numbers of institutions in the private sector are still increasing due to a national policy attempting to maintain an increase of about 10 institutions *per* year.

ii) The recent open door to enrollment has brought about under-enrollment in the private universities. This is inevitable as the numbers of institutions are increasing while the numbers of students are decreasing. This is an obvious example of the operation of a market economy responding to supply and demand instead of a planned economy in which a 'knowledge community' determines the scale of provision of higher education. It is also an indication of the role of a 'knowledge corporation' which extends the role of the entrepreneur and of the knowledge economy leading to managerialism as in the business world.

iii) Recently, 40% of private institutions are facing the consequences of under-enrollment. In general, it is true to say that the problems are concentrated

in the small, local, and newly established institutions; in contrast the large, urban, and traditional institutions face pressures from over-enrollment. In 2007, a total of 3.02 million applicants applied to the 559 private institutions; of these 1.44 million, or 47.6%, were concentrated in only 23 institutions, which already have the largest enrollments, each numbering more than 3,000 (Yomiuri, 2008). A few of the 23 institutions, about 4% of all private institutions, are clearly monopolizing the enrollments: each of these institutions, including Waseda, Meiji, and Kansai Universities, attracted more than 100,000 applicants (Yomiuri, *ibid*).

Naturally, being under-strength in the private sector brings about a management crisis in the first place and a closure crisis in the second place. As far as academic staff are concerned, it is a warning of impending dismissal, part-time employment, decline of status together with a general collapse of the present lifelong employment and seniority system.

(8) Emerging differentiated society

i) Appearance of a closure crisis of institutions is a clear indicator of the polarization of institutions into haves and have-nots. Of course, the Matthew principle is working here. Reorganization of institutions is forced to proceed with various types of nexus, integration and merger taking place. In due course, the academic staff are involved in these changes. The differentiation extends gradually in various fields including status, prestige, power, reputation, salaries, bonuses, research grants, charges for trips, teaching classes and so forth.

ii) In society at large, people have paid much attention to the emergence of a differentiated society to the extent that several phenomena such as NEETs (not in education, employment or training), Freeters (under-employed, part-time workers), and the working poor have received nationwide media attention (Kosugi, 2005). Similar phenomena are emerging in academia and among academic staff.

iii) Government financial aid to universities is being reduced annually, though research-centered funding is increasing (Arimoto, 2005c). The former stood at ¥2.09 trillion in fiscal 2001 and was cut by about 9% by fiscal 2007. Basic educational expenses were reduced from 86% to 73%, while research-centered allocated funds nearly doubled from 14% to 27%. As will be discussed later, this trend suggests that research-oriented competition is being encouraged in all universities so as to extract funds from the national government. In this context, the differentiation between the group of research oriented universities and the group of non-research universities is necessarily increased.

3. CAP in Japan and its implication for CAP in the world

The traits of CAP in Japan can be seen to have problems partly intrinsic to Japanese culture and partly common to the CAP in the world. In Japan, a transformation from the old structure to a new structure is bringing about structural conflicts in academia and also in the academic staff. The conflicts include: student diversification at a time of universal access to higher education; separation of research and teaching; an increase of time for teaching and a decrease of time for research; administration and management changed from bottom-up to top-down; reduced government basic financial provision for academic staff as well as institutions; a rising feeling of alienation in the academic staff; the gender problem in terms of still too few female academic staff; the part-time employment of academic staff; a still high ratio of inbreeding in some research universities; reinforcement of external evaluation; institutionalization of FD as a legal obligation; increasing under-enrollment, the closure of institutions and a differentiated society in academia.

These problems are important individually and collectively and share quite a few mutual relationships. They are the structural problems that the universities and the AP in Japan have been increasingly confronted with in recent years. We can recognize problems unique to Japan and also those common to other countries. In the following sections, some consideration is given to the shared, common problems.

(1) Quality of the AP in an age of universal access beyond that of massification

Recently, the diversity of higher education has manifestly been made broader by introduction of new provisions including first-year education programs, career education, remedial education, liberal arts education, and professional education. In addition, how to develop the quality and ability of the academic staff has become part of the process of implementing educational diversification to cope with student diversity. As a result, the institutionalization of FD has become one of the most important reforms in higher education. Transformation of the role and vision of the AP in the 21st century is compelled when the developmental stage of higher education moves from post-massification to the stage of universal access. Basically, quality assurance of teaching and education is necessary to enable the emerging stage of higher education to be accommodated and hence ensure the relevant development of the AP's quality and ability.

(2) Quality of research

For the AP, research as well as teaching is a mission in that both are considered to be the two indispensable vehicles of academic work. In fact, the center of learning is formed internationally around research activity with intense competition for priority in discovery of knowledge. We can recognize there are various kinds of commonalities and differences between the research university system in Japan and that in the US which is acknowledged as the center of learning today (Arimoto, ed., 1996). The scientific community belongs basically to the world of CUDOS: communality, universalism, disinterestedness, and organized skepticism (Merton, 1973). In application of this principle, attempts to become the world's center of learning are hardly credible without conforming to the US type of a research university, or its culture of research. Is it possible for an institution to attain that target by starting with its own culture of research? It probably needs an international comparative study on research universities and their own cultures in individual countries in order to approach this question (MEXT, 2006; NISTEP, 2007).

(3) Formation of a 'creation and exportation' type higher education

Japan has selectively imported advanced models of higher education from western countries since the Meiji restoration when institutionalization of modern higher education was started. The German model was imported pre-war and the US model was imported post-war. Is it possible to transform from this kind of non-creative and imported type of higher education to one of creation and exportation? In an age of globalization and marketization, is it possible for a center of learning to export its own model to other countries worldwide so that its model can serve in these countries as a basis for unification? This seems to have high possibility in the field of research in which the ethos of CUDOS applies as has been previously discussed.

In this sense, Americanization is likely to prevail throughout the world and a unified cultural model is inclined to control cultural diversity. How to overcome this? The answer to this question is necessarily related to the problem of knowledge reconstruction. Conversion from cultural uniformity to cultural diversity is undertaken through the operation and mechanism of knowledge reconstruction in centers of excellence in the scientific and academic community (Kuhn, 1970; Nakayama, 1984; Shinbori, 1985; Arimoto, 2007a, 2008).

(4) Integration of research and teaching

i) The present higher education policy in Japan focuses on an extension to its research orientation. Significantly, a Special Committee to the Prime Minister proposed budgetary allocations solely based on a research competition among all institutions of higher education. The policy seeks to allocate resources as well as budgets selectively to specific universities that have a capacity to achieve high research productivity.

As some simulations show, many universities do not have high competitiveness. For example, according to a simulation made by the Ministry of Finance, as many as 74 of the 87 national universities would lose resources from such an allocation. The MEXT also reported similar difficulties for 37 institutions from its own study (Yomiuri, 2008). As these simulations predict, many universities, especially local universities and teacher training universities, which are involved in teaching rather than research, will lose resources and as a result bring about poor conditions and pressures for teaching and education.

ii) Needless to say, research is basically important in higher education. From the perspective of the lengthy history of higher education, teaching was firmly located at the core of the medieval university. In the 21st century, teaching remains clearly important whenever we think about both students' learning and educational support for them. Considering the 800-year history of higher education, research has become a major component only in the last 200 years since its institutionalization in the modern university. During this time, the separation between research and teaching has increased, amplifying both ways of increasing the research paradigm and the neglect of teaching. In academic work, the academic staff has to combine the roles of researcher and teacher. It is essentially different from the elementary and secondary schools where teaching is above all the most important role. As Light pointed out, research is a basic qualification for the academic profession (Light, 1974). Accordingly, the two roles of research and teaching are basic for certification of the AP. It follows that the integration of research and teaching is still necessary in the 21st century.

iii) Higher education, especially in the university, has a great social mission for the development of human resources. How to train high quality manpower is considered to be the most important role and function for academic staff and academia worldwide. It is not exceptional even in Japan.

Higher education, and again especially the university, has the most important responsibility of finding, training, and teaching those who are to be responsible for the future, and of providing an assurance of quality to them.

Research is the premise on which this teaching stands. In this sense, reconsideration of scholarship in Boyer's sense identifies the problem of emphasizing the significance of teaching. It is an integration of research and teaching rather than a separation of the two functions that is required. Furthermore, in the emerging universal access stage of development of higher education, not only an emphasis on student's learning is required but also strengthening support for it indicating the need to reconsider scholarship from the basis of student learning. Specifically, an integration of research, teaching, and learning is essential.

iv) Importance of academic freedom and academic autonomy. Top-down administration and management has been embodied in the recent fifteen years in universities and colleges in Japan. The swing of this pendulum has moved from autonomy imbedded at the level of the faculty meeting to that at the level of the university. Arrangements for accountability and relevance, rationalization and efficiency have been encouraged in the academic organization. As a result the university has been transformed from a knowledge community to a knowledge enterprise. The emerging knowledge economy has invaded the scientific ethos of CUDOS that prevailed in the traditional university. Operation of market mechanisms together with the knowledge economy are the sources of conflicts between accountability and academic autonomy. It is natural that the university, which is a social institution, organization and group, will lose its social *raison d'être* without adaptation to societal demands. However, it is also natural that over-conformity implies the loss the unique nature of the academic organization. What is the university, which has 800-year history behind it, at the beginning of the 21st century? At least a reconsideration of the true nature of the university is required inside and outside academia.

4. Intentions and methods of the CAP survey in 1992 and 2007

(1) The 1992 survey: intentions and methods

The Carnegie Survey was conducted by the Carnegie Foundation for the Advancement of Teaching in fourteen countries (precisely, thirteen countries and one region): the US, the UK, Germany, the Netherlands, Russia, Sweden, Mexico, Brazil, Chile, Australia, Japan, Korea, Israel and Hong Kong. From Japan, Akira Arimoto, Professor at the Research Institute for Higher Education, Hiroshima University, participated as the Japanese project leader.

This was the first international and large survey on the academic profession with a diversified questionnaire. The main items consisted of seven parts: 1. a

profile of the AP; 2. access to higher education; 3. professional activity; 4. labor conditions; 5. administration and management; 6. higher education and society; 7. international aspects of academic life.

The project leaders from each country gathered together in Princeton in 1991 to discuss the ideas of the survey, to prepare a common questionnaire that was later translated into each country's language and finally to conduct the survey in each country.

(2) The 2007 survey; intentions and methods

i) Some of the original committee members gathered together for the first time in Paris in December 2004 to discuss the idea of a new Carnegie survey. It named the project as "CAP" because of the transformation of the AP during some fifteen years after the first survey. A second meeting was held in London in July 2005, followed by a third meeting in Hiroshima in February 2006, and a fourth meeting in Kassel in September 2006. During these four meetings the ideas of the project were discussed by the steering committee members and representatives of all the participating countries in more detail. It is not an over simplification to say that this new survey will also be a large international survey on a scale equivalent to that of the first survey.

ii) The steering committee and some members in charge of sampling examined carefully a manual for it. A technical meeting for sampling was held in British Columbia, Canada in November 2006. Based on this manual, each country conducted the survey. The method of sampling used in each country is almost equivalent to that of the first survey. At least in Japan, the sampling we used was same as for the first survey. Expenditures for the survey have been provided by each individual country so that all countries could conduct the survey in 2007.

iii) In this new survey, the participating countries agreed to share a common questionnaire as indicated above. The common questionnaire required large modifications to the original questionnaire of the Carnegie survey in order to incorporate adequate attention to the environmental changes affecting the AP over the past fifteen years. Each country translated the common questionnaire into its own mother tongue for its individual survey.

iv) All participating countries were expected to conduct the survey as early as possible in 2007. In the event not all have been able to conducted the survey thus far mostly because of a shortage of funding.

v) At the international conference on January 28-29, 2008, each country is expected to present its own country report on the basis of the survey it

conducted.

(3) Meanings of the CAP survey

i) A new record of an international large survey. As previously discussed, it is a remarkable trait that the CAP survey is internationally the largest scale survey ever conducted in the world in the field of research into the academic profession, in which as many as 18 participating countries have collaborated to conduct a questionnaire survey and perform research.

ii) Collaborative study with old and new member countries. Participation of new counties in the survey actually means that the problem of CAP has become increasingly important and worthy of much attention worldwide.

iii) Analysis of the present situation of the CAP. As the title of the CAP indicates, the survey makes a comparison of the changing academic profession in 2007, 15 years after the original survey in 1992. Internationally, the environmental changes around the AP have made it increasingly difficult to maintain its traditional styles in the context of the social changes, the changes of the government policies for higher education, and the scientific changes. Overall, the status and prestige of the AP are reportedly declining worldwide (Altbach, ed., 2003). Therefore it is necessary to have for higher education research an adequate analysis of the AP on the basis of real facts and also proposals of how to deal with the AP from now on.

iv) Comparative study of the CAP in various countries in the world. From this survey, each participating country can make clear the similarities as well as differences of the CAP in its own country by comparison with the CAP in other countries. There are, for example, various strengths and weaknesses with regard to the AP in Japan as has been discussed and so it will become possible to diagnose and prescribe the differences, similarities, and directions in an international perspective.

v) Functions of the knowledge model and knowledge. In an emerging knowledge society, social weight and expectation increase for academia, which is involved in discovery, dissemination, and application of knowledge. In this sense, an approach to the CAP from the perspective of a knowledge model is considered to be valuable (*cf.* Arimoto, 1973, 1981, 2005a, 2006b, 2007f).

As academic work is intimately related to the discovery and dissemination of knowledge, the mission and responsibilities of the AP in a knowledge-based society are necessarily raised. In the eight century long history of higher education, academic staff have pursued various roles in teaching, research, service, administration and management, whenever these were needed socially

and scientifically. It is an inevitable problem to know what kind of role is needed from the AP today in order to predict precisely the relationship between society and the AP in the future.

vi) Functions of the analogue and knowledge models. Related to paragraph **v)** above, more work is needed with a focus on examining the approaches of the analogue and knowledge models. In the analogue model, we can easily recognize the differences between advanced countries and developing countries with regard to higher education development. Martin Trow, described higher education as developing linearly from elite, to mass, to a universal stage (Trow, 1973). According to the model, we can understand the distinction between the advanced countries, which have already reached the stage of universal access, and the developing countries, which have yet to reach that far. Probably, an international comparison on the basis of the common questionnaire will make clear the differences of individual countries in terms of such developmental stages. At the same time, it is undeniable that the current higher education systems in the world are strengthening simultaneously, a circumstance that can be explained more adequately by a digital model than the analogue model (Arimoto, 2006b). This arises because both advanced countries and developing countries today are confronting the same kinds of problems with pressures to resolve them as soon as possible.

vii) Conflicts between cultural diversity and cultural unification. Cultural diversity is a characteristic of the AP in the world. However, a trend of cultural unification is also observable in the fact that there are some phenomena such as the North-South divide and brain-gain and brain-drain migrations. The trend of growing globalization and marketization worldwide is likely to encourage cultural importation, subordination, and colonization in developing countries; and conversely, cultural exportation, control, and a suzerainty orientation in advanced countries.

Figure 4 explains Japanese case for seeking identity by analogy with keeping and innovating *anpan* (bean-jam bun) culture despite cultural conflicts. How to respect and protect cultural diversity and how to discover methods to do so is important in higher education research (Cloete, Maassen, Fehnel, Moja, Gibbons & Perold, 2006; Arimoto, 2008).

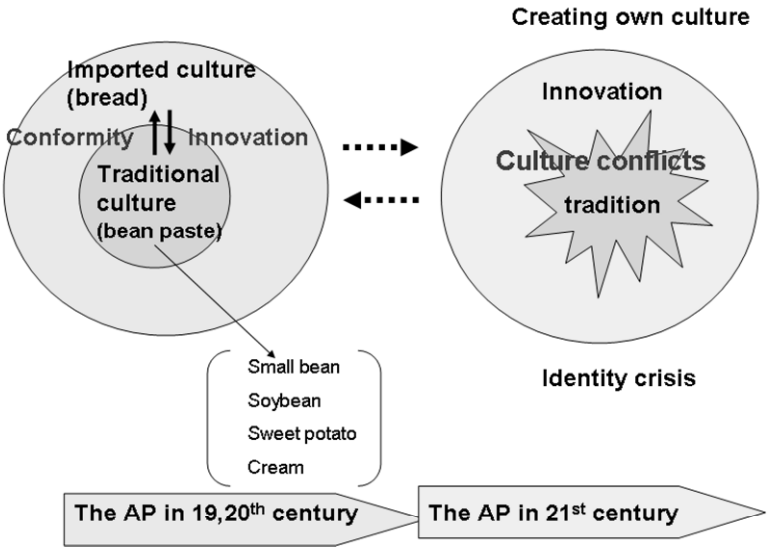

Figure 4. Conflicts between cultural diversity and cultural unification: Culture of "*anpan*" (bean-jam bun)

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The Context for the Changing Academic Profession: a survey of international indicators

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The CAP project at its inception proposed a six stage conceptual framework starting with the Drivers of Change and ending with Accomplishments and National Development (described in the original concept paper as outputs and outcomes).[1] Figure 1 provides my tentative elaboration of the CAP model with Drivers of Change listed in the left column and Outputs and Outcomes listed in the right column. Each cell identifies a variable which may for a particular country in recent years be moving "in a positive or a negative" direction. Explicit in the conceptual framework is a logic of causality from the left columns to the right columns (though variables in a particular row do not necessarily influence others in the same row). This particular elaboration will certainly be modified as research progresses.

At the first Hiroshima meeting of 2006, it was proposed that the project review available international indicators of factors under consideration by the project so as to complement the information obtained from the respective national surveys. In this paper, I respond to that call. This exercise may be useful for telling us what we already know and what we don't know about the respective systems participating in the CAP project.

Scope of this Survey

In Figure 1, following several of the identified factors are notations (T1 to

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[1] The concept paper placed special emphasis on factors related to the pressure for relevance, the increasing penetration into academic work by non-academic managers, and the increasing internationalization of academic appointments and activities.

Drivers of Change	Profession's Response to Change	Beliefs about Academic Work	Nature/ Attractiveness of Academic Work	Accomplishments and National Development
Economic Growth-T1	Expansion of Higher Education-T9	Belief in the Value of Higher Education for Most Citizens	Increase in Size of the Academy	Increase in Higher Education's Share of National Economies
Shift to Service Economy with High Tech Manufacturing-T2, T3	Increase in Private Sector's Share of Higher Education and Support for Academic Research	Belief in Academic Freedom-E5	Increase in Diversity of Workplaces and Goals of Each Place	Increase in Salience of Higher Education for Job Preparation-C4
Increase in International Trade-T2	Increased Provision of Adult and Professional Education-T9, T10	Belief that Decisions Affecting Scholarship are the Prerogative of the Academic Profession	Increase/Decrease in Unit Costs with Corresponding Impact on Remuneration-T7	Increase in Educational Level of the Work Force
ICT Revolution-T4	Increased Provision of Graduate Education	Belief that Both Academic Training and Experience Enhance Scholarship-B5, C4	Increase in Proportion of Academics who Lack Job Security-A11	Increase in Private and Social Returns from Participation in Higher Education
Population Growth or Decline-T5	Increased Stress on Inclusiveness	Belief that Teaching is one Mode of Scholarship and that Technology May Enhance Teaching-B5	Increase in Work Load (Nos. of Students, Administrative Tasks, Expectations for Service and Research)-B1	Increase in Relevance of Service
Increase in Resources for Education-T6	Increased Emphasis on the Social Sciences-T11	Belief that Knowledge Integration is a Mode of Scholarship-B5	Decrease in Student Preparedness-C4	Increase in Scholarly Productivity-T13, T14
Levelling off of Government Support for Higher Education-T7	Continued Support of Sciences and Engineering-T11	Belief that Knowledge Creation is a Mode of Scholarship-B5	Increase in Use of Technology for Instruction and Administration-C2	Increase in Social and Commercial Relevance of Research-D2
Increase in Private Sector's Interest in Higher Education	Increased Acceptance of International Students-T12	Belief that Knowledge Application is a Mode of Scholarship-B7	Increase in Instructional Accountability-C3	
Increase in Aggregate Support for Research-T8	Increased Internationa-lization of Academic Content and Personnel-C5	Belief that Collaboration is Helpful for all Modes of Scholarship	Increased Mobility within and Across Boundaries-F13	
	Recognition that Certain Managerial Reforms may Enhance the Effectiveness of Higher Education and Research-E5	Belief that Scholarship should be Allowed to Transcend Organizational and National Boundaries	Increase in Collaborative Research-D1	

Figure 1. Dimensions of the Changing Academic Profession

T14, B1 to B7, C1 to C5, *etc*.). The Ts refer to the Tables I will be discussing below where international indicators are available to portray national differences and trends over time.[2] The B's, C's, and so on refer to questions in the common instrument from which data can be compiled in forthcoming research. It might be noted that the international indicators largely focus on variables in the first two stages of the CAP model whereas the data collected with the survey instrument should help us understand later dimensions, especially Beliefs and the Nature of Academic Work.

In presenting the available evidence on international indicators, I have two goals: to identify 1) which systems and/or sub-systems are relatively affluent and academically strong and which are weak; and 2) which systems are showing improvement over the past 10-15 years and which are in at least temporary decline. Relative position and recent trends are likely to influence the quality of academic life.

Methods

In approaching the international data, I have decided to focus only on those countries that are (or may be) participants in the CAP study – and not to attempt to make comparisons with some world average; the available data has so many gaps that such an exercise would be deceiving. The CAP group is an interesting set of countries – most of the so-called core societies of the international hierarchy of higher education (*i.e.* the lead systems in North America and Western Europe) are included, and there is a reasonable representation from most other corners of the world except the Middle East and Africa.

As we all know there are many limitations to published data – some countries do not report information, others report late, between countries there are different interpretations of the definition of indicators, *etc*. So the insights I present might better be described as guesstimates. On financial data we can easily be misled unless adjustments for inflation and purchasing power are introduced. Thus for the GDP figures, nominal values are adjusted to prices in the year 2000. For *per capita* and *per* student indicators, adjustments are introduced both for inflation (using 2000 prices) and for Purchasing Power Parity

[2] Most of the indicators come from the World Bank's database World Development Indicators which is accessible from World Bank.org or other databases. The educational indicators were cross-checked with information supplied by the database of UNESCO's Institute of Educational Statistics. The information on research productivity for Table 13 was taken from the National Science Board (2006).

(PPP). A technique I will occasionally use is to compare national scores with the sample average, highlighting countries that are at the extremes.

Economic Level and Recent Growth

The economic level of a country has a major bearing on the resources it can allocate for education and higher education. One measure of economic level is GDP *per capita*. With the exception of India and China, all of the CAP countries are currently at least at the middle income level. Focusing on 1980, there were wide disparities in *per capita* income. Japan's was highest followed very closely by that of Norway and the US.

Table 1. GDP *per Capita* in Selected Countries, 1980 and 2005

	GDP *per capita* (constant 2000 US$)		**Average Annual growth 1980-2005**
Country	1980	2005	
Argentina	7550.758	8094.17	0.3%
Australia	14194.79	23039.43	2.0%
Austria	15,946.13	25346.01	1.9%
Brazil	3256.017	3596.74	0.4%
Canada	16598.3	25064.13	1.7%
China	186.4405	1448.777	8.5%
Hong Kong, China	11522.2	29944.97	3.9%
Czech Republic	..	6628.413	
Finland	15566.13	25712.68	2.0%
France	15611.23	23493.68	1.6%
Germany	15701.93	23905.59	1.7%
India	223.2072	588.4418	4.0%
Italy	13094.12	19329.16	1.6%
Japan	23916.98	39075.31	2.0%
Malaysia	1848.205	4436.816	3.6%
Mexico	5114.152	6172.016	0.8%
Netherlands	16436.26	24696.45	1.6%
Norway	22257.1	39968.65	2.4%
Poland	..	5203.089	
Portugal	6300.754	11023.06	2.3%
Russian Federation	..	2444.581	
South Africa	3463.247	3405.865	-0.1%
United Kingdom	15482.14	26890.73	2.2%
United States	22567.94	37267.33	2.0%
Venezuela	5820.012	4939.221	-0.7%

But looking at growth in *per capita* income over the last 25 years, China is outstanding with an average annual growth rate of 8.5 %. India, Malaysia, and Hong Kong are also high flyers. In contrast, most Eastern European and Latin American countries have low to negative growth. A lack of economic growth is likely to slow the growth in funds available for education and higher education.

Economic Technological Context

Higher education can contribute to the vitality of all economic sectors, though the demand for highly educated personnel is greater in the industrial and service industries. In only two of the CAP countries are majorities of the labor force employed in the primary sector – China and India – though in several others agriculture continues to play an important role in the economy – Malaysia, Australia, Mexico, Poland, and South Africa.

All of the CAP countries have expanding service sectors, usually with 50% or more of the labor force there – Hong Kong, Argentina, Australia, Canada, the Netherlands, Norway, the UK, and the U.S. are notable. There is a tendency for jobs in the service sector to require personnel with training in the social sciences, whereas jobs in the industrial sector tend to require graduates from the sciences and engineering.

Most of the CAP countries are significantly integrated into the global economy. Between 1980 and 2005 the average across CAP countries of the annual value of exports as a percentage of GNP increased from 27.5% to 41.5%. The average for imports as a percentage of GNP increased from 27% to 44%. Honk Kong is most notable for its high level of integration in the global economy. While the large economies of the U.S. and Japan are thought to be leaders in globalization, their degree of participation as measured by the above two indicators is relatively low.

One important vehicle for achieving prominence in the global economy is the manufacture and sale of high-technology products, products that are based on exceptionally high levels of research and development, such as computers and pharmaceuticals. Table 3 compares the CAP countries in terms of the total value added by these high tech products as a percentage of all manufacturing products. In terms of the total value added in both 1995 and 2003, the U.S. and Japan are the world leaders. As a percentage of all manufactured goods, Japan has been stable across the eight year period whereas the U.S. position has impressively increased. Finland, Malaysia, Brazil, Hong Kong and China also score relatively high in terms of this indicator. The higher education

disciplinary emphasis in several of these countries is skewed to science and engineering (See Table 11 below).

Table 2. Employment by Sector and Percentage of GNP that is International, 1980 and 2005, for Selected Countries

	Employment in agriculture (% of total employment)		Employment in services (% of total employment)		Imports of goods and services (% of GDP)		Exports of goods and services (% of GDP)	
Country	**1980**	**2005**	**1980**	**2005**	**1980**	**2005**	**1980**	**2005**
Argentina	..	1.1	..	75.1	6.5	19.0	5.1	24.6
Australia	6.5	3.6	62.4	75	17.0	21.2	15.1	18.4
Austria	..	5.5	..	66.7	36.3	47.8	33.8	53.2
Brazil	..	..	..	57.9	11.3	12.4	9.1	16.8
Canada	5.4	2.7	66	75.3	26.5	34.4	28.3	38.6
China	68.7	..	11.7	..	11.1	31.9	10.7	37.5
Hong Kong, China	1.4	0.3	48.4	84.6	89.4	185.4	88.9	197.9
Czech Republic	12.5	4	39.1	56.5	..	69.8	..	71.7
Finland	13.3	4.8	52.2	69.4	32.8	35.2	31.3	38.7
France	8.7	..	55.4	71	23.1	27.1	21.0	26.1
Germany Dem								
Germany	..	2.4	..	67.8	25.0	35.1	20.0	40.1
India	..	..	..	..	9.5	24.2	6.3	20.5
Italy	14	4.2	48.7	65.1	23.7	26.4	21.0	26.3
Japan	10.4	4.4	54	66.4	14.6	11.4	13.7	13.4
Malaysia	37.2	..	38.7	71	54.3	99.9	56.7	123.4
Mexico	26	15.1	24.1	58.6	13.0	31.5	10.7	29.9
Netherlands	..	3	..	72.9	54.0	63.0	53.2	71.2
Norway	8.3	3.3	62.3	75.9	36.9	28.1	43.1	45.3
Poland	..	17.4	..	53.4	..	37.3	..	37.0
Portugal	27.3	..	36.1	..	34.6	37.4	22.9	28.5
Russian Federation	..	10.2	..	60		21.6	..	35.1
South Africa	..	..	..	..	27.3	28.6	35.4	27.1
United Kingdom	2.6	1.4	58.9	76.3	24.9	30.0	27.1	26.1
United States	3.6	1.6	65.7	77.8	10.6	15.4	10.1	10.1
Venezuela	15	..	57.3	..	21.8	21.3	28.8	41.0
Average					27.5	41.5	26.9	43.9

Table 3. Amount (in 1997 U.S. Dollars) and Percentage of All Manufacturing Sales that are High Technology, 1995 and 2003, for Selected Countries

(Millions of 1997 U.S. dollars)

Industry and country/economy	1995		2003	
All manufacturing industries				
Total value added	5,225,595.8	12.1%	6,272,450.7	19.2%
United States	1,266,252.0	12.7%	1,495,278.0	34.2%
Canada	101,711.2	10.3%	131,160.6	9.8%
Mexico	63,945.4	9.3%	89,618.4	12.7%
Brazil	153,966.9	18.8%	145,389.0	17.7%
Argentina	41,082.5	4.1%	42,640.6	5.1%
Austria	35,847.8	10.3%	50,467.5	8.4%
France	232,859.3	13.5%	256,206.6	15.0%
Finland	24,484.7	11.8%	34,539.1	29.0%
Germany	436,998.4	9.4%	465,117.8	11.7%
Italy	222,241.4	8.7%	223,993.1	9.0%
Netherlands	64,147.3	9.1%	65,469.4	6.6%
Portugal	16,877.8	7.0%	20,016.1	8.9%
United Kingdom	242,087.5	14.6%	252,454.3	16.3%
European Union-15	1,512,202.0	11.2%	1,651,306.0	13.4%
Czech Republic	17,022.0	5.1%	21,577.1	7.9%
Poland	22,503.9	5.3%	35,433.3	6.4%
Japan	937,181.5	15.6%	923,507.7	15.7%
China	234,071.1	7.1%	590,609.8	19.0%
Hong Kong	10,241.7	22.7%	6,795.1	19.8%
India	56,509.8	4.3%	84,787.1	5.1%
Malaysia	22,529.7	26.7%	38,298.5	32.2%
South Africa	25,995.3	4.2%	28,159.6	3.3%

Associated with the high-tech revolution has been the spread of computers and the development of the world-wide internet. Nearly all of the CAP countries are making rapid strides to master the information revolution, though there are wide differences: one indicator is the percentage of population using broadband, which is highest in Norway and Finland and lowest in India. Similarly there is wide variation in incidence of broadband subscribers with the Netherlands and Honk Kong leading and India and South Africa trailing. International data do not enable a close look at the relative strength of academic offerings in fields related to these trends such as computer science and information management. But it is likely that in the country reports we will find information technology issues to be most salient in those countries that have most vigorously committed themselves to the internet.

Table 4. Selected Indicators of ICT Participation, 2005

	Broadband subscribers (per 1,000 people)	*Internet users (per 1,000 people)*	*Personal computers (per 1,000 people)*
Country and Year	***2005***	***2005***	***2004***
Argentina	21.7	177.1	83.4
Australia	103.4	698.0	682.9
Austria	142.8	485.8	578.5
Brazil	17.7	195.0	105.2
Canada	207.6	520.1	699.9
China	28.7	85.1	40.9
Hong Kong, China	238.9	507.8	608.4
Czech Republic	43.7	269.5	240.0
Finland	223.8	533.7	481.1
France	155.5	429.6	495.7
Germany Dem			
Germany	129.7	454.7	545.3
India	1.2	54.8	12.1
Italy	115.7	477.8	312.0
Japan	175.0	667.5	541.6
Malaysia	19.4	434.6	196.8
Mexico	22.4	180.6	109.8
Netherlands	251.2	739.0	682.4
Norway	214.4	735.4	572.7
Poland	32.6	262.0	192.8
Portugal	114.9	278.6	133.5
Russian Federation	11.1	152.3	104.3
South Africa	3.5	108.8	80.7
United Kingdom	163.8	473.5	599.8
United States	166.6	630.0	762.2
Venezuela	13.4	124.7	82.1

Demography

Population growth may influence the context of the academic profession. Where the population growth rate is high, there will be relatively more young people in the population and their numbers will tend to increase year after year. For countries seeking to provide the incoming cohorts with equal opportunities, there will be continuing pressure to expand higher education which leads to jobs for new academics. As illustrated in Table 5, high growth countries include India, Malaysia, Australia, Brazil, Argentina, and South Africa. In contrast are several countries where population growth has been essentially stagnant or negative in recent years – Poland, Russia, and the Czech Republic.

Table 5. Aggregate Population and Percent of Population that are Immigrants, 1980 and 2005, for Selected Countries

	Population, total		*Average Annual Growth Rate 1980-2005*	*International migration stock (% of population)*	
Country	***1980***	***2005***		***1980***	***2005***
Argentina	28,093,513.00	38,747,148.00	1.3	6.8	3.9
Australia	14,692,000.00	20,329,000.00	1.3	21.0	20.2
Austria	7,553,000.00	8,233,300.00	.3	3.7	15.0
Brazil	121,615,033.00	186,404,913.00	1.7	1.0	0.3
Canada	24,593,000.00	32,299,000.00	1.1	15.5	18.9
China	981,235,000.00	1,304,500,000.00	1.1	0.0	0.0
Hong Kong, China	5,063,100.00	6,943,600.00	1.3	41.5	43.2
Czech Republic	10,232,000.00	10,234,092.00	0.6	..	4.4
Finland	4,780,000.00	5,246,100.00	.4	0.8	3.0
France	53,880,000.00	60,873,000.00	.5	10.9	10.6
Germany	78,303,000.00	82,469,400.00	.2	..	12.3
India	687,332,000.00	1,094,583,000.00	1.9	1.3	0.5
Italy	56,434,000.00	58,607,050.00	.2	2.0	4.3
Japan	116,782,000.00	127,774,000.00	.4	0.6	1.6
Malaysia	13,763,441.00	25,347,368.00	2.5	5.7	6.5
Mexico	67,570,000.00	103,089,132.60	1.7	0.4	0.6
Netherlands	14,150,000.00	16,319,850.00	.6	3.5	10.0
Norway	4,091,000.00	4,623,300.00	.5	3.1	7.4
Poland	35,578,000.00	38,165,450.00	.3	4.3	1.8
Portugal	9,766,000.00	10,549,450.00	.3	2.7	7.2
Russian Federation	139,010,000.00	143,113,650.00	.1	..	8.4
South Africa	27,576,000.00	46,888,200.00	2.1	3.6	2.4
United Kingdom	56,330,000.00	60,226,500.00	.3	6.2	9.0
United States	227,225,000.00	296,410,404.00	1.1	6.3	12.9
Venezuela	15,091,222.00	26,577,000.00	2.3	6.4	3.8
Average				1.3	2.0

International migrations can play a modest role in population growth. The major beneficiaries of international immigration tend to be among the more affluent countries – notably Hong Kong, Australia, and Canada.

Population growth influences the relative size of the college age cohort, which is the major source of clients for the higher educational enterprise. Countries with rapid total growth have ever expanding college age cohorts and thus face a great challenge in creating enough new places in higher education to

accommodate the expanding college cohort; thus countries with rapid population growth are less likely to realize increases in their higher education Gross Enrollment Ratios (Tertiary GER). China has contained numerical population growth, so its participation rate has experienced a sharp increase in recent years (Table 9 below) while India with rapid population growth has experienced a slower rate of growth in tertiary GER.

Resources for Education

Information on the finance of education appears to be somewhat less reliable or consistent than that on the issues discussed above. From the available evidence, it would appear that across CAP countries the average proportion of GNP devoted to public education has been about 5% for the last 25 years with considerable variation between countries. Finland, Norway, and Malaysia currently have higher levels and Argentina, India, Japan, Romania, and Russia appear to be low. In the cases of Japan and India, these relatively low levels of public support are partially compensated by high levels of private support.

Overall the level of support for education in most countries has been relatively stable. Countries that have enjoyed more favorable economic growth have been somewhat more likely to increase their public allocations for education. Hong Kong (and probably China) and Malaysia are examples of countries that have significantly increased their public allocations for education while in several other countries there appears to have been some slippage in the public support of education.

Expenditure *per* student on education as a percentage of *per capita* income is one indicator of the relative affordability for the state (or, if tuition is charged, for the student) of a particular level of education. Comparing expenditures *per* primary education student as a percentage of *per capita* income, the norm is 15-20% without wide differences between countries or over time. In contrast there are wide differences in the expenditures for tertiary education students as a proportion of *per capita* income. The norm is *circa* 30% or about twice as much as for primary education. In Latin America the average is closer to 60%. And in Hong Kong, India, Malaysia, and Norway the ratio is even higher. If *per* student costs are relatively high, this implies revenues for higher education that can be used in any of a number of ways – higher expenses on infrastructure including new technologies, higher management costs, higher faculty salaries, higher scholarship support for students. A close examination of each national context would be required to clarify which among these options is emphasized.

Table 6. Support for Public Education as a Percentage of GNP and Other Indicators of Level of Support for Education (*i.e.* Private Sector Share in 2002 and Educational Expenses as a Proportion of *per capita income*) for Selected Years. **(%)**

Country/YEAR	Public exp on Edn/ GNP 95	Public exp on Edn/ GNP 2002	Private exp on Edn/GNP 2002	Public exp on Edn/ GNP 2005	1ary Edn exp as % GNP *per capita* 2004	3ary Edn exp as % GNP *per capita* 2005
Argentina	4.5			3.8	11.4	11.7
Australia	5.6	4.4	1.2	4.7	16.4	23.2
Austria	5.5	5.4	0.3	5.5	22.7	48.9
Brazil				4.4	14.1	35.9
Canada	7.3	4.2	0.2		...	...
China	2.3				...	...
Czech Republic	6.1	4.2	0.2	4.4	12.9	30.6
Finland	7.6	5.9	0.1	6.5	18.8	36.6
France	5.9	5.7	0.4	5.9	17.9	34.1
German Dem Rep						
Germany	4.7	4.4	0.9	4.6	16.4	...
Hong Kong	2.8			4.6	15.3	68.5
India	3.5	3.4	1.4	3.8	9.4	94.7
Italy	4.9	4.6	0.3	0.9	...	13.3
Japan	3.8	3.5	1.2	3.6	22.4	20.5
Malaysia	5.3	8.1	0.0	6.2	14.6	71.1
Mexico	5.3	5.1	1.1	5.4	14.9	41.3
Netherlands	5.3	4.6	0.5	5.4	18.8	42.6
Norway	8.3	6.7	0.3	7.7	20.7	53.2
Poland	4.6	5.5	0.7	5.4	22.8	21.5
Portugal	5.4	5.7	0.1	5.7	24.6	24.9
Romania	3.2			3.4	...	22.9
Russian Federation	4.1	3.7	0.0	3.6	...	10.8
South Africa	6.8			5.3	13.3	45.5
United Kingdom	5.5	5.0	0.9	5.4	18.0	27.7
United States	5.3	5.3	1.9	5.9	22.0	27.6
Venezuela	5.2					
Average	5.2	4.5	0.6	4.9	17.4	36.7

Table 7. Change in Tertiary Education Expense *per* Student, 1995 to 2002, for Selected Countries

Country/YEAR	Tertiary *per* Student PPP$ 2002	Tertiary Change in exp 95-02	Tertiary % of GNP *per capita* 2005	Tertiary Change in no. of students 95-02	Tertiary Change in exp *per* student 95-02
Argentina	3235		11.7		
Australia	12416	122	23.2	131	93
Austria	12448	111	48.9	94	118
Brazil	10361	125	35.9	142	88
Canada					
China					
Czech Republic	6236	118	30.6	170	69
Finland	11768	118	36.6	113	104
France	9276	114	34.1	97	117
Germany	10999	110		100	110
Hong Kong			68.5		
India	2486	204	94.7	136	150
Italy	8636	131	13.3	108	121
Japan	11716	120	20.5	102	118
Malaysia	14405	360	71.1	238	151
Mexico	6074	172	41.3	142	121
Netherlands	13101	110	42.6	107	103
Norway	13719	110	53.2	104	105
Poland	4834	166	21.5	197	84
Portugal	6960	135	24.9	132	102
Romania			22.9		
Russian Federation			10.8		
South Africa			45.5		
United Kingdom	11822	118	27.7	118	100
United States	20545		27.6		
Venezuela			36.7		
Average	10055	144		131	109

Resources for Higher Education

Among CAP countries, expenditure *per* student (figures adjusted for PPP, inflation) is highest in the US[3] and is lowest in India (China also is certainly low,

[3] While Switzerland is not a CAP country, it can be noted that its average expenditure *per* student is higher than the U.S. amount.

but published data are not available). Of course, the US is an affluent country so its high actual expenditure *per* student is a relatively low percentage of its GNP *per capita* (only 27.6%); in contrast, India's average expense *per* student is 94.7 % of its GNP *per capita*.

With the PPP adjustments entered, the gap between countries is not as great as is often thought: *e.g*. $21,000 in the US compared to $3,500 in India. Perhaps most surprising is the sizeable gap between the US and the typical European country (at *circa* $12,000), especially considering that several of the European systems pay for student tuition.

The trend in expenditures *per* student deserves note; where there is a positive trend this implies the greater availability of resources which could lead to an improvement in the academic context. Malaysia shows a sharp increase as do several of the less affluent countries including India, Mexico, and Poland. Among the more affluent countries, expenditures per student are slightly down in the UK while slightly up in Austria and France.

R&D Expenditures

As economies develop and come to place greater stress on higher technologies, countries tend to spend larger amounts on research and development, and moderate proportions of these funds are likely to be allocated to academic centers. Thus, as indicated in Table 8 the more mature economies of the north tend to spend 2% or more of their gross national product on R&D; Finland stands out with an expenditure of 3.46% of its GDP followed by the U.S. with 2.67%. An interesting trend is that most Asian societies to spend a higher amount on R&D than might be expected by their level of economic development. Japan, for example, spends a higher proportion than the U.S. and, while Korea is not included in the CAP study, its expenditures are also very high. Mexico and Romania have low levels of expenditure on R&D.

A nation's R&D expenses come from a variety of sources and are devoted to many activities. University based projects tend to focus on more basic research and thus seek funding appropriate to these goals. Table 8 suggests that countries with lower development levels tend to spend a relatively high proportion of their research funds on basic research (*e.g*., Mexico, Poland) – though China runs contrary to this generalization. Of course, we should keep in mind that the overall R&D expenditures of these nations are small, so it turns out that the funds available to the typical academic tends to be quite modest. As economies develop, there is a tendency to expand funding for applied and

developmental projects at a faster rate than for basic research projects. Even so, most advanced nations devote sizeable amounts of funding to basic research, and this practice does not appear to be abating.

Table 8. R&D Share of GDP for Selected Countries/Economies *circa* 1996 and 2002

Country/YEAR	R&D % share of GDP *circa* 1996	R&D % share of GDP *circa* 2002	Basic Research share of R&D
Argentina	0.38	0.41	26
Australia	1.68	1.54	26
Austria	1.52	2.19	
Brazil	.76	1.04	
Canada	1.60	1.87	
China	0.65	1.22	6
Czech Republic	1.19	1.34	25
Finland	2.78	3.46	
France	2.23	2.26	23
Germany	2.31	2.5	
Hong Kong	0.10		
India			
Italy	1.08	1.11	
Japan	2.92	3.12	13
Malaysia	0.34		
Mexico	0.42	0.39	31
Netherlands	2.09	1.88	
Norway	1.68	1.67	
Poland	0.76	0.59	32
Portugal	0.65	0.94	
Romania		0.38	
Russian Federation	0.95	1.28	14
South Africa	0.69		
United Kingdom	1.87	1.87	
United States	2.60	2.67	18
Venezuela	0.89		

Participation in Higher Education

The proportion of the college age cohort actually enrolled (Tertiary GER) is often used as an indicator of the relative attractiveness of a nation's higher educational system. The US and Canada were leaders in tertiary GER in 1980, but they now are surpassed by Finland and Norway among the CAP countries as well as others (S. Korea).

Table 9. Trends in Tertiary Enrollments for Selected Countries/Economies

Country/YEAR	Total Tertiary Students 1980	Total Tertiary Students 2005	Enrollment Growth 1980 to 2005	Tertiary GER 1980	Tertiary GER 1995	Tertiary GER 2000	Tertiary GER 2005
Argentina	491473	2127113	432.8%	22	38	53	65
Australia	323716	1015060	313.6%	25	72	65	72
Austria	136774	244410	178.7%	26	45	56	50
Brazil		4275027		11	11	16	24
Canada	421913	1254833	297.4%	57	103	59	62
China	1161440	21335646	1837.0%	2	5	8	20
Czech Republic	197041	336307	170.7%	18	21	29	48
Finland	123165	305996	248.4%	32	67	83	92
France	869788	2187383	251.5%	25	50	53	56
Germany	1223221	2179967	178.2%	34	43		
Hong Kong	38153	152294	399.2%	10			31
India	4456198	11777296	264.3%	5	6	10	11
Italy	1117742	2014998	180.3%	27	41	49	66
Japan	2412117	4038302	167.4%	31	40	47	55
Malaysia	57650	731077	1268.1%	4	11	26	32
Mexico	785419	2384858	303.6%	14	14	19	24
Netherlands	360033	564983	156.9%	29	49	53	61
Norway	79211	213940	270.1%	26	55	70	80
Poland		2118081		18	27	49	63
Portugal	91373	380937	416.9%	11	34	48	56
Romania	192769	738806	383.3%	12	18	24	45
Russian Federation	5235200	9019556	172.3%	46	43		71
South Africa		735073			17	14	15
United Kingdom	832106	2287541	274.9%	19	48	58	60
United States		17272044		56	81	69	83
Venezuela	307133	1049780	341.8%	21	29	28	41

India, South Africa, and China have the lowest tertiary GERs. But these are countries with large populations, so their actual enrollment totals are relatively large; in fact, while China's GER in 2005 was only 20%, its total enrollment in 2005 exceeded that of the U.S. by over 4 million students.

UNESCO has for some time made a distinction between ISED Levels 5a and 5b and Level 6 institutions. The former levels includes junior colleges and specialized programs that may or may not lead to a baccalaureate; the latter are institutions that offer both first degrees and advanced degrees and are often

referred to as full universities. Countries that have higher GER rates tend to have a larger proportion of their tertiary enrollments in these more comprehensive institutions. Table 10, while reporting data for only a fraction of the CAP sample, suggests that expenditures *per* student in the full universities are generally higher than for the ISED 5a institutions.

Table 10. Percentage of all Students in Tertiary Education Who Attend Short-Cycle Programs (ISED 5a), and Comparison of Student Unit Costs for ISED 5a with 5b/6

Country/YEAR	% of Students in ISED 5A 2005	3^{ary} exp *per* Student in ISCED5A PPP$ 2002	3^{ary} exp *per* Student in ISCED5B&6 PPP$ 2002
Argentina	74		
Australia	80	3891	2777
Austria	84	7544	13410
Brazil	93	9584	12701
Canada	73		
China	51		
Czech Republic	83	2703	6671
Finland	92	3185	11833
France	72	9801	9132
German Dem Rep			
Germany		5739	11860
Hong Kong	53		
India	98	7429	8649
Italy	97	9580	11984
Japan	74		
Malaysia	54	10769	15276
Mexico	96		
Netherlands	98	7622	13163
Norway	97		
Poland	97		
Portugal	96		
Romania	91		
Russian Federation	78	987	
South Africa	73		
United Kingdom	73		
United States	77		
Venezuela	64		

Academic Field

Higher education provides relatively specialized training in bodies of knowledge and skills often referred to as fields. UNESCO aggregates these fields into eight broad groups: Education, Humanities, Social Sciences, Sciences, Engineering, Agriculture, Health, and Other. Table 11 presents data on student enrollments in three of these aggregate groups for 1980 and 2005. The distribution of staff in higher educational institutions tends to mirror the distribution of students.

Table 11. Percentage Distribution of Students between the Social Sciences and Science and Engineering 1980 and 2005 for Selected Countries

Country	Soc Sci 1980	Science 1980	Eng. 1980	Soc Sci 2005	Science 2005	Eng. 2005
Argentina	17.8%	7.9%	15.3%	39.2%	10.4%	8.5%
Australia	29.0%	12.9%	7.0%	37.8%	11.6%	10.6%
Austria	20.4%	9.3%	7.1%	35.9%	12.0%	12.1%
Brazil				40.6%	8.4%	7.5%
Canada	26.3%	3.7%	1.3%	26.7%	10.0%	10.2%
China	3.2%	8.2%	31.3%			
Czech	14.7%	3.2%	37.8%	28.1%	9.5%	19.7%
Finland	24.6%	10.7%	24.6%	22.3%	11.6%	26.4%
France	9.1%	15.0%	0.0%			
German demo	16.8%	2.4%	20.5%			
German fed	19.6%	11.2%	15.0%	28.7%	13.9%	16.4%
Hong Kong	30.6%	10.2%	40.8%	35.3%	15.2%	16.1%
India	14.4%	17.4%	7.5%	14.8%	15.6%	6.5%
Italy	16.8%	9.7%	8.1%	36.7%	7.7%	15.9%
Japan	32.7%	2.5%	16.5%	28.7%	2.9%	16.6%
Malaysia	112.0%	15.4%	12.7%	27.0%	18.5%	21.4%
Mexico	29.4%	3.7%	20.7%	40.3%	13.0%	18.3%
Netherlands	19.6%	3.9%	14.7%	39.8%	7.6%	7.9%
Norway	18.2%	7.0%	13.7%	32.2%	9.4%	6.9%
Poland				39.9%	8.3%	11.0%
Portugal	18.3%	5.6%	17.2%	31.4%	7.6%	21.8%
Romania	11.4%	4.4%	57.0%	47.1%	4.7%	20.3%
Russia-Ussr			45.6%			
United Kingdom	25.1%	16.4%	19.1%	26.9%	14.2%	8.1%
United States				27.3%	8.9%	6.7%
Venezuela	22.0%	13.6%	1.9%			
Average	23.1%	8.4%	18.9%	33.6%	10.5%	13.6%

Comparing across societies, the former socialist and some Asian societies place a greater emphasis on the sciences and especially the applied sciences as do high tech societies such as Finland. This tendency is evident both in 1980 and 2005. Over the 1980 to 2005 period, the main trend in field choice is an increase in the social sciences and a decrease in most other fields. The data are not adequately detailed to indicate which social science fields are responsible for this increase, but it is likely that an increased interest in business management is part of the explanation. As noted earlier, most CAP societies have experienced a significant expansion of employment in the service industries.

Table 12. Ratio of inbound "International Students" and outbound Students to the Total Student Population of Selected Countries, 2000 and 2005

Country	Inbound % of Total Students 2000	Inbound % of Total Students 2005	Outbound % of Total Students 2000	Outbound % of Total Students 2005
Argentina				
Australia	13.0	20.0	1.0	1.0
Austria	11.0	5.0	5.0	5.0
Brazil	0.0	0.0	1.0	1.0
Canada	9.0	9.0	2.0	3.0
China	1.0		2.0	2.0
Czech Republic	2.0	6.0	2.0	2.0
Finland	2.0	3.0	4.0	2.0
France	7.0	11.0	3.0	2.0
Germany			2.0	3.0
Hong Kong	2.0	3.0		23.0
India			1.0	1.0
Italy	1.0	2.0	3.0	2.0
Japan	1.0	3.0	2.0	2.0
Malaysia	3.0	4.0	7.0	6.0
Mexico			1.0	1.0
Netherlands	3.0	5.0	3.0	2.0
Norway	5.0	6.0	8.0	6.0
Poland	0.0	0.0	1.0	1.0
Portugal	3.0	4.0	3.0	3.0
Romania	3.0	1.0	3.0	3.0
Russian Federation	1.0	1.0		
South Africa	7.0	7.0	1.0	1.0
United Kingdom	11.0	14.0	1.0	1.0
United States	4.0	3.0		
Venezuela	0.0	0.0	1.0	1.0
Average	4.0	4.9	2.6	3.2

International Out-bound *versus* In-bound

One component of the changing student body is the increasing prominence of young people born in one country who take up study in another. These internationally mobile students can be looked at from the country they leave as out-bound students; alternately they can be looked at from the country where they take up their studies as in-bound students. The CAP project is interested in the mobility of students in the anticipation that it can provide some insights into the mobility of academics.

Concerning students, the inbound rate in most countries has increased, while the outbound rate is relatively stable. The average inbound rate in 2005 was 4.9% with Australia, the UK, France, and Canada having especially high inbound rates. These are also societies with high percentages of immigrants in their overall population mix.

Western countries tend to think they are inundated with high numbers of inbound students from India and China. But these are very large societies, and their outbound rates are comparatively low. Moreover, in both case their inbound rates are as high as their outbound rates. In other words China and India take as many students as they give.

Concerning outbound rates, the average in 2005 was 3.2 %. Hong Kong, Norway, Malaysia, and Austria stand out with relatively high rates.

R&D Output

Most nations believe in the importance of research including basic research. At the same time they seek evidence that their financial allocations for research lead to worthy outcomes. One indicator of the impact and vitality of basic research activities is the frequency with which researchers complete and publish their findings as articles in internationally refereed journals. In recent years as indicated in Table 13, US researchers have published the largest number of articles with Japan second followed by several of the Western European countries. But if we look at trends over time, the historic Western dominance in research publications appears to be facing a challenge from Asia. The Asia regional total has increased 46% between 1995 and 2001 or 119% between 1988 and 2001; the respective figures for Western Europe are 15% and 59% and for North America they are a surprisingly flat at -1% and 13%. Japan is currently number two in terms of total publications and China is number five. Two notable exceptions in the Western group are Finland with 23% and 83% and Austria with 30% and 102% for the two time periods. Russia has experienced a dramatic decline.

Table 13. Science & Engineering articles, by region and country/economy: 1988–2001 and Ratios of Change for 2001/1998 and 2001/1995

Region and country/economy	1988	1995	2001	2001/1988	2001/1995
Worldwide	466,419	580,809	649,795	1.39	1.12
OECD	386,267	487,111	532,756	1.38	1.09
North America	199,937	229,320	226,704	1.13	0.99
Canada	21,391	24,532	22,626	1.06	0.92
Mexico	884	1,901	3,209	3.63	1.69
United States	177,662	202,887	200,870	1.13	0.99
Western Europe	143,882	199,688	229,173	1.59	1.15
Austria	2,241	3,477	4,526	2.02	1.30
Finland	2,789	4,134	5,098	1.83	1.23
France	21,409	29,309	31,317	1.46	1.07
Germany	29,292	38,100	43,623	1.49	1.14
Italy	11,229	17,904	22,313	1.99	1.25
Netherlands	8,581	12,330	12,602	1.47	1.02
Norway	2,192	2,953	3,252	1.48	1.10
Portugal	429	989	2,142	4.99	2.17
United Kingdom	36,509	45,993	47,660	1.31	1.04
Asia	51,765	78,055	113,575	2.19	1.46
China	4,619	9,261	20,978	4.54	2.27
India	8,882	9,591	11,076	1.25	1.15
Japan	34,435	47,603	57,420	1.67	1.21
Malaysia	208	373	494	2.38	1.32
Eastern Europe/Central Asia	41,597	36,390	33,686	0.81	0.93
Czech Republic	2,746	1,993	2,622	0.95	1.32
Poland	4,030	4,535	5,686	1.41	1.25
Romania	393	648	997	2.54	1.54
Russia	na	19,974	15,846		0.79
USSR	31,625	na	na		
Near East/North Africa	7,893	9,627	11,777	1.49	1.22
Pacific	12,054	15,922	17,743	1.47	1.11
Australia	9,896	13,387	14,788	1.49	1.10
Central/South America	4,748	7,646	13,147	2.77	1.72
Argentina	1,423	1,969	2,930	2.06	1.49
Brazil	1,766	3,471	7,205	4.08	2.08
Venezuela	292	430	535	1.83	1.24
Sub-Saharan Africa	4,544	4,161	3,990	0.88	0.96
South Africa	2,523	2,364	2,327	0.92	0.98

These large differences in recent trends need to be considered alongside the different starting points. After all, the actual article totals in several of the Western countries are quite substantial. One possible way of taking account of these differences would be to relate article total to researcher total across countries. But there is not adequate information for that purpose, so another option is to relate national article totals to total size of the national population as presented in Table 14. What stands out from this computation is that several of the advanced countries have achieved over 700 articles per one million capita while the level of productivity in several of the less affluent countries including India and China is well below 100. Especially notable is the high productivity of Finland, the Netherlands, and Australia with the U.S. in fourth position. Japan, by this indicator, lags behind all of the affluent European countries excepting Italy.

Table 14. *Per capita* Output of Science & Engineering Articles 1999-2001 for Selected Countries

Country	*Per capita* Output of S&E Articles, 1999-2001
Argentina	77.8
Australia	794.2
Austria	
Brazil	38.8
Canada	
China	14.8
Czech Republic	241.4
Finland	960.5
France	538.6
Germany	530.5
India	10.8
Italy	371.4
Japan	445.6
Malaysia	21.9
Mexico	31.8
Netherlands	800.5
Norway	720.0
Poland	139.9
Portugal	191.3
Russian Federation	116.4
South Africa	
United Kingdom	821.9
United States	722.2
Venezuela	

Summing Up

In this brief paper, I have presented data on several international indicators in an effort to examine some of the components of the CAP analytical framework. There are obvious limitations to this effort: The data are sometimes of dubious quality, there is much missing data, it would be helpful to have more complete time series, and it would be helpful to have indicators for a greater variety of issues. Still, some conclusions emerge from this review.

Our review observes that the US still has the most affluent higher educational system, and it also has an academically strong system, but relatively speaking it is losing ground. It is interesting that Switzerland has passed the US in terms of expenditure *per* student, and several countries have passed the U.S. in terms of tertiary GER and selected R&D indicators. The Scandinavian countries are showing steady improvement in various areas: their higher educations systems are now very close to the US in terms of affluence and very competitive in terms of academic productivity. The East Asian systems show the greatest relative improvement. And the East European countries are experiencing the most negative trends. The other countries tend to lie in between these extremes.

It is often asserted that there is a world hierarchy in higher education with the U.S. and Western Europe at the core (Ben-David, 1977; Altbach, 2002; Marginson, 2004); the world hierarchy perspective assumes that the talent, financial resources, knowledge resources, and working conditions are monopolized by the Atlantic community systems. Is this hierarchy still prominent, can we say it has flattened somewhat (Freidman, 2005), or is it even possible that a new hierarchy is forming with new players taking over the center (Cummings, 2008)? A flatter world perspective would argue that the Western hierarchy is being challenged by an increasingly differentiated distribution of those factors that favor academic excellence and relevance. Thus a new hierarchical perspective proposes that new centers are emerging (especially in Asia and in the Nordic countries) that may be outpacing the historical academic core in at least some dimensions of academic excellence.

Of course, there are many limitations to this analysis. The indicators we have reviewed focus on the traditional concerns of higher education research – that is on teaching and basic research. They provide relatively little insight into the CAP themes of relevance and managerialism, and only a few hints *re* internationalization.

Findings Relevant to the Conceptual Framework from this Analysis of International Indicators

Inspired by the CAP conceptual framework, the following are a selection of working hypotheses that seem to be supported by the available international indicators.

- More affluent countries have higher participation rates in higher education, and a greater proportion of their tertiary places are in the upper tier (ISCED 5b and 6) institutions.
- While countries with higher population growth rates add more student places and hence more faculty positions, their participation rates may not increase as rapidly as countries with lower population growth rates.
- Countries with a strong information technology emphasis place a relatively greater stress on science and engineering.
- Countries with a strong service emphasis place relatively more stress on the social sciences.
- Countries vary in their public (and private) support for education overall and in their support for higher education
- More affluent countries provide a higher level of support for higher education.
- Countries vary in their relative rates of increase in student numbers *versus* financial support *per* student.
- More affluent countries provide a higher level of support for basic research
- Countries that spend more on basic research are scientifically more productive.
- More affluent countries have higher inbound student rates
- Countries with a high proportion of immigrants in the population have higher inbound student rates
- Countries where higher education has a greater emphasis on science and technology have higher inbound student rates
- Rapid increases in student numbers lead to the rapid creation of academic jobs
- Increases in revenues *per* student lead to better conditions for academics
- Increases in basic R&D funding lead to better conditions for academics

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Country Reports

North America

The Changing Academic Profession in Canada: exploring themes of relevance, internationalization, and management

Amy Scott Metcalfe*

Introduction

The study of faculty and the academic profession are central research topics in the field of higher education. In Canada, higher education institutions have come to occupy a pivotal location within the framework of an emerging knowledge economy (Fisher & Rubenson, 1998; Godin & Gingras, 2000; Jones, McCarney & Skolnik, 2005; Metcalfe, 2006). Faculty, particularly scientists, are considered "highly qualified personnel" in various public policies relating to Canada's role as an innovative and knowledge-centric society (Langford, Hall, Josty, Matos & Jacobson, 2006). This shift means that federal and provincial governments have devised a wide array of policy instruments through which they seek to shape the research and knowledge production capabilities of higher education institutions in an effort to boost Canada's location within the global economy. Internationally, Canadian institutions compete to attract skilled researchers and scholars to enhance Canada's position within global knowledge production flows (Luke, 2005). At the intersection of these two processes, Canadian higher education institutions have been radically transformed in terms of their structural differentiation and their relationships to the broader labour market.

However, due to declining public resources dedicated to collecting data on academic staff in Canada, few national-level surveys exist that might permit us

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to better understand the changes facing the academic profession. Statistics Canada, the public entity charged with data collection in Canada, has not maintained the *Part-time University and College Academic Staff Survey* (PT-UCASS), which was active from 1990-1997. In addition, the *Annual College and Related Institutions Educational Staff Survey* (ACCESS) has been inactive since 2004, with its last survey conducted in 1999. As such, scholars and policy-makers have relied on the *Labour Force Survey* to better understand faculty employment in Canada, but this survey does not provide an adequate annual 'snapshot' of academic staff. The only national-level survey on the topic of academic staff that has been maintained is the *University and College Academic Staff Survey* (UCASS), which is an annual, institutionally-oriented survey of full-time faculty employed in Canadian universities. The data are reported with about a two-year time lag in the *Almanac of Post-Secondary Education in Canada*, published annually by the Canadian Association of University Teachers (CAUT).

Unlike the *National Study of Postsecondary Faculty* (NSOPF) in the United States and related surveys in other countries, the UCASS in Canada does not survey individual faculty. Rather, universities report to Statistics Canada various information relating to faculty employees, such as salaries, disciplinary affiliations, academic rank, appointment type, and demographics (*i.e.*, age, gender, citizenship status, and ethno-cultural background). Due to an opportunity to participate in the Changing Academic Profession (CAP) initiative, a Canadian research team was formed in 2006 to conduct a large-scale data collection effort to complement the UCASS and national data on academic staff in Canada, which are scant for the reasons mentioned above. The CAP project aims to revisit some of the themes explored by the First International Survey of the Academic Profession, conducted in 1992 by the Carnegie Foundation for the Advancement of Teaching, which involved 14 countries (see Altbach, 1996). For reasons unknown to the present research team, Canada was left out of the Carnegie study. Thus, although the Canadian CAP project has not resulted in a data set that can be compared with the 1992 Carnegie survey, it has provided an opportunity to assess the changing academic profession in Canada and provide much-needed data on academic staff.

The international CAP survey has been organized around the themes of relevance, internationalization, and management in academia (Locke & Teichler, 2007; RIHE, 2006). This paper focuses on these three major facets of the academic profession as they relate to Canada, by utilizing preliminary data from the CAP study. First, I discuss the relevance of academic work for Canadian

faculty at the personal, institutional, and social levels. Second, I examine the internationalization of Canadian higher education in terms of in-country or foreign degree attainment by Canadian faculty, the internationalization of teaching, and international dimensions of research. Third, I report findings relating to academic management and faculty work. The paper thus examines faculty responses to the changing profession, internationalization, and academic managerialism.

Background

Higher education in Canada is constitutionally a provincial responsibility, meaning that jurisdiction for the governance of post-secondary education resides with the ten provincial governments (Shanahan & Jones, 2007). Federal discretion over higher education is limited, but is mostly felt through oversight of some student loans through the Millennium Scholarship Foundation and through the provision of research funding *via* the research councils and the Canada Foundation for Innovation (Fisher, Rubenson, Bernatchez, Clift, Jones, Lee, MacIvor, Meredith, Shanahan & Trottier, 2007). In Canada, there is no federal-level Ministry for post-secondary education, nor is there federal legislation to guide the structures of the provincial systems. As such, the ten provincial systems in Canada are distinct and vary widely from region to region. This is not to say that tensions do not exist between the federal and provincial responsibilities toward higher education, as national economic competitiveness and Science & Technology policy are federal concerns. Rather, as Canada's economy has become more knowledge-centric, higher education has been viewed as a national resource due to its present and potential research capacities (Cameron, 2001).

Although system diversity is a hallmark of Canadian higher education, it can be said that Canadian higher education is generally characterized by degree-granting universities (mostly public but some private) and colleges that offer sub-baccalaureate education. Exceptions have emerged, such as the university-colleges in British Columbia (Chan, 2005; Levin, 2003) and colleges that offer the baccalaureate degree (Levin, 2004). The *2007 Almanac of Post-Secondary Education in Canada* (CAUT, 2007, p.15) lists 71 universities that have reported descriptive data on academic staff summarized from information collected by Statistics Canada's Centre for Education Statistics. From this source, we learn that there were approximately 34,000 faculty employed full-time in these 71 institutions in the academic year 2004-2005.

Method

Instrument

The CAP common instrument was developed in consultation with our international partners. The core questions pertain to the professional background of faculty, academic socialization, perceptions of work conditions, income, institutional support, professional and research activities, perceptions of institutional culture and policies, as well as career and mobility aspirations. The core questionnaire draws from the First International Survey of the Academic Profession (Altbach, 1996), with new and revised questions. In addition, each national survey has been slightly modified by each country-based team to account for regional differences in nomenclature and other aspects that would affect local comprehension. For example, the Canadian survey was developed in both French and English, as these are the official national languages. Survey participants had the option to take the survey in either language.

Following the CAP meeting in Kassel, Germany in summer 2006, the Canadian team met in Vancouver to finalize the additional questionnaire items, construct the sample, and prepare the survey (including a professional translation into Québécois French). At this time, we also completed the ethical review process through our Research Ethics Board at the University of British Columbia and were granted approval. Due to limited resources available for the project, the decision was made to offer the survey online, with an email invitation to potential participants to avoid costs associated with printing and mailing paper questionnaires.

Analytic Goals

The international CAP group decided on a minimum "effective" net sample size of 800 returned questionnaires (with most items answered). The CAP project group has agreed to focus on "personnel providing academic teaching and/or research at universities (public and private) and public funded research institutes".

National Context

In Canada, there are three main types of higher education institutions: institutes, colleges and universities. Although most universities in Canada are public, we did not exclude private universities from the sample. As the CAP project focus is on universities, we did not include colleges or institutes in the

sample, although they would be ideal for a follow-up survey in the future. University-colleges, an emerging institutional type in Canada, were also not included as they were inconsistently named and categorized due to their transitioning character. Theological institutions and seminaries were also not included. Although mentioned in the CAP design strategy, research institutes were not included as there is no reliable list of these organizations in Canada nor is there an available list of individual researchers who work within them.

Data Sources

Four sources of information about universities and academic staff in Canada have been used to create our national CAP sample. First, the Canadian Association of University Teachers (CAUT) produces an annual *Almanac of Post-secondary Education*, which summarizes institutional data collected by Statistics Canada. In the section of the 2007 *Almanac* on "Academic Staff", Table 2.12 presents a list of 71 institutions and the number of full-time university teachers in each (CAUT, 2007, p.15). Second, the *Commonwealth Universities Yearbook 2007* provides a list of full-time academic staff employed at 37 Canadian member institutions of the Association of Commonwealth Universities (ACU, 2007). Third, the Association of Universities and Colleges of Canada (AUCC) lists online the names of its 92 member institutions for 2007. Finally, *Maclean's* magazine publishes an annual university rankings issue, which categorizes Canada's universities into three strata: Medical/Doctoral, Comprehensive, and Primarily Undergraduate.

Population

Universities that were members of the AUCC or the ACU *and* that were included in the CAUT table were included in the initial list of Canadian institutions for the purposes of this study. When university-colleges, colleges, and institutes were excluded, the AUCC and CAUT lists were nearly identical, with most also listed in the ACU's *Commonwealth Universities Yearbook*. The population list for the Canadian CAP study included 50 universities. As this is not a complete list of all universities in Canada (mostly due to the transitioning of university-colleges to universities, the inclusion of theological and technical institutions in the CAUT and AUCC lists, and the fact that some private universities are not members of AUCC), we were not able to utilize a simple random sample design.

Sampling

A two-stage cluster sample was thus created at the level of institutions and at the level of individuals. At the institutional level, the target population of universities was sorted by province and by type of institution. Provincial location is significant for the Canadian context, as post-secondary education is a provincial responsibility. Furthermore, regionalism correlates with Francophone and Anglophone language groups, which it is important are adequately represented in the final sample. In addition, due to the differences between research-intensive institutions and those that are mostly concerned with teaching, the *Maclean's* categories provided a method for ensuring representation by institutional type. However, it was felt that since the real differences were between the larger research-oriented institutions and the rest of the university sector, the three categories were collapsed into two: Medical/Doctoral and Comprehensive/Primarily Undergraduate.

From this list, a random sample of institutions was created. First, in each provincial category, one Medical/Doctoral institution was randomly selected. For the provinces of Ontario and Québec, two Medical/Doctoral institutions were selected to account for the large number of institutions in those areas. One province, Prince Edward Island, did not have a Medical/Doctoral institution. Next, one Comprehensive/Primarily Undergraduate institution was randomly selected for each province where possible, with two selected for Ontario due to the large size of its institutional population. Thus, the institutional sample consisted of 20 institutions, 11 Medical/Doctoral and 9 Comprehensive/Primarily Undergraduate. Each of Canada's 10 provinces was represented by at least one institution.

With the first-stage cluster sample in place, the CAUT and ACU lists were used to create a list of individuals within these institutions for the second-stage of the cluster sample. According to the CAUT's *Almanac of Post-secondary Education 2007*, the cluster sample of institutions employed 14,043 full-time university faculty in 2004-2005, the most recent year for which data were available at the time of constructing the sample.

Of the 20 universities in the Provincial/Type cluster sample, seven were not included in the *Commonwealth Universities Yearbook 2007.* Three of these universities are Francophone institutions. Although using only ACU members would have been easier due to the faculty lists provided in the *Yearbook*, it was considered essential to include faculty from the Francophone universities in the sample. In addition, the *Yearbook* listings for departments and units at the sampled institutions were not complete, necessitating a strategy that would

supplement the data obtained through the ACU. Therefore, a list of faculty for the seven institutions that are not ACU members and those units not included in the *Yearbook* at the other sampled institutions was created by going to the institutional websites and collecting names, titles, and email addresses for faculty members in each academic unit. The CAP gross sample size was thus a combination of the ACU lists and data mining from public sources.

For each of the 20 universities in the sample, full-time faculty with the titles of Professor, Associate Professor, and Assistant Professor (and the Francophone equivalents) were included in the individual-level cluster sample. Other academic staff with titles such as Instructor, Lecturer, Research Associate, or Clinical Faculty were not included in the CAP gross sample. Administrative faculty such as Deans and Vice-Presidents were not included.

Design Effect and Expected Response Rate

Following the advice of the CAP Sampling Design, we elected to use a Design Effect of 2. While we hoped for a 33% response rate as suggested by the CAP Sampling Design, but since we had opted to use an online survey, we expected that a lower response rate might be likely. A recent survey of Canadian academics had a 27% response rate, for example (Catano, Francis, Haines, Kirpalani, Shannon, Stringer & Lozanski, 2007). After a review of the literature on academic surveys and response rates for web-based questionnaires, we concluded that a 25% response rate was likely. To ensure that our gross sample size was sufficient for an effective sample size of 800 with a Design Effect of 2, we performed the following calculation:

Gross sample size = effective sample size × Deff × (1/expected response rate)

Gross sample size = 800 × 2 × (1/0.25) = 6,400

Although we would only need to survey 6,400 individuals according to the design effect and the expected response rate, we had no way to determine a representative random sample from our gross sample. Because we were working with public data, we had no demographic information available to us at the level of the individual beyond employing institution, department, and job title. Although this could have ensured a representative group on those parameters, it would not permit us to sample by gender, age, race/ethnicity, or citizenship/immigration status, each of which is relevant to academic employment policy and faculty governance in Canada. As we were working with an electronic survey, we decided to send an e-mail invitation to all

individuals in the gross sample (*i.e.*, individuals meeting the job classification criteria who also met the criteria of being employed at the randomly selected universities meeting the strata distribution criteria). These individuals (N=7,807) were either listed in the *Yearbook 2007* where their employing institution was included in that year, or their names and email addresses were collected through data-mining efforts from public websites. With a sample of 7,807 individuals, a 20-21% response rate would be necessary to achieve the effective sample size of 800 with a design effect of 2.

Gross sample size = 800 × 2 × (1/0.20494) = 7,807

Implementation

At the end of October 2007, all potential e-mail recipients were sent a bilingual invitation message, followed by two reminder messages in November and December. Participant anonymity was assured through the use of a Personal Identification Number (PIN) and a third-party research service at the University of British Columbia that administered the survey and housed the data onsite.

Results

Approximately 16% (*i.e.*, 1,236) of the contacted eligible participants from the 20 sampled universities responded to the survey by mid-December 2007. Due to incomplete responses and a failure to reach the 20% minimum response-rate target for the Canadian CAP study design, another wave of e-mail reminder notices will be sent in the Spring of 2008. Although preliminary in nature, for the purposes of an initial analysis we selected a representative sub-sample from the completed responses gathered to date to generate a preliminary dataset. This sub-sample will not be the final Canadian CAP data set, but it is useful to provide an overview of the responses at this stage. This sub-sample of 844 individuals closely mirrors the demographic characteristics of full-time university faculty in Canada, as shown in Table 1.

The sub-sample includes faculty from Doctoral/Medical, Comprehensive, and Primarily Undergraduate universities in nearly the same ratio as the Canadian university population. Female faculty, however, were somewhat over-represented in the sub-sample at 43% when compared to the actual percentage of female faculty in the population (33%). Ethno-cultural background and citizenship/immigration status of the respondents in the sample were close to those of faculty in the general Canadian university population.

Table 1. Demographics of FT University Faculty

	CAP Sub-sample N=844	**FT Faculty in Canada***
Doctoral/Medical & Comprehensive	84%	85%
Primarily Undergraduate	16%	15%
Male	57%	67%
Female	43%	33%
White	86%	87%
Visible Minority/Non-White	14%	13%
Canadian-born/citizen at birth	66%	60%**
Immigrants and non-permanent residents	34%	40%**

*Source: CAUT Almanac, 2007
**Most recent data available are from 2001.

Findings

In this section, a selection of findings is presented and organized thematically into sections titled Relevance, Internationalization, and Management.

Relevance

In the context of the CAP survey, the relevance of the academic profession has several contexts and connotations. As noted by Brennan, Locke, and Naidoo (2007), "The point about 'relevance' is that it is generally defined by other people" (p.169). However, the CAP survey does not ask "other people" about the academic profession; it is focused on the individual academic. Thus, I present here responses to various questionnaire items relating to the participants' level of individual satisfaction with the academic profession, their perceptions about how influential they are in their institutions at various levels, and their involvement in external civic activities. In this way, I have considered 'relevance' in terms of job satisfaction at the individual level, perception of influence at the institutional level, and activity in the civic arena at the level of society. A summary of these responses is presented in Table 2.

Table 2. Relevance

	Very High	High	Medium	Low	Very Low
How would you rate your overall satisfaction with your current job?	25%	48%	17%	7%	3%
How influential are you, personally, in helping shape key academic policies?	Very influential	Somewhat influential	A little influential	Not at all influential	Not applicable
At the level of the department or similar unit	19%	42%	26%	10%	3%
At the level of the Faculty, School or similar unit	6%	24%	34%	31%	5%
At the institutional level	2%	11%	27%	54%	6%
During the current academic year, have you done any of the following?					
Been substantially involved in local, national or international politics	7%				
Been a member of a community organization or participated in community-based projects	41%				
Worked with local, national or international social service agencies	16%				

In North America, the academic profession is experiencing a series of changes, especially in terms of contracts and appointment types (Finkelstein, Galaz-Fontes & Metcalfe, forthcoming). In Canada, a recent survey has found that academic staff are "stressed to a high degree" resulting in health problems and loss of productivity (Catano *et al*., 2007). In this context, however, the Canadian CAP survey respondents reported a high level of satisfaction with their current job, with 25% reporting "very high" satisfaction and 48% reporting "high" satisfaction. While no national-level faculty satisfaction surveys have been conducted in Canada, discipline-specific surveys such as the *Adult Education and Human Resource Development Faculty Survey* conducted by Peterson and Wiesenberg (2004) also reports high levels of job satisfaction from Canadian faculty.

In terms of perceived influence in shaping academic policies, the Canadian

CAP participants see themselves as having the greatest influence at the departmental level, with least influence at the institutional level. Although the degree to which individual faculty are involved in university level decision-making increases with advancements in rank, thereby making a portion of the sample less likely to be involved at that level as a condition of their employment status, these results may also be indicative of a decline in faculty-driven governance at the institutional level (Jones, Shanahan & Goyan, 2004).

At the level of civic engagement, while few respondents reported being substantially involved in local, national, or international politics (7%), a higher proportion (41%) indicated that they had recently been a member of a community organization or participated in community-based projects. In addition, about one in seven faculty (14%) reported that they had worked with local, national or international social service agencies within the current academic year. These data may be useful in relation to our understanding of faculty engagement and participation in civil society (O'Connor, 2006), as well as a way to understand the social relevance of the academic profession outside academia.

Internationalization

The CAP survey contains several questions that pertain to the theme of internationalization in higher education. In this section I include a selection of these items, focusing on the in-country or foreign degree attainment of Canadian faculty, internationalization in teaching, and internationalization in research.

The domestic or foreign credentials of academic staff can be considered as an indicator of internationalization, as it both speaks to the relative quality and/or prestige of a given country's doctoral programs in a global educational marketplace and the value of international perspectives within the academic profession. Faculty participants in the Canadian CAP survey had most often earned their first degree (*e.g.*, a bachelor's) within Canada, as well as their second degree (*e.g.*, a master's). In each case 72% of respondents had earned these degrees in Canada (Table 3). With this in mind, the high number of those who have earned their doctoral degree outside Canada is something to consider more closely. Fifty-two percent of faculty who reported earning a doctoral degree indicated that they earned it in the country of their current employment (Canada), meaning that 48% of doctoral recipients had not. For those who earned their doctoral degree outside Canada, the United States was the most frequently cited country of degree attainment.

Table 3. Internationalization

Degree attainment in Canada	
First degree (*e.g.*, bachelor's)	72%
Second degree (*e.g.*, master's)	72%
Doctoral degree (*e.g.*, PhD, EdD, JD)	52%
Postdoctoral degree	52%

Beyond degree attainment, internationalization is evident in the large percentage of Canadian faculty who consider international perspectives in their teaching and research (Table 4). When asked about their teaching, a majority of respondents (63%) indicated that they either strongly agreed or agreed with the statement, "In your courses you emphasize international perspectives or content".[1] A slight majority of respondents (53%) indicated that the "number of international students has increased" since they started teaching, but the majority (62%) disagreed or strongly disagreed with the statement, "Currently, most of your graduate students are international".

Table 4. Internationalization in teaching

	Strongly Agree or Agree	**Neither Agree nor disagree**	**Strongly Disagree or Disagree**
In your courses you emphasize international perspectives or content	63%	21%	16%
Since you started teaching, the number of international students has increased	53%	29%	18%
Currently, most of your graduate students are international	22%	15%	62%
	Yes	No	
During the current (or previous) academic year, are you teaching any courses abroad?	16%	84%	
Internationalization in research			
	Yes	No	
Do you collaborate with international colleagues?	66%	34%	
How would you characterize the emphasis of your primary research this (or the previous) academic year?			
International in scope or orientation	59%	14%	27%

[1] While this question was posed with a five-point scale, they are reported here in the following three groups: Strongly Agree or Agree, Neither agree nor disagree, and Strongly Disagree or Disagree.

With regard to internationalization in research, two-thirds of the Canadian CAP respondents answered "yes" to the question, "Do you collaborate with international colleagues?" In addition, 59% of them indicated that they would characterize the emphasis of their primary research in this (or the previous) academic year as "international in scope or orientation". The degree of internationalization is pertinent to the Canadian higher education context, as this has been a stated focus of a recent (2006) institutional survey conducted by the Association of Universities and Colleges in Canada (AUCC). Preliminary results from that survey indicate that internationalization is rapidly occurring on Canadian campuses (AUCC, 2007).

Management

The theme of management is clearly related to an entire section of the CAP common survey instrument, with six complex questions that cover various aspects of academic governance and workplace climate. For the purposes of this paper, I have chosen to report the findings of one of these questions, as it encompasses a broad range of topics relating to academic management (Table 5).

Table 5. Management

At my institution there is…	Strongly Agree or Agree	Neither Agree nor Disagree	Strongly Disagree or Disagree
a strong emphasis on the institution's mission	54%	27%	19%
good communication between management and academics	29%	32%	39%
a top-down management style	52%	27%	21%
collegiality in decision-making processes	38%	34%	28%
a strong performance orientation	52%	29%	19%
a cumbersome administrative process	65%	24%	11%
a supportive attitude of administrative staff towards teaching activities	46%	27%	27%
a supportive attitude of administrative staff towards research activities	48%	22%	29%
professional development for administrative/management duties for individual faculty	31%	34%	34%

The item begins with the introductory statement "At my institution there is…" and was followed by nine completion statements that focused on institutional mission, communication, collegiality, performance orientation, administrative support, and professional development opportunities. Tellingly,

65% of survey participants indicated that they strongly agreed or agreed that "a cumbersome administrative process" existed at their institutions. This item drew the strongest response within this question. A majority of survey participants (52%) also indicated that they agreed or strongly agreed that at their universities there is a "top-down management style". However, despite the bureaucracy and managerialism that these responses seem to indicate as characteristics of Canadian universities, respondents generally agreed that a supportive attitude of administrative staff existed toward both teaching activities and research activities.

Discussion and Conclusion

In this paper I have presented a brief overview of the Canadian CAP survey and a few preliminary responses that relate to the project themes of relevance, internationalization, and management. In terms of relevance, the early Canadian CAP survey results indicate that in general Canadian faculty are satisfied with their current jobs, perceive they exert the most influence at the department level in their institutions, and participate in external activities such as work with community organizations. While relevance of the academic profession is often reduced to being measured by performance criteria, the CAP data may suggest other ways in which the significance of faculty labour can be assessed. Variations within and between the national surveys with regard to civic engagement may, for example, help us to understand the conditions by which academics are best supported to do this type of work and how it can be further linked with research and teaching.

The theme of internationalization is woven throughout the CAP survey instrument, and by the very fact that the CAP is an international comparative study, the theme will be likely well-expressed in the national data sets and analyses. In Canada, internationalization of the curriculum is being widely adopted by institutions and individual faculty (Schuerholz-Lehr, Caws, Van Gyn & Preece, 2007). The transnational character of the Canadian professoriate, with 40% being immigrants to Canada (CAUT, 2007), also plays a part in internationalization. The majority of participants in the Canadian CAP survey indicated that they both incorporate international content in their teaching and collaborate with international colleagues. Furthermore, a large percentage of the Canadian CAP respondents said their primary research is international in scope or orientation. As the analysis of the CAP data progresses, it will be interesting to see if immigration status, citizenship, country of degree attainment,

gender and other demographic variables bear any relationship to international research collaboration or the incorporation of international themes in teaching.

Finally, items relating to academic management were highlighted in the CAP survey, some of which are mentioned in this paper. Of particular note for Canada is the high number of respondents who see their institutions as having a cumbersome administrative process and a top-down management style. As stated by Jones (2006), the changing nature of academic work is at least in part related to "the massification of higher education, the repositioning of higher education in terms of economic development, and the shifting relationship between the university and the state" (p.317-318), all aspects beyond the control of individual faculty. Although the CAP survey does not attempt to measure these external factors, their effects are likely to be evident in the lives of academics and therefore in the CAP data. The findings from the Canadian survey and that of the CAP partners may provide academics with the information necessary for more effective collective bargaining, enhanced professional association activities, and greater participation in academic governance.

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The Changing Academic Profession in the United States: 2007

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Introduction

The first International Survey of the Academic Profession in 14 countries was completed in 1992-3 under the leadership of Ernest Boyer and Philip Altbach at the Carnegie Foundation for the Advancement of Teaching. That survey constituted something of a milestone in the development of the field of comparative higher education: it resulted in two volumes subsequently published by the Carnegie Foundation for the Advancement of Teaching, and hundreds of journal articles and policy papers across the globe (*e.g.*, Altbach ed., 1996; Altbach & Lewis, 1995; Boyer *et al*., 1994; Lewis & Altbach, 1996) – at a time when many governments worldwide were restructuring their national systems to accommodate vastly expanded access (massification). In the intervening fifteen years, of course, the whole ball game has changed, what with globalization, the Internet, privatization and the forging of a new and more intimate connection between university research and the knowledge-based economy, the restructuring of faculty roles, as well as academic work and careers (see most recently, Schuster & Finkelstein, 2006). Several senior colleagues who participated in the 1992-3 survey, including Ulrich Teichler at Kassel University, Jurgen Enders at the University of Twente, and Akira Arimoto at Hiroshima University, organized a group of 22 countries committed to carrying out a follow-up 2007 survey entitled "The Changing Academic Profession" [CAP].

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A ten member executive committee (representing researchers in Japan, China, Mexico, India, Germany, United Kingdom, and the U.S.) met three times over the past two years in order to design a common sampling protocol across countries as well as a common survey instrument – to ensure genuine comparability of the findings across countries. The sampling protocol is complicated by the fact that in some countries (*e.g.*, Japan), there is an easily accessible government listing of all full-time faculty in universities from which a random sample can be readily drawn. In others, such as the U.S., there is no such list and we need to engage in a two-stage process of sampling institutions and then, within institutions, sample faculty so as to ensure that important subgroups, *e.g.*, minority scientists, are adequately represented. The protocol does however set standards across countries for minimizing sampling error and assuring over-sampling of critical subgroups.

The CAP survey instrument focuses on three overarching themes – relevance, internationalization and managerialism – identified in a jointly authored Concept Paper that provided the overall intellectual framework for the research. *Relevance*, broadly conceived, refers to increasing pressures globally for higher education to visibly support economic competitiveness as well as social progress. *Internationalization* refers to the increasing permeability of national boundaries and the increasing mobility of students and faculty across borders. *Managerialism* refers to changes in governance that have increased the role of administrators and government entities at the expense of faculty. Most generally, the instrument seeks to chart changes in the pressures experienced by faculty and the responses to those pressures reflected in their work behavior and career trajectories. The instrument is organized to permit the analysis of trends over time in three ways: (1) there are several items that replicate those in the 1992-3 survey allowing for straightforward historical comparisons between the two surveys; (2) there are a few items that ask respondents to assess current conditions as compared to those when they began their career, *i.e.* indicators of perceived change; and (3) a comparison of the responses of faculty in different academic generations, *i.e*. whose entry into an academic career occurred at different point of historical time.

This paper provides a first cut of the results of the U.S. survey conducted in the Fall of 2007. The results are presented around the three aspects of assessing change described above.

Population and Sample

The highly decentralized American system includes some 655,000 faculty on full-time appointment at nearly 4,000 corporately independent institutions that on the one hand vary in their size and degree level: from large universities offering doctoral level education to small colleges focusing on baccalaureate level education; and on the other hand on their control – whether governed and funded by public entities or private entities such as churches. After having stratified the institutional picture according to these two characteristics, size/degree level and control, we then randomly selected a total of 80 institutions across these four strata[1] and secured their faculty lists. Then, after having established the proportion of full-time faculty in the population of each of the four institutional strata so defined, we then randomly selected faculty within each institutional stratum so as to approximate in our sample to their proportions in the population. This approach yielded a total sample of 5,772 faculty at 80 4-year colleges and universities across the United States.

The U.S. team contracted the Research Services Division of SPSS Corporation (the Statistical Package for the Social Sciences) to program and host the on-line American English version of the CAP survey. All sections and items required for the international data set were included, although the order of the six sections of the survey was modified to avoid asking uninspiring career resume and demographic questions at the beginning. In addition, in collaboration with Canada and Mexico, several 'North American' questions were added including race/ethnicity, geographic region of North America, and details of research collaborations specific to the three countries. The on-line survey was 'programmed' in order to require that respondents answer questions on a given screen before proceeding to the next screen. Moreover, the programming also specified acceptable ranges of value for responses (you could not report your first academic appointment as 1970 and receipt of your baccalaureate degree in 2007). This approach served to infuriate a few respondents but, more generally, to reduce missing data and data incongruities. The survey link with an individually coded identifier was e-mailed to all 5,772 faculty on October 3, 2007. A total of five reminders were sent out electronically between October 15 and December 7, 2007.

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[1] We had originally planned to select 100 institutions to include 20 research institutes. Insofar as the research institute sample was abandoned, we were then left with a total institutional sample of 80 colleges and universities.

Results

Sample

Of the e-mailed invitations to the U.S. faculty sample of 5,772, 707 'bounced' back largely as a function of being 'spammed' by the internal university e-mail systems. Of the 5,065 that actually made their way into faculty inboxes, completed responses were received from 1,048 respondents for a response rate of 20.7%. Up to an additional 50 respondents answered more than 80% of the survey and were included where appropriate in this analysis for an effective response rate of 21.7%. While such a response rate would typically be viewed as quite low for a paper survey, the literature suggests that response rates for on-line surveys in the Unites States tend to be considerably lower than for paper surveys, and in the range of 10-30%. Moreover, as a result of increased annoyance with 'spam' and increased concerns about privacy and identity theft on the Internet, these on-line response rates have been declining over time. Our rate falls squarely within the acceptable range for on-line surveys.[2]

Table 1. Faculty Sample and Respondents by Institutional Type

Institution Type	N			Sample		Respondents	
	Total	Public	Private	N	%	Total	%
Research Universities	29	21	8	2718	47.1%	463	44.2%
Other 4-year	51	26	25	3054	52.9%	585	55.8%
Doctor granting	11	6	5	1014	17.6%	319	30.4%
Master offering	28	17	11	1440	24.9%	233	22.2%
Baccalaureate	12	3	9	600	10.4%	33	3.2%
All	80	47	33	5772	100.0%	1048	100.0%

Table 1 provides a comparison of our respondents to the entire sample. It suggests that our respondents mirror the basic distribution of the sample between research universities and other four-year institutions. Among other four-year institutions however, faculty at doctoral granting universities tend to be overrepresented among respondents (30.4% *versus* 17.6% in the sample) and faculty at baccalaureate colleges tend to be underrepresented among respondents (3.1% *versus* 10.4% in the faculty sample). Faculty at public institutions are slightly overrepresented among respondents (67.1%) compared to the sample

[2] We are nonetheless planning a follow-up paper version of the survey which will be mailed to a one-half random sample of about 2,000 of the non-respondents to the on-line survey in February, 2008.

(62.4%); and faculty in the private sector slightly underrepresented among respondents (32.9%) compared to the faculty sample (37.6%). While not reported here, we are developing a weighting scheme that will allow us with some confidence to estimate population parameters.

Findings: Generational Change

Table 2 below shows a breakdown of basic faculty demographics (gender, race/ethnicity, nativity, marital/family status), appointment type, role orientation (teaching *versus* research), perceptions of the condition of higher education by academic generation or career stage. When we speak of academic generation or career stage, we are simply distinguishing here between the recent cohort of faculty, hired since 2000 (whom we shall refer to as new entrants) and those more seasoned faculty who entered the profession before 2000 (whom we shall refer to as senior faculty). Most of the latter are likely to have received tenure (or to have moved on). As this is ground Finkelstein has covered before in earlier Hiroshima presentations (Finkelstein, 2006), we will be brief.

The data in Table 2 sketch a portrait of modest change (or continuity) in the complexion of the American academic generations, in all but three respects. First, new entrants to the academic profession in the United States are increasingly women. At the entry level, women have achieved near parity in their representation (47% of new entrants). Moreover, this trend will almost certainly continue as a reflection of increasing parity (or even majority status in some academic fields) in graduate school enrollment and doctoral degrees awarded between men and women. Second is the matter of appointment type: new entrants are much more likely than their senior colleagues to be employed on fixed-term contracts (about one-third compared to about one-sixth among more senior faculty). Finally, new entrants differ from their senior colleagues in their perception of working conditions: they are more likely than their senior colleagues to perceive relative stability in academic working conditions (during their relatively short careers); and less likely to perceive deterioration in working conditions than their senior colleagues.

Despite public attention in the U.S. to the increasing performance pressures on faculty, especially new faculty and especially in the research arena, new entrants report nearly equal measures of job satisfaction to their senior colleagues – and indeed report no greater orientation to research than their senior colleagues. It should be noted that our analysis, by virtue of its temporal parameters (focusing on those hired post-2000), may underestimate the scale of change in the new academic generation. Earlier, Finkelstein *et al*. (1998)

reported more radical shifts among the cohort of new entrants hired in the 1990s. It seems likely that much of the radical change may have already occurred a decade earlier and is now decelerating as the 1990s cohort of new entrants becomes absorbed into senior ranks.

Table 2. Faculty Characteristics by Academic Generation (N=1048), 2007

	Faculty Characteristics		New Entrants	%	Senior Faculty	%
F1	Gender	Male	152	53%	455	60%
		Female	135	47%	306	40%
F14	Race/Ethnicity	White/Caucasian	233	81%	637	84%
F9	Foreign Born?	Born in US	235	82%	634	83%
		Not in US	52	18%	127	17%
F5	Is your spouse an academic?	Yes	65	38%	210	46%
		No	108	62%	247	54%
A11	Type of Appointment	Tenured/Tenure-track	197	69%	630	83%
		Fixed-term	90	31%	131	17%
B2	Teaching vs. Research Orientation	Primarily in teaching	68	24%	160	21%
		Both, leaning towards teaching	89	31%	264	35%
		Both, leaning towards research	99	34%	262	34%
		Primarily in research	31	11%	75	10%
B6	Job satisfaction	Very high	50	17%	150	20%
		High	132	46%	329	43%
		Moderate	77	27%	198	26%
		Low	20	7%	58	8%
		Very low	8	3%	26	3%
B7/1	Working conditions since you started...					
	Working conditions at this institution	Very much improved	26	9%	78	10%
		Improved	67	23%	216	28%
		Same	151	53%	265	35%
		Deteriorated	39	14%	143	19%
		Very much deteriorated	4	1%	59	8%
B7/2	Working conditions in higher education and academic research **generally**	Very much improved	9	3%	22	3%
		Improved	38	13%	132	17%
		Same	188	66%	392	52%
		Deteriorated	45	16%	179	24%
		Very much deteriorated	7	2%	36	5%
			N=287		N=761	

Table 3. Internalization by Academic Generation, 2007

		New Entrants	%	Senior Faculty	%
C5	Teaching any courses?				
	Abroad	28	10%	86	11%
	In a different language	7	2%	33	4%
	Neither	255	89%	658	86%
		N=287		N=761	
D1	Collaborate on research with international colleagues?				
D1/4	Yes	58	25%	227	36%
	No	171	75%	400	64%
		N=229		N=627	
D1/5	If yes, principal country they come from?				
	Mexico	2	3%	14	6%
	EU	29	50%	114	50%
	Canada	18	31%	52	23%
	South or Central America	4	7%	33	15%
	UK	12	21%	60	26%
	Asia	13	22%	74	33%
	Africa	5	9%	22	10%
	Other	12	21%	51	22%
		N=58		N=232	
D2/5	Is your primary research international in scope or orientation?				
	Very much	41	18%	129	21%
	Much	39	17%	144	23%
	Neutral	45	20%	115	18%
	Little	39	17%	85	14%
	Not at all	65	28%	154	25%
		N=229		N=627	

D5	Among your publications, what percentages were?	N	Mean	Std	N	Mean	Std
	Published in foreign language	196	3	14	557	3	12
	Co-authored with US colleagues	210	37	41	598	43	43
	Co-authored with foreign colleagues	189	5	15	547	7	17
	Published in foreign country	192	9	21	544	8	20
	On-line or electronic published	191	19	34	541	12	26

	Your funding comes from	N	Mean	Std	N	Mean	Std
D8	US organizations	109	63	47	398	69	44
	International organizations	108	3	13	398	4	16

	First Language						
	English	243	85%		663	87%	
F10	Non-English	44	15%		98	13%	
		N=287			N=761		

How well positioned is this new generation of faculty to contribute to the newly globalized academic profession? This question assumes particular importance in light of an earlier report by Cummings (2008) based on the 1992 Carnegie survey that the American academic profession demonstrated a startling insularity *vis-à-vis* the world and a self-absorption. When we focus particularly on their international experience (these are, after the faculty, who will staff America in the age of globalization), the data in Table 3 paint, on the face of it, a troubling picture. The new entrants are as likely as their senior colleagues to report English as their first language (fully 85%) and to report teaching abroad or in a different language (12%). More ominously, they are less likely to report that their research is international in scope or orientation (35% *versus* 44% among senior faculty), and less likely to report collaboration on research with international colleagues (25% *versus* 36% among senior faculty).

While it is not clear to what extent the relatively short duration of their careers to date is artificially truncating their collegial relationship and what may be fledgling developmental interests, nonetheless there does not appear to be any clear new departure here with respect to international linkages. (It may indeed be that in the U.S., it will be institutional administrators rather than faculty who will be leading the American academic response to globalization.)

Findings: Perceptions of System and Institutional Change

When we look at how American academics assess the turbulence in higher education over the past generation, we find a mixed, but hardly overwhelmingly negative, picture. The data in Table 4 show indeed that the majority of U.S. academics (56%) perceive a basic stasis in the system – conditions are about the same as when they entered the profession. Among the minority who perceive change, those who report "deterioration" (25%) slightly outnumber those who report improvement (18%). Differences among institutional types and academic fields are relatively small: research university faculty are more likely to perceive deterioration and other 4-year faculty improvement – probably reflecting a certain levelling in the system, especially in the public sector. Among academic generations, new entrants are less likely to perceive change (their perspective is, of course, seriously foreshortened), senior faculty are more likely, and, in particular, more likely to perceive deterioration.

Table 4. Perceptions of Working Conditions at Respondents' Home Institution by Institutional Type, Academic Field and Career Stage, 2007

Institution Type	N	Very much improved	Much improved	Same	Deteriorated	Very much deteriorated
Research Universities	468	9%	28%	41%	17%	4%
Other 4-Year	590	11%	26%	38%	18%	7%
Academic Field						
Humanities & Arts	255	6%	25%	45%	19%	5%
Social and Behavioural Sciences, Education	291	12%	28%	36%	19%	6%
Life Sciences, Medical Sciences & Agriculture	207	13%	23%	44%	14%	6%
Physical, Mathematics, Computer and Engineering Sciences	180	6%	30%	39%	18%	6%
Business, Law and others	115	14%	32%	30%	16%	8%
Career Stage						
New Entrants	246	8%	24%	54%	13%	1%
Senior Faculty	761	10%	28%	35%	19%	8%

Table 5. Perceptions of Working Conditions in Higher Education Generally by Institutional Type, Academic Field and Career Stage, 2007

Institution Type	N	Very much improved	Much improved	Same	Deteriorated	Very much deteriorated
Research Universities	468	3%	12%	56%	24%	4%
Other 4-Year	590	3%	19%	55%	19%	4%
Academic Field						
Humanities & Arts	255	0%	14%	56%	25%	5%
Social and Behavioural Sciences, Education	291	4%	18%	56%	18%	5%
Life Sciences, Medical Sciences & Agriculture	207	4%	13%	55%	24%	4%
Physical, Mathematics, Computer and Engineering Sciences	180	2%	15%	57%	22%	4%
Business, Law and others	115	5%	26%	50%	17%	1%
Career Stage						
New Entrants	246	3%	13%	67%	15%	2%
Senior Faculty	761	3%	17%	52%	24%	5%

Table 5 shows faculty perceptions of change at their own college or university, in contradistinction to general assessments of the "state of the system". And here the data are decidedly upbeat. While a plurality (39%) – rather than a majority – of U.S. faculty see a dominant pattern of stasis, the vast majority do report change, but only by a 3:2 ratio (37% *versus*. 24%) change in a positive direction. When we examine differences by institutional type, academic field and generation, we find again very modest differences. Faculty in the social sciences and the professions perceive greater improvement (and that may be greatly affected by the increasing salience of professional accrediting agencies in the U.S.) than others (even natural scientists); senior faculty are more likely than new entrants to perceive deterioration.

In general, these findings tend to corroborate earlier findings that report satisfaction at the individual level, but perceived concern/deterioration at the aggregate level of the profession as a whole. Nonetheless, the overall tone is not pessimistic.

Item Comparisons: 1992-2007

Table 6 confirms and adds nuances to our earlier portrait of change and continuity by comparing overall U.S. faculty responses to the 1992 and 2007 international surveys on selected items that readily allow such comparison.

Confirmed are the ascent of academic women (42.0% in 2007 *versus*. 25.5% in 1992), the decline of tenure (57% *versus* 63% fifteen years earlier), a revolutionary new emphasis on faculty performance evaluation (7.9% in 2007 reported that their work was not regularly evaluated compared to 40.2% in 1992), and relatively high job satisfaction (63% satisfied or very satisfied *versus* 52.3% in 1992. Perhaps surprising is the relatively positive ratings of teaching and research facilities: the majority in 2007 rated all – except laboratories and research equipment – as "good" or "excellent" compared to about one-third in 1992. Laboratories and research equipment are the one clear low point. Also surprising are the relatively positive ratings in the area of governance.

Table 6. Selected Comparisons, 1992 & 2007

N= 19330, 1992; N =1048, 2007

				1992	2007
				1992	2007
[1]	F1	Gender	Male	74.5%	58.0%
			Female	25.5%	42.0%

					2007
[3a]		Highest earned degree	Doctorate	84.1%	83.5%
			MD, JD	13.5%	14.5%

				1992	2007
[11b]	A11	Nature of employment	Tenured	63.7%	57.0%

[17]	B4	How important is...?	Very important		Fairly important	
a		My academic discipline	72.0%	70.0%	23.8%	23.0%
b		This institution	36.7%	26.0%	42.0%	35.0%
c		My department in this institution	52.4%	25.0%	35.1%	34.0%

			Good + Excellent	
[24]	B3	How do you evaluate...?	1992	2007
		Classrooms	36.0%	52.0%
		Technology for teaching	32.9%	61.0%
		Laboratories	31.9%	24.0%
		Research equipment	28.4%	26.0%
		Computer facilities	46.9%	60.0%
		Library holdings	41.2%	58.0%
		Faculty offices	32.5%	57.0%
		Secretarial support	29.8%	41.0%

[27g]	B6		Very satisfied + Satisfied	
		Are you satisfied with your job?	52.3%	1992
		Your job situation as a whole	63.0%	2007

[28c]	B5/5	Career Attitude	Somewhat disagree	Disagree	
		If I had it to do over again, I would not become an academic	14.2%	51.1%	1992
			23.0%	53.0%	2007

[40]	B2	Preferences in research or teaching?	1992	2007
		Primarily in teaching	12.7%	22.0%
		In both, but leaning toward teaching	33.8%	34.0%
		In both, but leaning toward research	41.6%	34.0%
		Primarily in research	11.8%	10.0%

[43]	Are you working independently on any of your research projects?	1992	2007
	Yes	60.5%	73.0%
	No	39.5%	27.0%
[44]	Do you have collaborators in any of your research projects?	1992	2007
	Yes	78.0%	77.0%
	No	22.0%	23.0%

[56]	E2	How influential are you in shaping key academic policies?	Very +Somewhat influential	
			1992	2007
		At the level of department or similar unit	59.1%	73.0%
		At the level of faculty, school or similar unit	29.7%	47.0%
		At the institution level	13.7%	20.0%

[57]	E5	How do you feel about management and the decision-making process?	Agree		Somewhat Agree	
		Top-level administrators are providing competent leadership	11.7%	10.0%	22.8%	31.0%
		I'm kept informed about what is going on at this institution	12.8%	10.0%	24.1%	33.0%
		Lack of faculty involvement is a real problem	23.9%	13.0%	25.5%	18.0%
		Students should have a stronger voice in determining policy that affects them	15.7%	6.0%	23.3%	18.0%
		The administration supports academic freedom	21.3%	19.0%	28.7%	39.0%

[60]	Is your own work at this institution regularly appraised or evaluated?	1992	2007
	No	40.2%	7.9%

Compared to 1992, faculty in 2007 were more likely to report that they were influential at both the department and school/college level, although influence at the campus-wide level continues to flag. These findings are particularly puzzling in light of the significantly lower importance that faculty ascribe to their academic department in 2007 *vis-à-vis* 1992. They generate a number of nuanced questions about the conventional wisdom that has identified a growing narrowing of faculty interests in their academic programs and departments at the expense of their larger institutions and higher education more generally, suggesting, as they do, an increasing withdrawal of the faculty from their employing organizations across the board.

Summary and Conclusions

What emerges most powerfully as a first impression from the 2007 Changing Academic Profession survey in the United States is first a portrait of demographic and career transformation in terms of increasing feminization and the increasing resort to fixed-term appointments. What effects both of these

developments will have on the future of academic work and careers is not yet clear. Preliminary evidence suggests that both developments are associated with an increasing specialization of academic work (the emergence of teaching-only, research-only or program-director-only appointments) and an increasing focus on undergraduate education.

While American academics are clearly being subjected to increased accountability pressures reflected in a new emphasis on performance evaluation largely absent as late as 1992, there is an overall satisfaction with academic work and working conditions. While amid a pervasive sense of system stasis, there is no concomitant perception of improved working conditions, there is no pervasive sense of wholesale deterioration in the conditions of work either, except perhaps in the area of laboratories and research equipment. While there is general acknowledgement of a pervasive spread of research pressures in American higher education, the data here suggest that American academics may be more oriented to teaching in 2007 than they were in 1992. Moreover, the data on governance suggest that faculty perceive themselves as no less influential in the management of their institutions than they were fifteen years earlier in 1992, although clearly the absolute magnitude of that influence, especially at the institutional level, is marginal.

Perhaps the most troubling finding results from a comparison of the international perspectives and activities of entrants to the profession and their more senior colleagues. In 1992, the first Carnegie international survey reported that American faculty in comparison with colleagues in 13 other countries tended to be more insular and less global in their orientation and teaching and research activities. That trend seems to be continuing insofar as new entrants appear even less involved in academic work that is international in scope than their senior colleagues. This may, of course, simply be an artefact of the early career stage at which they find themselves (fewer opportunities to develop research networks) and may therefore change over time. The available data, however, provide no concrete evidence in that regard. Indeed, related data suggest that international initiatives tend to be the province of administrators (rather than faculty, individually or collectively) suggesting that in the American context, the faculty (except as individuals) are not the leaders here.

Finally, a notable finding may be the relatively modest differences discernable by institutional type and academic field. Historically, both institutional type (the distinctive character of both the research university, on the one hand, and the free-standing baccalaureate college, on the other) and academic field (the natural and health sciences and the professions, on the one

hand, and the humanities and the arts, on the other) have been major shaping influences on the American academic system. Differences among fields may be greater than differences by type of institution. Those differences seem to be muted in these data. In part, that may represent, from an institutional perspective, a great regression towards the mean. From the disciplinary perspective, the meaning is less clear (although the absence of differences may be attributable to the modest size and the consequent grossness of the coding categories.

In sum, not bad and not doing any worse than 15 years ago!

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European Countries

The Academic Profession in England: still stratified after all these years?

William Locke*

1. Introduction

The higher education (HE) sector in the United Kingdom (UK) gives a good impression of being a single unified system, and its academics the appearance of a distinct and uniform profession. In an earlier review, members of the UK research team outlined the main characteristics of 'the profession' in the UK, in the light of the key themes of the international study of the Changing Academic Profession (CAP) (Brennan, Locke & Naidoo, 2007). In this, we sought to describe the expansion of academia in a system of over 170 HE institutions (HEIs) which differ substantially in terms of reputation, resources and purpose. We argued that academics differ in their responses to the changes and new influences in higher education – whether this takes the form of compliance, resistance or subversion – and that this might partly be explained by differences in status within the academic hierarchy, subject characteristics and generational differences. We concluded that the picture emerging in the UK "…is of an academic profession facing increasing change but also much continuity, and transforming relatively rapidly into a diversified and increasingly stratified sector" (*loc.cit.* p.175).

This paper focuses on the findings from the initial analysis of the responses to a survey of nearly 1,700 academics from a wide range of higher education institutions (HEIs) throughout the UK which was carried out by the Centre for Higher Education Research and Information (CHERI) at The Open University, with financial support and/or assistance from the Higher Education Funding

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Council for England (HEFCE), Universities UK, Guild HE, the HE Academy, the University and College Union (UCU) and the Universities and Colleges Employers Association (UCEA). It includes comparisons with findings from the original survey of the academic profession in England in 1992 as part of the first International Survey of the Academic Profession (Fulton, 1996). Therefore, it concentrates on the responses to the 2007 survey from those employed in the HEIs in England. The 2007 CAP questionnaire repeated 13 items included in the earlier survey. The report of the 1992 survey sought to investigate institutional diversity and differentiation on the eve of the abolition of the binary divide in the UK between universities on the one hand and polytechnics and major colleges of higher education on the other. As such, this initial report of what amounts to a fraction of the UK CAP 2007 survey findings is of an analysis by institutional type utilising three categories: pre-1992 universities, post-1992 universities (*i.e.* polytechnics at the time of the 1992 survey), and post-2004 universities[1] and HE colleges. These analytical categories are also applied to the responses to a selection of other questions in the survey not included in the 1992 instrument. Further analysis of the UK CAP survey responses over the coming months will include analysis of the full UK-wide sample by individual characteristics, such as gender, grade, subject and age/career stage, as well as by a more disaggregated institutional typology for the remaining items in the 2007 questionnaire.

2. Key facts about the UK academic profession

Table 1a provides data on key characteristics of academic staff in HEIs in England.[2]

In 2005/06, academics were a minority (approximately 45%) of all staff in English HEIs. Two-thirds were employed full time, 64% of which held permanent positions. Just under a quarter of academics were research-only and, of these, 86% were fixed term. Another quarter were teaching-only and the

[1] The term 'post-2004 universities' refers to those higher education institutions in England that have gained university status under the revised criteria for university title permitted by the 2004 Higher Education Act, which eliminated the requirement for research degree awarding powers, among other measures designed to relax the definition of a university.

[2] Data extracted from the UK Higher Education Statistics Agency (HESA, 2007). When HESA data for 2006/07 are published, these will be used in future reports, since the survey was undertaken in that academic year. Typical staff are "those whose working arrangements are not permanent, involve complex employment relationships and/or involve work away from the supervision of the normal work provider".

remaining half both taught and researched. There were fewer women than men and more of the former worked part-time. Teaching as a primary employment function accounted for 71% of full-time academic posts and 87% of part-time academic posts.

Table 1a. Academic staff at higher education institutions in England, 2005/06

	Full-time	Part-time	Total
Academic staff: Total	90,330	47,455	137,785
% Female	37%	53%	42%
% Research only	28%	11%	22%
By grade			
% Professors	92%	8%	12%
% Senior lecturers & researchers	89%	11%	22%
% Researchers	86%	14%	25%
% Lecturers	73%	27%	32%
% Other grades			11%
By age			
% Under 35	27%	25%	26%
% Over 55	17%	25%	20%

Among academics, the higher the grade, the higher the proportion of those on full-time contracts and the fewer women there were. The average age of full-time academics was 43 years, and 41% were aged over 45 years. The academic profession in the UK is ageing, but it is not as old as its counterparts in other English-speaking countries. Over a quarter of full-time academic staff were employed in medicine, dentistry or health disciplines.

Table 1b shows the percentage of academic staff within different categories of HEIs in 2005/06. Their distribution within the institutional types used in this paper was as follows:

- pre-1992 universities: 63% of academics
- post-1992 universities: 30%
- post-2004 universities and HE colleges: 7%

Table 1b. Academic staff at higher education institutions in England, 2005/06

Type	Russell Group	33%
	Other pre-1992 universities	30%
	post-1992 universities	30%
	post-2004 universities	3%
	HE colleges	4%
	Research Institutes	0.4%
Size	Small (under 500 academic staff)	8%
	Medium (500-2,000 academic staff)	56%
	Large (over 2,000 academic staff)	36%

Research institutions accounted for only 0.4% of academic staff in England (525 researchers) and the three responses to the survey from such sources have been excluded from the foregoing analysis. The majority of academic staff (56%) worked in medium-sized HEIs each with between 500 and 2,000 academic staff, although over a third (36%) were in large HEIs, employing over 2,000 academics. For example, University College London employed nearly 5,000; the University of Oxford over 4,000; the Universities of Cambridge and Manchester nearly 4,000; and Imperial College over 3,000.

3. The UK Survey – Methodology

The generic CAP questionnaire was 'translated' into the UK version which involved minor amendments to wording and grammar. Where UK-specific categorisations were required (for example, occupational grade) the definitions of the UK Higher Education Statistics Agency (HESA) were used where possible, so as to facilitate comparison with officially verified data on the total population of academics in the UK. In the case of disciplines (*i.e.* subject of highest degree, current academic department and subject taught), a matrix was developed to map how the UK categorisation translated into both the disciplines used in the generic CAP questionnaire and the HESA categories.

The section (F) on "Personal background and professional preparation" was placed at the beginning of the questionnaire, so that respondents could quickly finish the first section and thus increase the likelihood of fully completed responses. The data from this section will be moved back to the end of the UK data set, so that they match those of other national surveys.

Three UK-specific questions were added to the generic questions in the new Section A (originally F):

- Where did you study for your degree(s)?
- What institutions did you attend during your secondary education?
- What is your ethnic origin?

The survey was accessed on-line only and individual academics were invited *via* their institutions or *via* UCU to respond during the spring and early summer of 2007. The HEIs were selected to maximise the prospects of achieving a representative sample, according to type, size and location throughout the UK. The institutions were also asked to select samples that were representative of their academic staff in terms of age, gender, ethnic group, grade, subject and whether they worked full- or part-time. The subset of the sample approached directly *via* UCU was randomly selected. The gross sample included full- and part-time academic professionals who undertake teaching and/or research. Responses received were 1,667. It is not possible to calculate the gross sample size and therefore the response rate with any great confidence, as a large proportion of the invitations were sent out by institutions and there was no means of recording how many were sent to – let alone received by – potential respondents. Suffice to say, our worst case estimate is a response rate of around 15%, which seems to be in line with other lengthy on-line questionnaires aimed at academics (Bryson & Barnes, 2000).

Nine criteria were used to assess the representativeness of this net sample of 1,667, grouped under personal, professional and institutional characteristics:

Personal

1. Gender
2. Ethnic origin
3. Age

Professional

4. Subject
5. Grade
6. Mode of work, *i.e.* full- or part-time

Institutional

7. Type (Russell Group, Other pre-1992 university, post-1992 university, post-2004 university, HE college and Research Institute)
8. Size (over 2,000 academics; 500-2,000; under 500)
9. Location (UK nation, English region)

HESA definitions have been used for all criteria except 7, 8 and 9 for which additional sub-sets were identified, as shown above, to assist with the analysis of responses to the survey: in other words, so that the criteria match those used to define the sample. The responses were then weighted to produce a sample of 800 that is representative of the academic population in the UK for submission to the international database. The following analysis is based on those responses from academics employed in HEIs in England from the weighted UK sample of 800, so as to complement future comparative analyses of the international dataset.

4. The UK Survey – Initial analysis by institutional type compared with the 1992 results

The key results reported in this paper mainly relate to the *attractiveness* of the academic profession, issues of *relevance* and the nature of the *management* of institutions.

Time spent on different activities

Respondents were asked "how many hours they spent in a typical week on five main activities" including teaching, research and administration. Figures 1a, 1b and 1c show the hours *per* week spent on teaching in term-time in 1992 and 2007, by institutional type.

Overall, fewer 2007 respondents report spending 21 or more hours *per* week teaching during term time than the 1992 respondents. In pre-1992 universities this has fallen from nearly one-third in 1992 to just over a quarter. Many more post-1992 university respondents spend this amount of time each week teaching (40%) but this has fallen by 16% over the period. The biggest fall in the proportions spending 21 or more hours *per* week teaching during term time, however, is in post-2004 universities and HE colleges, from 62% in 1992 to only 26% in 2007. The majority of respondents in these institutions (55%) now teach between 1 and 15 hours *per* week.

Figures 2a, 2b and 2c show the hours *per* week spent on research in the vacation in 1992 and 2007, by institutional type.

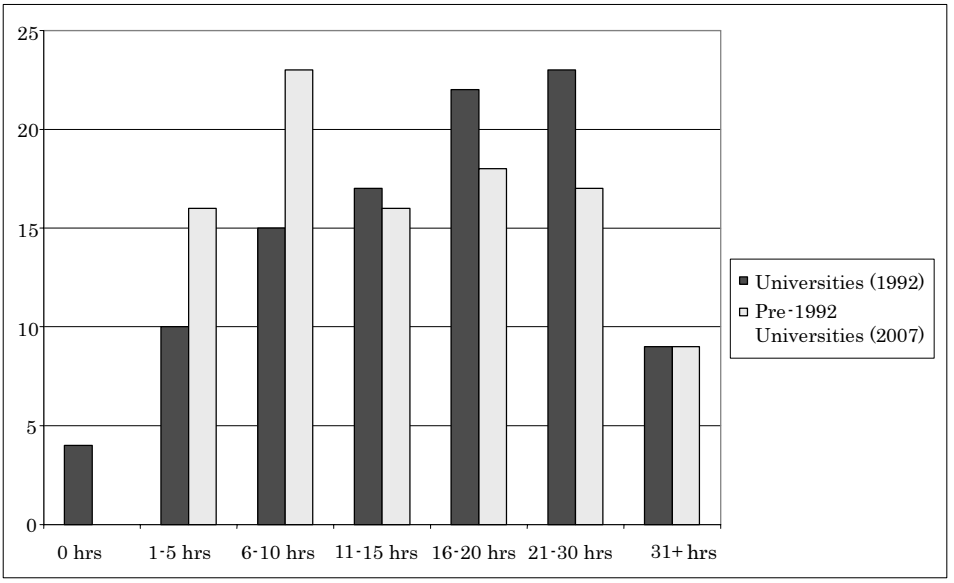

Figure 1a. Hours *per* week spent on teaching in term-time in 1992 and 2007, universities (1992) and pre-1992 universities (2007)

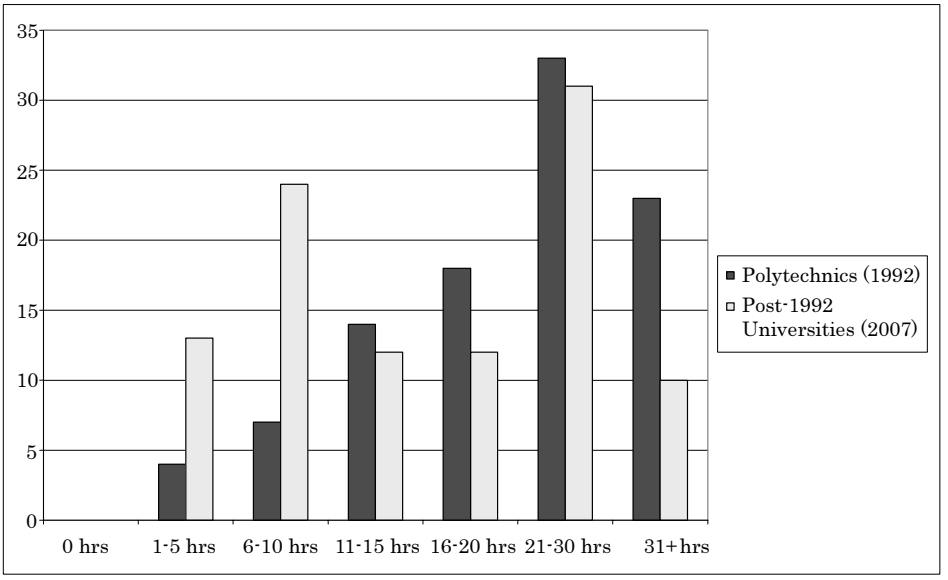

Figure 1b. Hours *per* week spent on teaching in term-time in 1992 and 2007, polytechnics (1992) and post-1992 universities (2007)

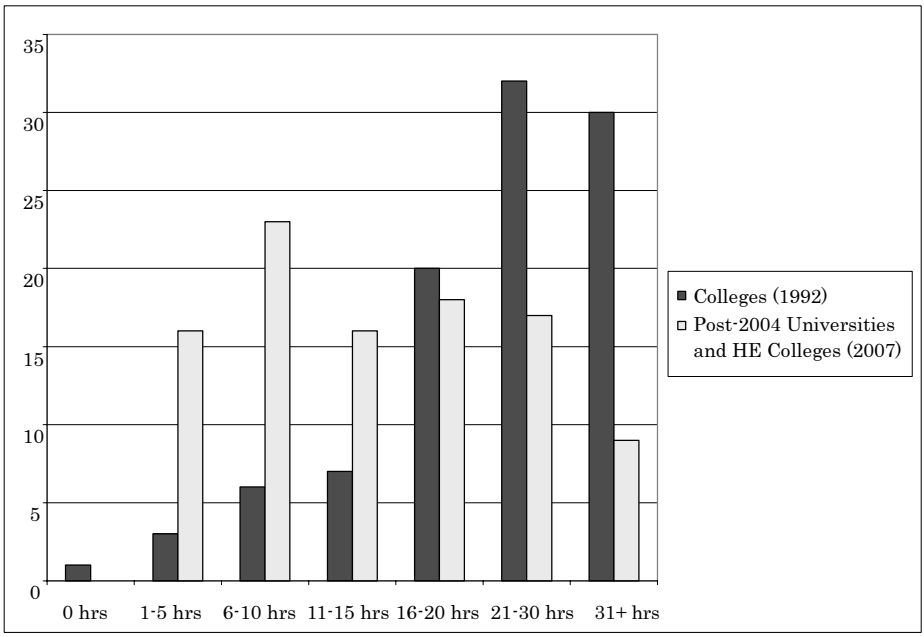

Figure 1c. Hours *per* week spent on teaching in term-time in 1992 and 2007, HE colleges (1992) and post-2004 universities and HE colleges (2007)

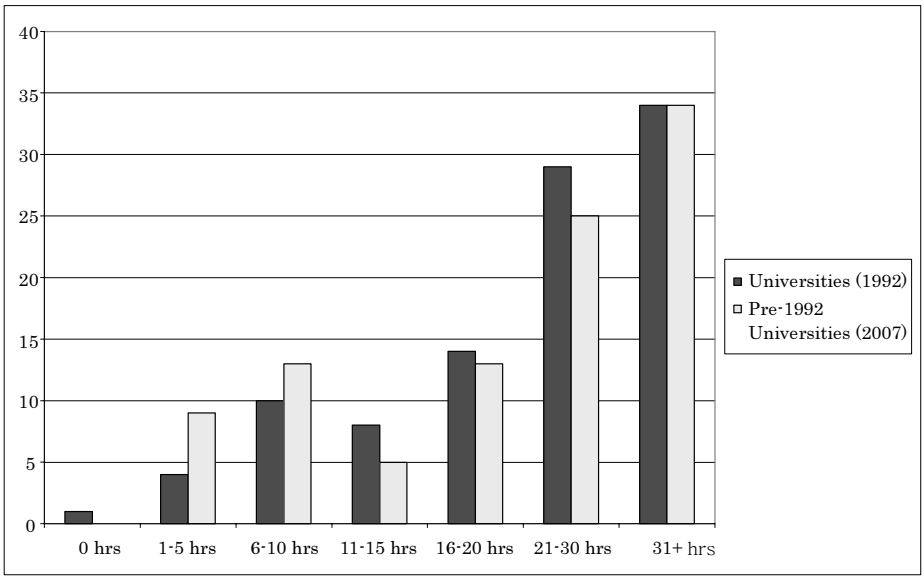

Figure 2a. Hours *per* week spent on research in the vacation in 1992 and 2007, universities (1992) and pre-1992 universities (2007)

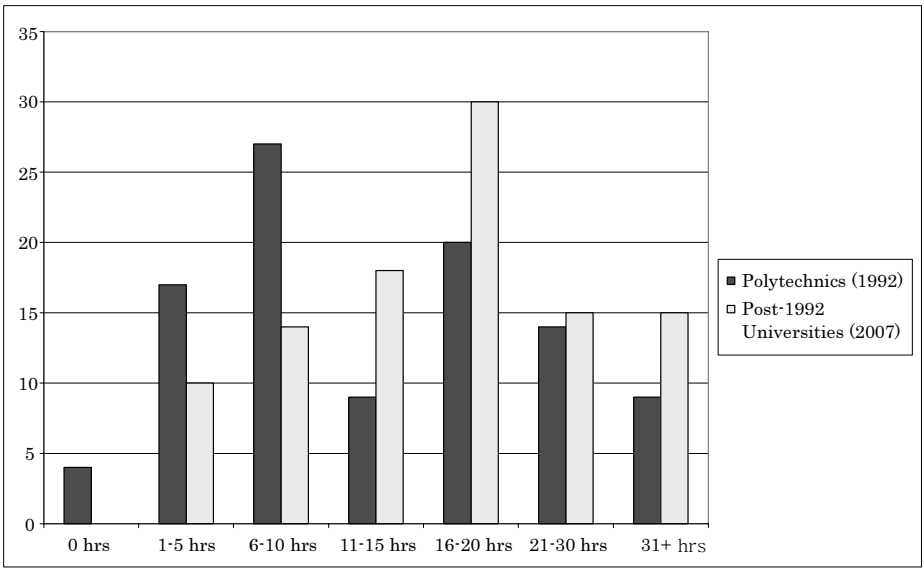

Figure 2b. Hours *per* week spent on research in the vacation in 1992 and 2007, polytechnics (1992) and post-1992 universities (2007)

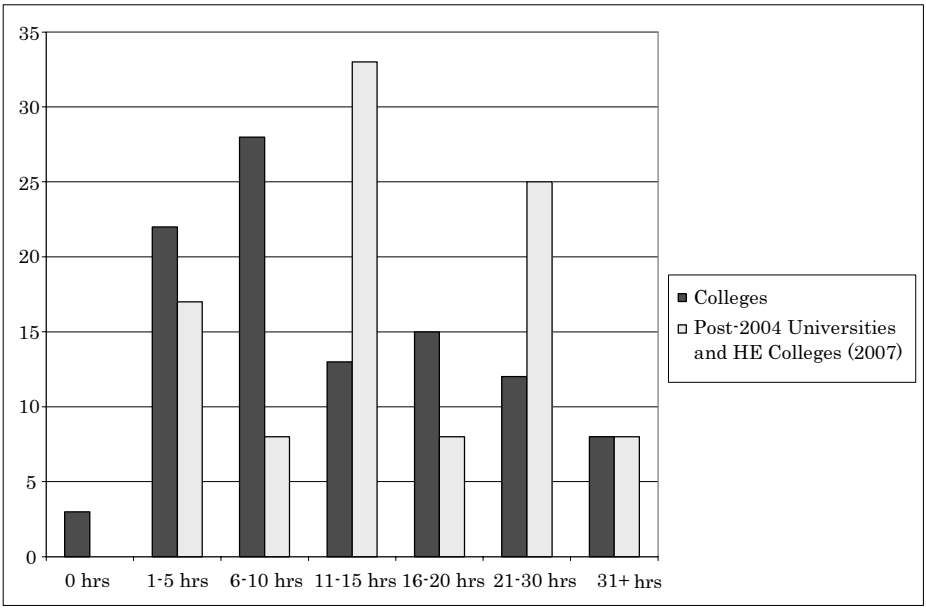

Figure 2c. Hours *per* week spent on research in the vacation in 1992 and 2007, HE colleges (1992) and post-2004 universities and HE colleges (2007)

Fewer respondents from pre-1992 universities report spending more than 11 hours a week on research in term-time and during the vacation than in the 1992 survey. In contrast, more respondents from both post-1992 universities and post-2004 universities and HE colleges are now undertaking research for more than 11 hours a week. Looking at the median responses for research, these have remained largely static for pre-1992 university respondents between the two surveys, at 12 hours in term-time and 29 in the vacation. However, those from post-1992 universities now spend more time on research during the vacation than in the first survey (20 compared with 13 hours *per* week in 1992). Respondents from post-2004 universities and HE colleges also spend more time researching than in the 1992 survey, at 6 hours in term-time and 15 hours during the vacation. Interestingly, across all institution types, the median responses for hours spent on administration have not changed overall between 1992 and 2007.

Primary interests

The mission drift towards more research in the ex-polytechnics in the mid-1990s, followed by greater selectivity in funding and the gradual but profound sundering of teaching and research may have created a number of crosscurrents in relation to where academics' primary interests lie, in teaching, research or different combinations of both. The results for 2007 are shown in Figure 3.

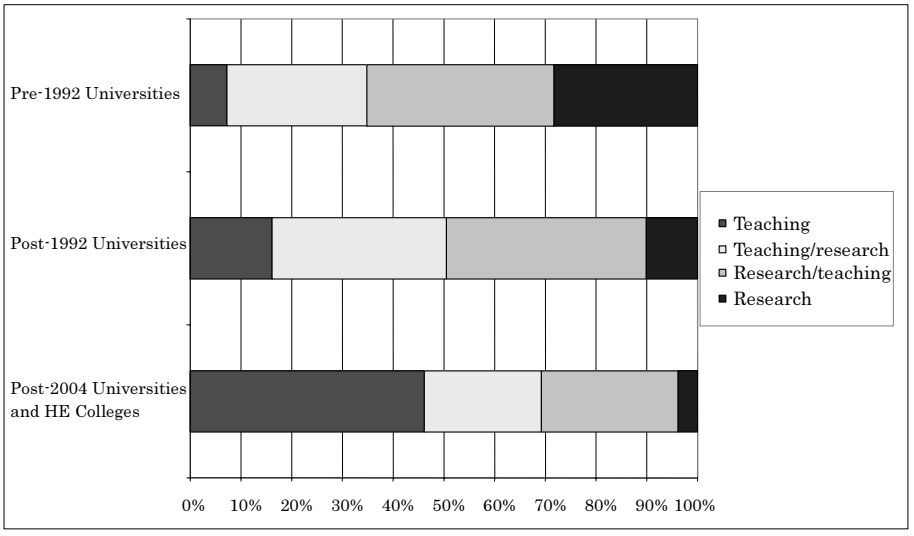

Figure 3. CAP 2007 survey – Do your interests lie primarily in teaching or research?

Table 2. CAP 2007 survey – Do your interests lie primarily in teaching or research? Percentages, by institutional type

	All Institution	pre-1992 universities	post-1992 universities	post 2004 universities & HE colleges
Primarily in teaching	11	7	16	46
In both, but leaning towards teaching	29	28	34	23
In both, but leaning towards research	37	37	39	27
Primarily in research	24	28	10	5

In 2007, more academics in pre-1992 universities state their primary interest lies in research than in teaching, although the majority still professes an interest in both with a leaning towards one or the other. In post-1992 universities, the vast majority includes both, while in post-2004 universities and HE colleges a substantial minority (46%) favours teaching. In these HEIs, only 5% are primarily interested in research.

In post-1992 universities there has been a fall since the earlier survey in the proportions of respondents whose interests lie primarily in teaching, or in both but leaning towards teaching, from 66% to 50% in 2007. Among pre-1992 university respondents, there has been a fall in those whose interests lie in both but are leaning towards research. In all types of institution more respondents in 2007 expressed a prime interest in research: a 5% or 6% rise in pre- and post-1992 universities, but a smaller 2% rise in post-2004 universities and HE colleges. In the latter types of institution, a huge fall in those with an interest in both but leaning towards teaching (from 52% to 23%) was accompanied by both a sharp 22% rise in those primarily interested in teaching and a 6% rise among those with at least a leaning towards research. This suggests some differentiation in post-2004 universities and HE colleges between those primarily interested in teaching and those undertaking or even focusing on research, with both groups of respondents representing around 50% of the total respondents from this institutional type. We will be exploring this further with a more disaggregated analysis by institutional type and through qualitative research.

Scholarly contributions

Both 1992 and 2007 respondents were asked how many scholarly contributions they had completed in the last three years. Across all types of publication, from authored and edited books to articles and conference papers, fewer publications are recorded from pre-1992 universities and post-2004 universities and HE colleges in 2007 than in 1992. In contrast, those from post-1992 universities now appear to be producing substantially more than in 1992. In terms of contributions *per* individual, they now rival pre-1992 university academics for authored books and research reports and monographs for funded projects. This confirms the wide spread of research activity among academics, even as funding for research becomes increasingly selective and the definitions of what counts as research and who is counted as an 'active researcher' have narrowed.

Nature of the profession

Respondents were asked for their views on a series of statements about the academic profession. Table 2 shows the percentages of those who agreed or strongly agreed with each statement.

Table 3. CAP 2007 survey – Percentages agreeing or strongly agreeing with statements about the academic profession

	All institutions	**pre-1992 universities**	**post-1992 universities**	**post-2004 universities and HE colleges**
Scholarship is best defined as the preparation and presentation of findings on original research.	62	65	50	57
Scholarship includes the application of academic knowledge in real-life settings	71	68	77	90
Scholarship includes the preparation of reports that synthesise the major trends and findings of my field.	66	63	78	68
This is a poor time for any young person to begin an academic career in my field.	49	47	56	59
If I had it to do over again, I would not become an academic.	27	24	34	39
My job is a source of considerable personal strain.	52	50	59	72
Teaching and research are hardly compatible with each other.	28	26	40	14
Faculty in my discipline have a professional obligation to apply their knowledge to problems in society.	63	59	75	86

Those from post-1992 (50%) and post-2004 universities and HE colleges (57%) are less likely to agree or strongly agree that "Scholarship is best defined as the preparation and presentation of findings on original research" than those from pre-1992 universities (65%). The former are more likely to agree or strongly agree that "Scholarship includes the application of academic knowledge in real-life settings" (77% and 90% respectively) than pre-1992 universities (68%) and that "Scholarship includes the preparation of reports that synthesise the major trends and findings in my field" (78% and 68% respectively) than pre-1992 universities (63%). This difference is even more pronounced in their views on whether "Faculty in my discipline have a professional obligation to apply their knowledge to problems in society". From post-2004 universities and HE colleges, 86% of respondents agree or strongly agree with this statement compared with 75% of those from post-1992 universities and only 59% of pre-1992 university replies. There are clearly different conceptions of scholarship and professional responsibilities in the constituent parts of the English higher education sector. This would benefit from further qualitative and in-depth investigation.

A surprisingly large proportion (49%) of all 2007 respondents believes "This is a poor time for any young person to begin an academic career in my field". It will be important to analyse this by subject discipline, age of respondent and length of time working in higher education. Those in post-1992 universities and post-2004 universities and HE colleges are more likely to agree with this statement than pre-1992 university respondents. In 1992, the order was reversed, with university respondents (45%) more likely to have agreed than those from polytechnics (37%) and colleges (35%). In 2007, this negative view is reinforced by 27% of all respondents who agree or strongly agree that "If I had it to do over again, I would not become an academic", including a greater proportion of respondents from post-1992 (34%) and post-2004 universities and HE colleges (39%). This is an overall increase from 1992, when 19% of university and polytechnic respondents and 23% of college respondents agreed or strongly agreed with this statement. Also in 1992, around 50% thought "My job is a source of considerable personal strain". In 2007, over half of all respondents agree with this statement with, again, a greater proportion of respondents from post-1992 and post-2004 universities and HE colleges (59% and 72% respectively) than those from pre-1992 universities (50%). The statement that "Teaching and research are hardly compatible with each other" is believed by 28% overall, but 40% of post-1992 university respondents, although the figure is much lower for post-2004 university and HE college respondents

(14%).

Figure 4 illustrates the pattern of all responses in 2007, showing the order of statements according to the proportion of respondents agreeing and strongly agreeing with each of them. It shows that over half disagree or strongly disagree with the statements "Teaching and research are hardly compatible with each other" and "If I had it to do over again, I would not become an academic".

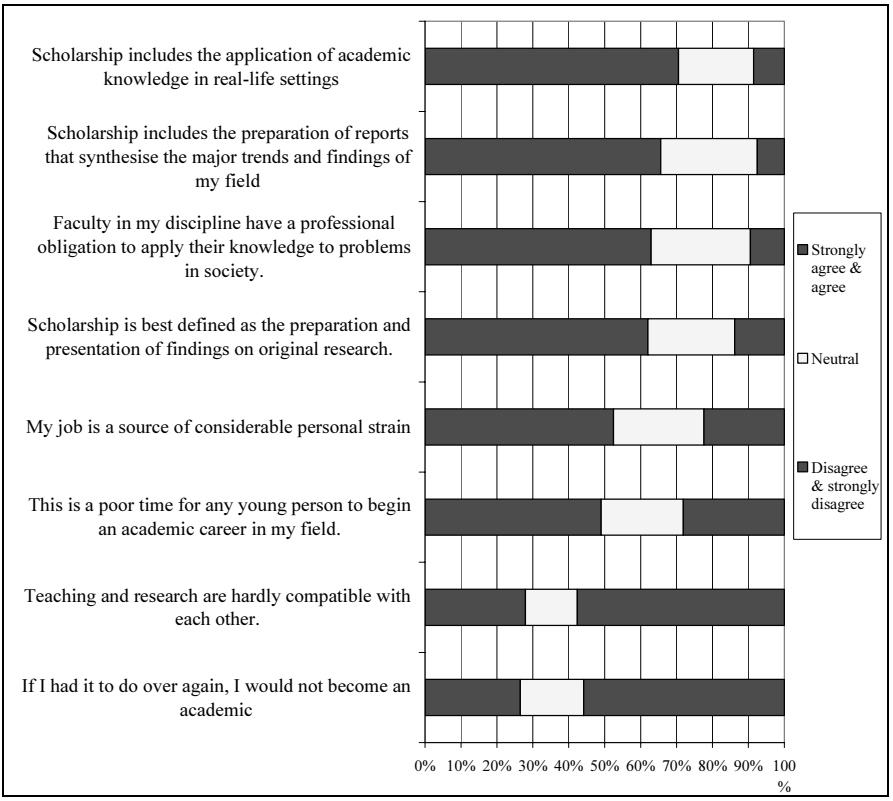

Figure 4. CAP 2007 survey – Statements about the academic profession

Views on research

In the 2007 survey, respondents were asked their views on aspects of research, and the results are shown in Figure 5.

The statements which attracted most agreement are "My research is conducted in full-compliance with ethical guidelines" (84%) and "The pressure to raise external funds has increased since my first appointment" (76%). Most, 72%, agree or strongly agree that "High expectations to increase research productivity are a threat to the quality of research" and over half agree or

strongly agree that "High expectations of useful results and application are a threat to the quality of research". For both of these statements, more respondents from post-1992 universities than other types of HEI agree or strongly agree about these threats to the quality of research. Two-thirds of all respondents agree or strongly agree with the assertion that "Interdisciplinary research is emphasised at my institution", although fewer than 50% of those from post-1992 universities did. Those statements receiving the least agreement included "Restrictions on the publications of results from my publicly- and privately-funded research have increased since my first appointment", and "Research funding should be concentrated (targeted) on the most productive researchers".

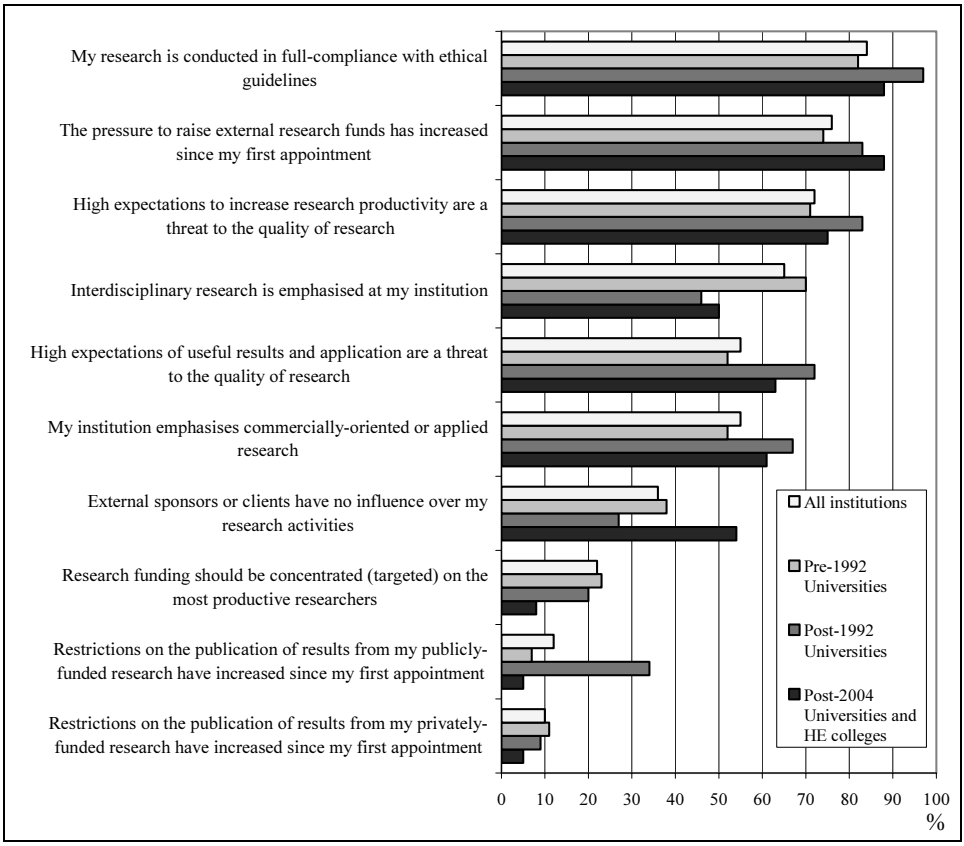

Figure 5. CAP 2007 survey – Statements about research, percentages agreeing and strongly agreeing by institution type

Table 4. CAP 2007 survey – Statements about research, percentages agreeing and strongly agreeing by institution type

	All Institutions	pre-1992 universities	post-1992 universities	post-2004 universities and HE colleges
Restrictions on the publication of results from my publicly-funded research have increased since my first appointment	12	7	34	5
Restrictions on the publication of results from my privately-funded research have increased since my first appointment	10	11	9	5
External sponsors or clients have no influence over my research activities	36	38	27	54
The pressure to raise external research funds has increased since my first appointment	76	74	83	88
Interdisciplinary research is emphasised at my institution	65	70	46	50
My institution emphasises commercially-oriented or applied research	55	52	67	61
My research is conducted in full-compliance with ethical guidelines	84	82	97	88
Research funding should be concentrated (targeted) on the most productive researchers	22	23	19	9
High expectations to increase research productivity are a threat to the quality of research	72	71	83	75
High expectations of useful results and application are a threat to the quality of research	55	52	72	63

Regulatory expectations

Respondents were asked whether their institution has regulatory expectations for individual faculty (*e.g.* quantitative targets) for different aspects of teaching. The numbers confirming this are shown in Figure 6.

More respondents from post-1992 universities report regulatory expectations than from other types of HEI, with the highest for "Number of hours in the classroom", "Number of students in your classes" and "Overall counting exercise". Across all types of HEI, "Percentage of students passing exams" attracted the fewest respondents reporting regulatory expectations.

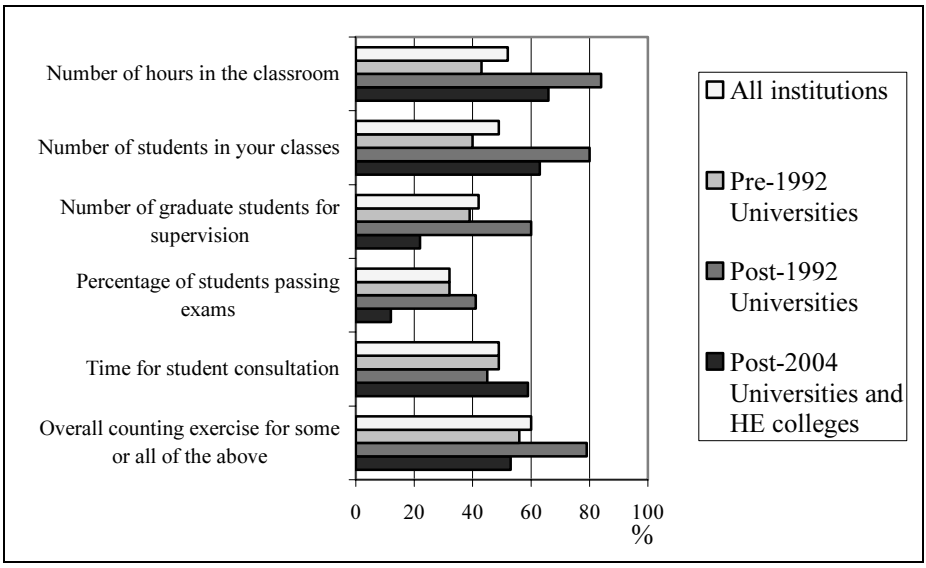

Figure 6. CAP 2007 survey – Regulatory expectations for individual faculty, by institution type

Primary influence on decision-making

Respondents were asked which of the following parties has the primary influence on a given series of decisions: government or external stakeholders, institutional managers, academic unit managers, Faculty committees/boards, individual faculty, and students. This question did not entirely match the 1992 survey, which asked how centralised ("controlled by top administrators") or decentralised ("controlled by faculty") decision-making was, although the seven original examples of decisions were all included in the 2007 survey along with four new examples.

On several of the decisions, such as "Selecting key administrators" and "Determining budget priorities", institutional managers are thought to be the primary influence by more respondents from all institution types. In pre-1992 universities, more respondents feel that Faculty committees/boards have the primary influence on "Making promotion decisions", "Setting admissions standards for undergraduate students" and "Approving new academic programs", whilst an academic unit manager has most say in "Determining the overall teaching load of faculty". Across the board, students were never regarded as the prime influence, even in "Evaluating teaching".

Table 5. CAP 2007 survey – Primary influence on decisions made (%)

	Government or external stakeholders	Institutional managers	Academic Unit manager	Faculty committees/ boards	Individual faculty	Students
Selecting key administrators	4	52	13	22	9	0
Recruiting new academic and research staff	0	16	28	35	21	0
Making promotion decisions	3	29	13	49	6	0
Determining budget priorities	3	56	15	22	5	0
Determining the overall teaching load of faculty	5	22	34	22	17	0
Setting admission standards for undergraduate students	5	28	15	38	15	0
Approving new academic programs	3	32	8	52	6	0
Evaluating teaching	6	14	15	29	21	16
Setting internal research priorities	0	24	20	23	32	0
Evaluating research	16	20	19	23	22	0
Establishing international linkages	0	26	17	9	48	0

In the 1992 survey, only two of the seven decisions had been described by the universities and polytechnics as decentralised – "Determining the overall teaching load of faculty" and "Setting admissions standards for undergraduate students". The respondents from the colleges had reported a very much more centralised decision-making process.

Institutional resources to support individual academic work

Respondents' evaluations of institutional resources to support individual academic work suggest an overall decline in pre-1992 universities, a general improvement in post-1992 universities and a mixed picture in post-2004 universities and HE colleges.

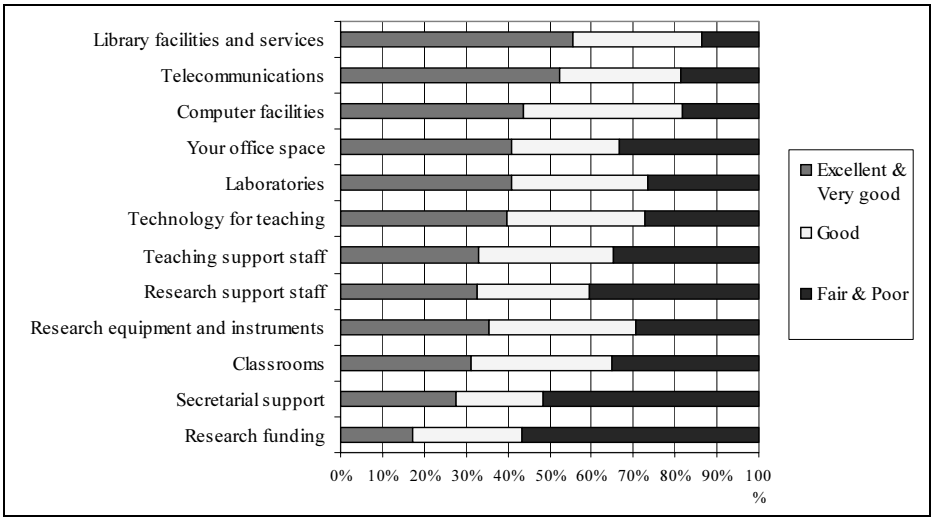

Figure 7. CAP 2007 survey – Evaluation of facilities, resources or personnel needed to support individual work

Table 6. CAP 2007 survey – Evaluation of facilities, resources or personnel needed to support individual work. Percentages regarding them as excellent or very good, by institutional type

	All Institutions	pre-1992 universities	post-1992 universities	post-2004 universities & HE colleges
Classrooms	31	33	29	43
Technology for teaching	40	40	45	21
Laboratories	41	43	37	8
Research equipment and instruments	35	42	10	17
Computer facilities	44	48	34	23
Library facilities and services	55	58	55	35
Your office space	41	43	43	9
Secretarial support	28	31	20	7
Telecommunications	52	41	54	12
Teaching support staff	33	32	39	30
Research support staff	33	31	46	4
Research funding	17	17	23	5

Fewer pre-1992 university respondents in 2007 than in 1992 now regard classrooms, computer facilities and secretarial support as excellent or very good. The only improvements in these institutions seem to have been in technology for teaching and library facilities. Conversely, computing facilities and secretarial support are the only resources regarded as excellent or very good by fewer 2007 respondents from post-1992 universities than in the 1992 survey. All the other sources of support are regarded more highly. In the post-2004 universities and HE colleges, generally fewer responded in 2007 that their facilities are at least very good, although the notable exceptions are research equipment, classrooms and library facilities and services, which are rated more highly in these types of institution. Overall in 2007, as shown in Figure 7 and Table 6, a majority thinks their library facilities and services and telecommunications are at least very good, but this hides a generally lower rating for all institutional resources by respondents from post-2004 universities and HE colleges.

Affiliation

Table 7 shows the percentages of respondents to the 2007 survey who regard their affiliation to their academic discipline, department and institution as essential or very important.

Table 7. CAP 2007 survey – Affiliation to academic discipline, department and institution. Percentage regarding them as essential or very important, by institutional type

	All institutions	pre-1992 universities	post-1992 universities	post-2004 universities & HE colleges
My academic discipline	81	82	85	57
My department	57	56	60	60
My institution	36	39	27	34

In the pre- and post-1992 universities 81% believe this of their *discipline* but the proportion is much lower in the post-2004 universities and HE colleges. However, only 36% believe it of their *institution*, including a substantially lower proportion of respondents (27%) from post-1992 universities. This confirms previous findings on primary commitments (Bryson & Barnes, 2000).

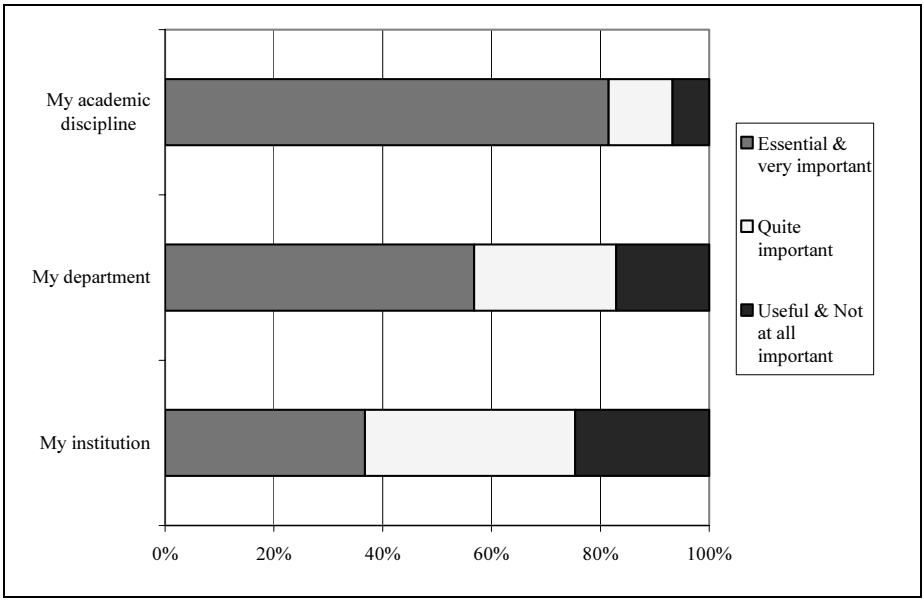

Figure 8. CAP 2007 survey – Affiliation to academic discipline, department and institution

Figure 8 shows all the responses to this question, including a substantial minority amounting to 25% who rate their institution as merely useful (19%) or not at all important (6%), but only 7% who think of their discipline in the same light.

Views on their own institution

Respondents were asked about their views on the management of their own HEI.

Figure 9 shows that by far the highest proportion of respondents from all types of HEI agree or strongly agree with the statements that there is:

"A cumbersome administration process" (73%)
"A strong performance orientation" (70%)
"A top-down management style" (68%) and
"A strong emphasis on the institution's mission" (59%).

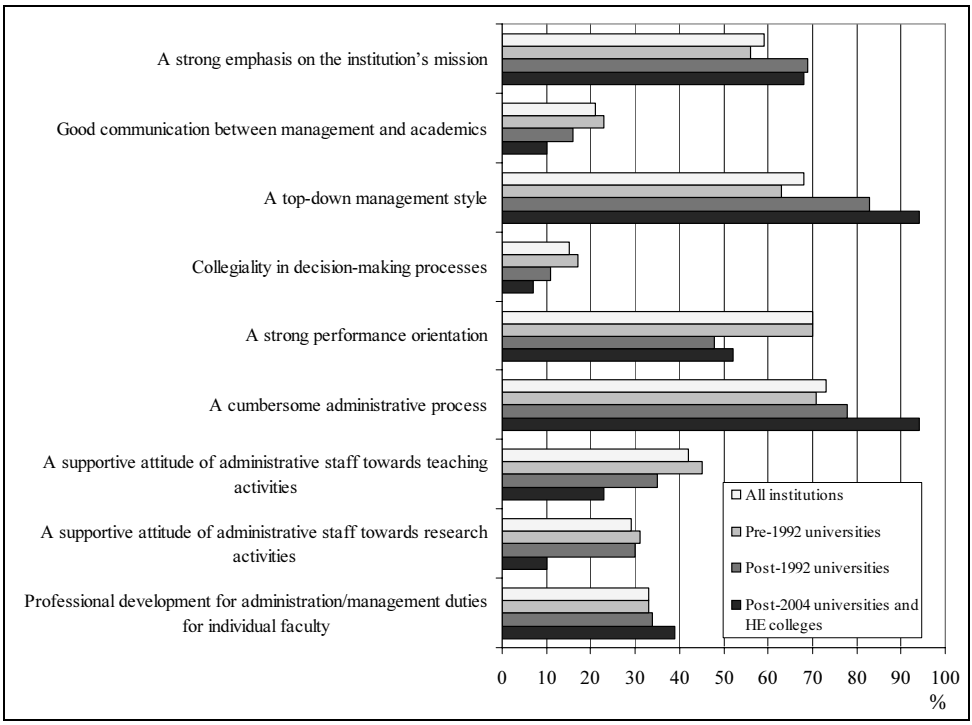

Figure 9. CAP 2007 survey – Views on the management of respondent's institution, percentage agreeing or strongly agreeing

Views on administration and faculty involvement

Respondents were asked their views on the administration and faculty involvement in their own institution.

Figure 10 and Table 8 show that those agreeing with these statements were in the minority, although it is worth pointing out that two of the five statements were negative. Less than a quarter of respondents agree or strongly agree that "Top-level administrators are providing competent leadership" (only 12% in post-2004 universities and HE colleges) and only a third feel informed about what is going on in their institution (again only 16% in post-2004 universities and HE colleges). Over a third see lack of faculty involvement as a real problem, although the proportion is smaller in post-1992 universities (26%). 28% (but more in post-2004 universities and HE colleges (50%)) think that "Students should have a stronger voice in determining policy that affects them". Only a third (and only a quarter in post-1992 universities) believe that "The administration supports academic freedom".

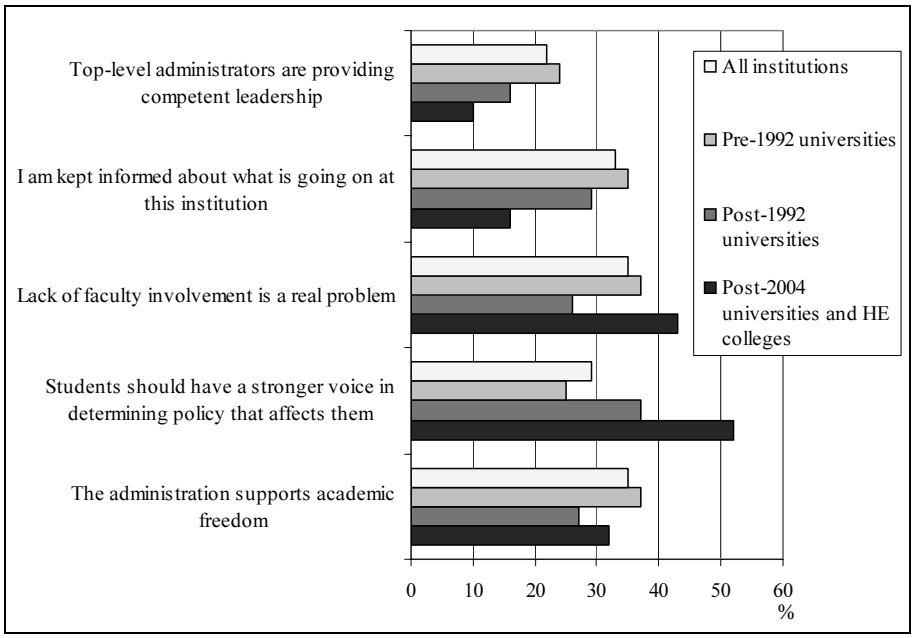

Figure 10. CAP 2007 survey – Views on administration and faculty involvement, percentage agreeing or strongly agreeing, by institution type

Table 8. CAP 2007 survey – Views on administration and faculty involvement, percentage agreeing or strongly agreeing, by institution type

	All Institutions	pre-1992 universities	post-1992 universities	post-2004 universities and HE colleges
Top-level administrators are providing competent leadership	22	24	16	12
I am kept informed about what is going on at this institution	33	35	29	16
Lack of faculty involvement is a real problem	35	37	26	42
Students should have a stronger voice in determining policy that affects them	28	25	36	50
The administration supports academic freedom	34	36	27	56

Overall satisfaction

Academics' overall satisfaction with their current job appears to have declined in the period since the 1992 survey. The 2007 results are shown in Figure 11.

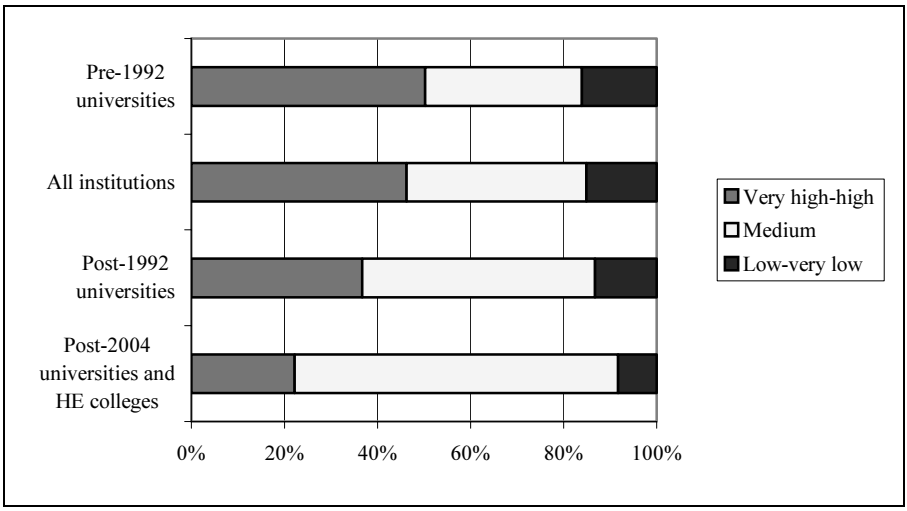

Figure 11. CAP 2007 survey – Overall satisfaction with current job, by institutional type

The proportions from all types of institution who are highly or very highly satisfied have fallen by between 2% and 5% to an average of 47% for all respondents. In 2007, satisfaction is still highest among pre-1992 university respondents (50% compared with 53% in the 1992 survey) and lowest among those from post-2004 universities and HE colleges (23% compared with 40% in 1992). However, those who rate their satisfaction as low or very low are also more numerous in pre-1992 universities (16%) than in post-1992 universities (14%) and post-2004 universities and HE colleges (7%). Views seem to be most polarised in pre-1992 universities.

Considered major change and taken concrete actions

In 2007, respondents were asked: "Within the last five years, have you considered a major change in your job? If so, did you take concrete actions to make such a change?"

Figure 12 shows that just under a quarter have not considered making any major changes. Of the remainder, the fewest (13%) have considered changing to a management position in their HEI, and even fewer (8%) have taken concrete

action to achieve this. An academic position in another UK institution has been considered by 30% and most of these, a quarter of all respondents, have taken action. Almost as many have considered an academic position in another country but far fewer have actually done anything about this. A greater proportion (37%) has considered working outside HE but, again, fewer (11%) have taken action.

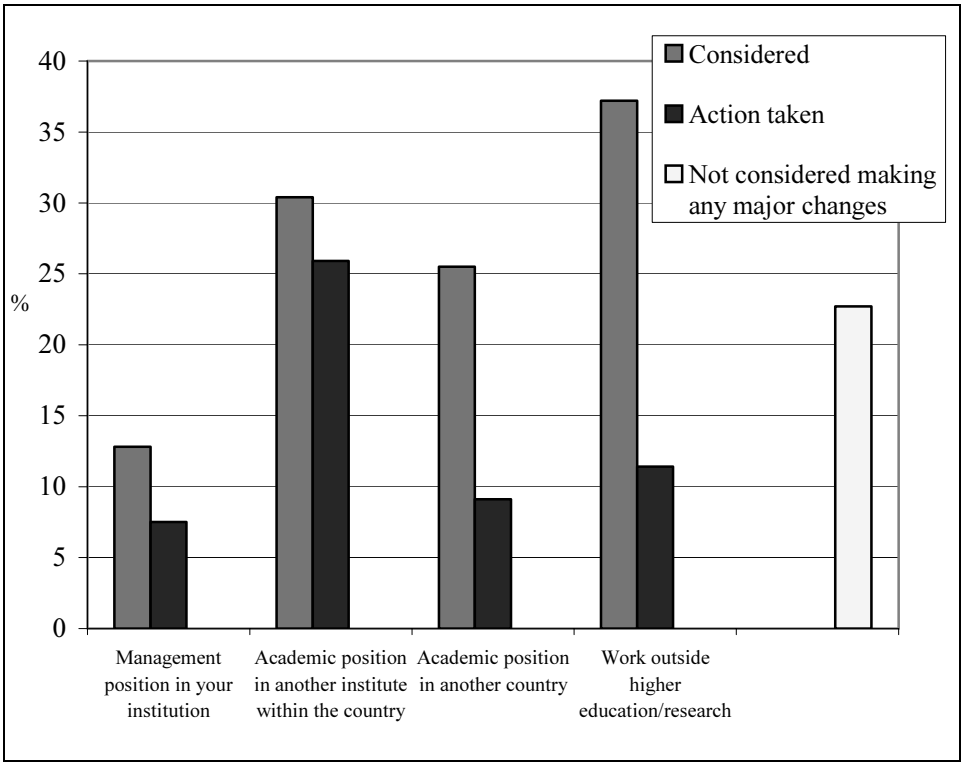

Figure 12. CAP 2007 survey – Considered major change and taken concrete actions

5. Summary and initial conclusions

In the 15 years since the end of the binary divide in the UK, this initial analysis of the UK CAP survey suggests that in some areas (interest in, and hours spent on, research; and institutional resources, at least between pre- and post-1992 universities) academics' views and conditions of work appear to have harmonised across the identified different institutional types. However, there remain distinctive differences (in the number of hours spent on teaching; respondents' views on institutional resources, governance and management,

especially in post-2004 university and HE colleges; in academics' experience of regulatory expectations, especially in post-1992 universities; in respondents' views on the academic profession; and in overall satisfaction). These differences may largely reflect the origins, history and circumstances of the types of higher education institution in which individual academics work; but, fifteen years after the dissolution of the binary divide, it may be surprising to some that such disparities persist. There are also signs of polarisation *within* both pre-1992 universities and post-2004 universities and HE colleges in both roles and views. These should be explored further by using more finely-tuned methods than the broad brush CAP survey. Finally, academics' overall satisfaction appears to have declined since 1992, and a substantial minority has considered leaving the profession. Further analyses will allow us to assess whether there are differences in satisfaction according to age/career stage, gender, grade and subject. Although increased levels of dissatisfaction may be no surprise (Kinman & Jones, 2003; Bone & McNay, 2006), this finding should be a salutary warning to those responsible for the current conditions and future prospects of the academic profession in the UK.

6. Follow-up Study

CHERI is aiming to undertake a qualitative study to follow up the key findings of the survey and explore the underlying reasons for the changes identified. It is likely that this will be based on institutional case studies, involving in-depth semi-structured interviews with selected academic staff and key institutional managers, as well as focus groups. A limited number of interviews with key government officials and policy makers is also proposed. It may be possible to incorporate an international comparative element in the qualitative study, and indications of interest have already been received from the CAP national research teams in Australia and Canada.

Acknowledgements

The UK CAP survey and its analysis would not have been possible without the advice of Professor John Richardson and Alan Woodley, Associates of CHERI, and the research assistance of Alice Bennion and Winnie Tang of CHERI.

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Changes in the Finnish Academic Profession Reflect Reforms in Higher Education

Timo Aarrevaara * and Seppo Hölttä**

Framework for the analysis of the Changing Academic Profession in Finland

Academic careers and mobility within the academic profession are becoming increasingly interesting issues in Finland as the structure of the system is changing and the complexity of the higher education system is increasing. In his study in the late 1980s Burton Clark provides a framework for the analysis of change of the academic profession. Based on his study of the differentiation of the academic profession in a comparative perspective he distinguishes three dimensions of layering of the profession in different national settings (Clark, ed., 1987).

The first of these is the sheer extent of differentiation, the number of recognized major divisions. Till the mid-1990s, Finland was one of the extreme examples of uniform higher education systems, composed of research-based public universities with equal formal status. The roots of the Finnish university and the Finnish academic profession are deeply in the German model. All universities are research-based institutions and the roles of the academic staff have been built around research activities. Even when expansion of the higher education system started in the 1960s, the only model discussed by political decision makers was the research university model (Hölttä, 2000). The single sector model imposed uniformity on the academic profession,

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too. All academic staff at universities have the formal status of civil servants. In 2006 the university sector employed 7,780 persons classified as teachers.

Only establishment of the polytechnic sector, composed of universities of applied sciences, provided the start for a new and different sector of higher education composed of professional and vocational higher education institutions. It has grown rapidly and currently accommodates 45% of students. Because of different forms of ownership of the institutions, there is variation also in the employment status of the academic staff. Some of the institutions are characterized by public ownership and some by private ownership. The total number of full-time teaching staff in the polytechnic sector was 5,893 in 2006.

In the Finnish context, academic work at universities may be understood as a deep commitment to one's discipline, a responsibility over certain tasks, and autonomy over one's own work. Academic organizations are not primarily focused on how the work is done but on the results achieved, and those in the academic profession define the degree of autonomy in academic work. This picture of academic work seems to be changing in the first decade of the 21st century (Aarrevaara, 2007). A global characteristic of academic work is gradual loss of professional autonomy, pressure from external societal expectations and increasing control of performance (Kogan & Teichler, 2007, pp.13-14). The Finnish data reflect the pressure for increased orientation to a network type of research with other universities and research institutes, applied research and research with a social development function.

The establishment of the polytechnic sector has meant a major diversification effect on the academic profession in Finland. In particular, the emergence and formation of a new kind of profession, with a professional and vocational background and commitments, has become an essential part of the Finnish analysis of the changing academic profession. That is why the Changing Academic Profession survey takes place at a critical time. In the first years of the 21st century, efficiency in Finnish higher education has become a competitive factor at both national and institutional levels, and there are several structural development plans carried out during 2007-2008 in the university sector as well as in the applied sciences university sector. The higher education system is seen more concretely than before as an essential element of the national and regional innovation systems. The link between higher education and economic policies has been strengthened and made explicit by several national policy initiatives and reforms both within the university and polytechnic sectors.

The policy goals of improving the competitiveness of the two higher education sectors are aimed at implementation, in particular by raising the quality of research and by improving the international attractiveness of universities and universities of applied sciences. Higher education institutions are being restructured to create larger units, to create a more focused profile for institutions, and to encourage institutional cooperation, networking and internationalization.

Higher education reforms include the reassessment of the financial and administrative status of universities, and changes in the legislative status of universities are expected to be enacted by the Parliament in 2009. Ongoing reforms also include mergers of universities and universities of applied sciences, changes in the governing system of the universities, overhauling of the steering system for sector research, including sector research institutes, and a large productivity program in the university sector carried out by the government.

The current trends of change can be summarised in tabular form (Table1). The system level reforms which have all been authorised are currently being implemented. They aim at making the Finnish higher education system a more integral part of society. The reforms are directly linked with the national and European goal of improving the competitiveness of higher education and research as well as that of industry.

It is significant that Finland has been included in this international survey research at a time when crucial reforms are taking place in Finnish higher education. The CAP study can provide comparative information for use in the globalisation of Finnish academic work and labour markets.

Table 1. Trends in higher education reforms

Change in governance model	collegial	→	managerial
	tripartite system	→	stakeholders growing role
Legal status	public organisations with direct supervision of government	→	semi-public public status foundation limited companies (as some universities of applied sciences)
Incentive system for individuals	regulated civil servant's status	→	flexible annual work load reward-based salary system
Academic roles and commitments	discipline based	→	Mix of academic and social commitments

The second dimension of layering of the profession by sector is the firmness and clarity of the division. Clark (1987, p.378) concludes that the dividing lines may be clear boundaries created by government or fuzzy and ambiguous, typically generated by the market forces. Finland has created clear boundaries between the university and polytechnic sector. The functions of the institutions have been clearly defined in legislation. All universities are research universities having also the right to grant doctoral degrees. The universities of applied sciences were established as teaching-only institutions with restricted applied research tasks attached to their regional service function. Market forces are only now starting to affect the clarity of the division. The facts that the institutional functions differ (academic *vs*. professional) and that credits are not transferable from one sector to another, combined with the excess demand for study places, has quite effectively restricted competition not only about students. Moreover, the academic labour markets have also remained quite separate.

As the polytechnics sector was established mainly by merging former professional secondary level institutions and by upgrading the quality of their programmes to the level of higher education, academic staff were mainly recruited from these institutions. In the beginning, only a small proportion of the teachers had doctoral degrees. However, the establishment of new formal academic requirements for the teachers has initiated a process of postgraduate studies for polytechnic teachers at universities. An interesting part of the Finnish study will be to analyse how mobility across the sectoral boundaries grows: academic qualifications in the form of degree requirements are not the only obstacle making mobility difficult between the sectors.

The Act on Polytechnics defines the duties of a polytechnic and the type of academic staff which are employed. The Decree on Polytechnics further defines the qualification requirements, stating that the teaching staff must have an academic degree, that the teachers of vocational or professional studies must have a minimum of three years of work experience, and that principal lecturers are required to have a postgraduate degree that meets certain criteria. Those appointed as lecturers or principal lecturers in polytechnics must also have studied pedagogy in a course providing at least 60 ECTS credit points (in 2008); those who do not meet this requirement need to do so within three years of their appointment. This system hinders quite effectively mobility from universities to the polytechnic sector and job rotation even though there is closer co-operation between the higher education sectors.

The third dimension of layering is the degree of homogeneity within the declared or observed strata. As discussed, the university sector in Finland has traditionally been characterized by extreme uniformity. During the period when the present institutional structures were created as part of the massification process, starting from the late 1960s, the Higher Education Development Act included uniform and very detailed resource norms for each institution. For example, the University of Helsinki, which had been the dominating higher education institution in the country for centuries, and newly established small universities, with the regional development tasks, were treated equally as centralized development targets with quantitative resourse standards that were defined in the late 1960s. Further, the establishment of all new positions at universities required a centralized process involving the Ministry of Education, and finally ended in Parliament as part of the annual budgeting process. This heavy regulation effectively introduced uniformity also to the academic profession.

Only, as the new performance-based government steering system was established during the 1990s could the process of diversification within the university sector start to proceed. The right to establish and fill all positions without any external interference, flexible work loads for academic staff, lump sum budgeting and performance-based budget allocation models have significantly affected the working environment of university personnel within the last ten years or so. All these changes have introduced diversity among universities and even within universities. The civil servant status has remained, but the performance-based salary system, introduced in 2006, has diversified the salary system. The coming extensive university reform, based on the new law, will mean that each university will have a new legal status, some as public organizations with additional financial autonomy and some as private foundations.

Diversity has been introduced to the polytechnic sector since its establishment through diverse forms of ownership. Another source of diversity can be found in the different institutional backgrounds representing different vocational professions from engineering to nursing and social work. The established institutions were the results of organizational mergers, but they were also characterized by the amalgamations of, for example, different organizational cultures and different salary systems. Internal integration processes have proceeded but again they are faced with institutional mergers.

All these changes, which have increased diversity within the university and polytechnic sectors, have strongly affected academic work and working

conditions within the institutions. So far, the major driving forces of change have been changing government policy and steering strategy. Another factor has been the changing funding structure. The share of external funding at universities has increased quite rapidly from a few percentage points in the early 1990s to about one-third today. The government policy of linking the higher education system more tightly to the national and regional innovation systems and the increased institutional autonomy, with its goal of making universities more market oriented, will most probably be the most essential driving forces behind the change of academic work within the coming years.

The Finnish CAP survey

It is evident, that the CAP survey provides information that can be utilized in the mergers of higher education institutions, development of services and the planning of operations during reforms. Many of the respondents found the questionnaire very difficult, and they have asked a lot of defining questions. As probably in all other countries involved, some of the questions in this large questionnaire may seem somewhat inappropriate in the local context. Due to the difficulties, the response rate had not reached an adequate level by the end of the year 2007, and the Finnish team decided to continue to collect answers until January 21st 2008.

It seems that for those academic professionals in the universities it had been easier to respond than for those in the universities of applied sciences. Our interpretation of the reasons behind the universities higher reply percentage compared to universities of applied sciences, is that they have obtained more knowledge of these issues due to the ongoing university reforms. Thus it has been possible for university personnel to answer the questions better. Finland has not been previously involved in such a large scale research on the change in the academic profession.

The Finnish CAP team has carried out an on-line survey from the beginning of December 2007 to January 21st 2008 and mailed reminders to those who had not replied on-line from February 1st to March 22nd 2008. The survey covered 19 of the 20 universities and 24 of the 28 universities of applied sciences. The total number of respondents from universities is 1,128; and from universities of applied sciences 340. In all there are 1,468 respondents (1,192 by on-line questionnaire, 276 in paper form) with a response rate of 28%. The questionnaire was made available in both official languages, Finnish and Swedish, and also in English. Of the respondents, 86.5% replied in Finnish,

7.5% in Swedish and 6.0% in English.

The Finnish CAP research has had since August 2007 a national steering group that consisted of members from the Ministry of Education, the Rectors Conference of Finnish Universities of Applied Sciences, the Finnish Union of University Researchers and Teachers, the Finnish Council of University Rectors and the Finnish Union of University Professors.

The questionnaire was processed using Webropol software and SPSS for statistical information. CAP project information from respondents was given mainly through web pages. Responding on paper was allowed in the second stage in February-March 2008. Only two very small Universities of Arts, with a total of less than 100 teachers and researchers, were not included. The Finnish CAP team defined the population in cooperation with the higher education institutions and followed the CAP sampling process instructions. An effective sample size according to international CAP recommendations was set at 800 respondents. In practice, the higher education institutions gathered the e-mail addresses of all their salaried employees with teaching and research tasks, as well as a separate list of occupational titles. On the basis of this list it is difficult to determine how well the sample corresponds to the population.

Population of the two higher education sectors

The population consists of salaried full-time employees in teaching and research tasks, leaving part-time employees and lecturers outside the sample population. One-fifth of the population was selected. The sample corresponds well to the population and the different occupational groups are comprehensively represented. The questionnaire was addressed to full-time education and research personnel and one in five was selected. Typical titles for respondents are researcher (N=316), lecturer (N=265), professor (N=150), assistant (N=58), assistant professor (N=56), principal lecturers (N=52) and the rest represent titles such as research manager. In the universities of applied sciences some titles differ, and they include, for example, educational managers. The sample corresponds well to the population and the different occupational groups are comprehensively represented. Senior post holders are well represented, such as professors in the universities and principal lecturers in the universities of applied sciences.

Table 2. CAP sample and response rate in Finland December 2007–January 2008

	Questionnaires delivered	Responses	Response rate %
Universities	3902	1128	29
Universities of applied sciences	1303	340	26
Overall	5205	1468	28

The total number of respondents to the questionnaire was 1,468, with 1,128 employed at universities and 340 at universities of applied science. The questionnaire was sent to all higher education institutions in Finland, with the sample population consisting of 3,902 employees from the university sector and 1,303 from universities of applied sciences. The percentage of non-response in the inquiry was very high, which is common for surveys completely implemented using ICT. Some of those who opened the questionnaire but did not respond sent feedback *via* e-mail to the CAP team. The reasons for non-response varied from lack of time and concern for the protection of the respondents' privacy to finding the questionnaire difficult. Of those on the mailing list, about one-third did not open the message at all. Some of the recipients may have changed their jobs, but there are also those who had leave of absence, or were on sick leave or maternity leave and will have been included in the loss unless they opened the questionnaire e-mail message. All those who opened the message are included in the sample. These also include those who had partially filled the questionnaire but did not return it. The number of those who opened the questionnaire was clearly lower than number of questionnaires sent, which would yield a higher response rate than 28 %.

The sample contains an almost equal number of men and women, so that the number of women (50.4%) in the sample is slightly greater than that of men (49.6%). It is typical in Finland that higher academic posts have more men than women but in lower academic posts the proportions are inverted. For example, slightly less than one-fourth (23.5%) of professors are female yet 51.4% of lecturers are women in the university sector (KOTA, 2008). Similarly, 41% of principal lecturers and 63% of lecturers are female in the universities of applied sciences (AMKOTA, 2007). The current material comprehensively reflects this distribution. The average age of people working in universities is lower than that for those working in universities of applied science. This is due to the fact that the share of researchers was quite large among the respondents from universities.

Respondents in traditional academic careers

Today, the typical entrance to the academic career at universities takes place through the system of the graduate school, *i.e.* formal PhD studies. It is possible to seek graduate school research posts directly after completing the second cycle degree. At universities of applied sciences, teachers are generally expected to have work experience before a teaching career so that the average age of faculty staff posts at universities of applied science is higher than at universities. The difference has, however, decreased as universities of applied science have recruited people in great numbers over the past 15 years. The average year of birth for respondents in the study is 1964.

About four out of five respondents (78.1%) were married, living together or in a registered companionship, and about one-third of them had a companion who is also an academic. The father of about every third respondent (31.5%) and the mother of about every fourth (25.2%) had a higher education degree. The growth of higher education numbers is indicated in that more than half (57%) of the respondents' companions had higher education degrees. Most of the respondents' companions (78.4%) were employed full-time, 8.3% part-time with only 13% not employed. One respondent in two (51.1%) had no children: every sixth respondent (16.4%) had one child, about every fifth two children (21.9%), and one in ten respondents (10.5%) had three or more children. Managing their households takes up a considerable portion of the respondents' time. About one in four (24.2%, N=329) has also interrupted their employment in order to provide child or older person care, with about three out of four (75.8%, N=1,030) of respondents having undertaken such responsibilities

About 16.2% (N=55) of the respondents from universities of applied science has a doctor's degree, and about every fifth a licentiate's degree (pre-doctoral postgraduate degree, N=72). Among the respondents in the university sector 50.8% hold a doctor's degree (N=574). At universities of applied sciences, the most common titles are lecturers (N=207) and principal lecturers (N=73). The basic population also includes other teacher posts and R&D oriented posts. The number of teachers and researchers in universities of applied science in relation to the whole staff is lower than in universities. The operating model at universities of applied science is clearly different from that of universities, and there are fewer researcher positions in universities of applied science than in universities. The number of personnel providing support services is greater than at universities, and lecturers are used in those tasks more than at universities.

Typical university titles include professors (N=211), assistants (N=75), lecturers (N=182), senior assistants (N=58), researchers (N=391) and senior researchers (N=72). Besides the traditional academic staff, universities also have full-time researchers in projects and researchers from graduate schools. The total proportion of these among the respondents was 41%, and they often also have teaching tasks and participate in various projects together with other academic staff. The earlier common title for those in postgraduate research posts was assistant, but the number of persons in this category has declined since the establishment of the graduate school system in the mid-1990's. Assistant posts have largely been replaced at universities by researcher's tasks that may include teaching and even administrative duties.

The main task of researchers in graduate schools is to finalize their doctoral theses and complete studies, but they are full-time employees and they are paid salaries based on labour agreements. This manner of operation has proved to be an efficient way to recruit people for academic careers. About half of the respondents to the questionnaire have concluded an employment agreement that includes teaching or research work during their researcher education, and more than half of the respondents have participated in research projects with the senior researchers of the department. University researchers and teachers have been working longer in higher education institutions than the respondents from universities of applied science. This is partially explained by the relatively short history of the polytechnic sector. On the other hand, respondents from universities of applied science possess wider experience from working in industries, as entrepreneurs, or in the public sector.

A reward-based salary system has been established since 2006 to improve efficiency in universities. This reform, too, is part of the larger salary reform covering the whole government. Salaries at universities are composed of two components. The first is based on an evaluation of how demanding are the duties of a position, and the second and smaller is based on evaluation of academic performance.

The respondents' average annual income from their main occupation was approximately €41,500. However, the differences between different tasks were significant. The average income of those working in universities of applied science was higher than those in the university sector. This does not necessarily mean that the wages in universities of applied science would be better than in universities over a person's whole career. This sample has many respondents employed in the lower researcher posts in universities and this reduces the average income for the university sector. Income from the primary occupation

is not equal to annual income, because many respondents also have secondary sources of income. There are clear rules for this manner of operation, and they apply to all within the academic profession. It is quite common to apply for permission for a secondary post by using an announcement procedure or a special permit. Respondents in both universities and universities of applied science have significant secondary income, and this applies especially to those in technical and medical professions irrespective of the phase of their careers. Those representing humanities and arts have the least amounts of secondary income.

For the whole academic profession in Finland, the high number of working hours limits possibilities for side income. The average number of working hours is greater during teaching periods and smaller outside the teaching periods, but always more than 40 hours a week. The respondents in universities of applied science show far higher numbers of working hours than those in universities during teaching periods. Measured over the whole year, however, the situation becomes much more equal. Nearly all fields have adopted total annual working times, for which the standard is 1,600 hours. Members of the academic profession jointly agree with their employer on the tasks that constitute the total working time. On the basis of the survey data it seems evident that the annual working time is exceeded throughout the sector.

Expanding Third Task

The main driving force behind the changing profession in Finland is the national higher education policy and its links to the social and economic developments in the country. Regional tasks have been included in the basic tasks for the universities of applied sciences since their establishment. Finnish representatives of the academic profession act in different sectors of society and in professional associations of their own fields, and this operation also receives incentives. The legislation regarding universities and universities of applied science contains a “third task”. For universities this means an obligation to interact with the surrounding society and strengthen the impact of research findings and artistic activities on society.

The importance of service production to society and the ability of universities to operate effectively in the market place with commercial organisations has been the main reason for the establishment of the legal status of universities. The academic profession has been, however, quite slow in its responses. Although a couple of years ago it was made possible for universities

to establish so-called university companies, it did not lead to the processes of establishing research based enterprises owned by universities. It looks as if entrepreneurship at Finnish universities is more like individual entrepreneurship, individual consultancy by professors, instead of organisational entrepreneurship in the sense used by Burton Clark (1998).

The national higher education reforms affect the academic profession acutely. Two models for the legal status are under preparation, *i.e.* status as a public entity with increased financial autonomy and a foundation model under the private law. Diverse models of legal status have already been implemented within the polytechnic sector. Universities of applied sciences may have different status, from associations of municipalities to private foundations and companies. A second set of central ongoing reforms is composed of structural reforms within both sectors of the higher education system.

Auspicious foundation for further analysis

As part of the legislative changes, reform of the governing system of the universities, including the steering system of government sectoral research institutes, is going on. To adjust the public sector to the changing operational environment, including globalisation and population changes, government is carrying out a large productivity programme covering all sectors. Although a steady growth has continued within the university sector, the implementation of the productivity programme has affected staffing through adjustments and outsourcing of certain service functions of institutions.

The reporting of the Finnish CAP team has concentrated on four themes. The first part discussed the factors for change on the academic profession in Finland in a report published in the summer in 2007 (Aarrevaara & Hölttä, 2007). The second part as described in this paper (in early 2008) analyses the realization of the sample and describes the profiles of those who answered the questionnaire. A third part of the reporting will deal with the analysis of the replies. This phase will be implemented during the first half of 2008, in cooperation with the researchers and administrative professionals who participated in gathering the material. In a fourth part the Finnish CAP team will carry out a comparison with the international material later in 2008.

The most extensive reform of higher education in decades has recently been started in Finland. Institutional structures as well as the legal status will be changed. These changes will affect the operating environment of the higher education institutions and the conditions for academic work. From the Finnish

perspective, the timing of the CAP survey is timely and even ideal and the study can support the implementation of changes both at the national and institutional levels. International comparisons can supply a critical assessment of different aspects of changing academic work as the higher education system and its work are pressured by society and markets.

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Academic Staff in Germany: *per aspera ad astra?*

Ulrich Teichler*

1. Introduction

1.1 Junior Academic Careers in Germany: Exceptionally Precarious?

Germany belongs to those countries where an academic career consolidates only several years after the award of a doctorate (*cf.* the comparative studies on academic careers in Enders, 2001; Enders & De Weert, eds., 2004; Sadlak, ed., 2004). On average, academics are slightly older than 40 years at the time of appointment to a senior position and, as a rule, this is the time when they know whether they can spend their total career as academics. Thus, uncertainty prevails at ages of up to 40 years, *i.e.* at a time of their lives when others have already established regular careers, taken care of long-term accommodation, and have had children. The relatively harsh conditions for junior academics (*cf.* Bracht & Teichler, 2006) are assumed to be necessary notably due to two factors:

- the need for a long formative period of concurrent learning and productive academic work;
- a highly selective profession where most of those who are not promoted to senior ranks have to leave the profession.

In Germany, a widespread belief exists that the situation of junior academic staff is more difficult than in many other countries. This starts with a semantic divide: academics in senior ranks belong to the occupational category *Hochschullehrer* (higher education teachers) and those not in senior ranks to *wissenschaftliche Mitarbeiter* (academic staff), whereby no overarching

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professional term exists such as 'academic profession' in the English language. Academics are expected as a rule to pass the *Habilitation*, *i.e.* an advanced doctorate based on about five years of academic work after the doctorate, in order to be eligible for a university professor's position. Prior to appointment as a senior professor, the research, teaching and examination activities of junior academic staff are undertaken under the supervision of senior academics. As a rule, junior staff are not permitted to be appointed to a professor's position in the same university in which they have been employed in the career stage between the doctoral award and the professorship (*Hausberufungsverbot*). These and other features contribute to a strong feeling of dependence and uncertainty. In the Carnegie Study on the academic profession undertaken in the early 1990s, German junior academics stood out in rating their employment and work conditions substantially less positive than university professors in their country and in expressing a substantially lower job satisfaction (see Teichler, 1996; Enders & Teichler, 1997).

One has to bear in mind, though, that reforms were undertaken to make the period between a doctorate and the appointment to a senior profession more attractive. The title of an *Assistenz-Professor* was awarded from the 1970s to the mid-1980s and that of a *Junior-Professor* since the early years of this century, both combined with a higher degree of independence than the respective positions until the 1960s and from the mid-1980s to the early years of this century. Moreover, there are indications that Germans consider the professional situation of junior academics in Germany more negatively than is justified. A recent study comparing available data on academic careers in Germany and the U.S. (Janson, Schomburg & Teichler, 2007), for example, points out that German junior academics have a much better chance to be regularly employed by a university while working on their doctoral thesis; a higher proportion of them are already permanently employed before being appointed to a senior position, and the salary levels of junior positions are not lower when compared to senior positions than in the U.S.

The following analysis will address selected issues of employment, work and self-understanding of academic staff at German universities and public research institutes.

- Differences will be explored between junior academic staff not yet awarded a doctoral degree and those awarded a doctoral degree.
- The study will also address the situation of academic staff employed at universities beyond the typical periods to qualify for a doctorate or a

Habilitation: how does their employment and work situation differ from that of junior staff?

- The study will take note of the differences between academic staff at universities and at public research institutes.
- A comparison between junior academics and professors (and other senior staff) will help to highlight the specifics of the situation of the academic staff.
- In some cases, the situation of academic staff at German universities in 2007 will be compared to the situation of 1992, when the first international comparative study of the academic profession was undertaken.

Comparison of the situation of academic staff in Germany with that of other countries in 2007 was not possible because the international data set was not available when this analysis had to be completed.

1.2 Basic Information on Academic Careers in Germany

Until recently, students in Germany were on average 28 years old at the time of graduation from a university programme, whereby the German university degrees were considered internationally as equivalent to master's degrees. This figure includes students who began their study at a mature age as well as students who had been *de facto* part-time students. The title of doctor was awarded on average at the age of 33 and the *Habilitation* at the age of 40. The average age of the appointment to a professorial position (equivalent to professor and associate professor positions in the U.S.) was 41.

According to comparative statistics, the rate of doctoral awards in Germany, *i.e.* almost two percent of the respective age group, is the highest among major economically advanced countries. One has to bear in mind, though, that this figure includes those medical doctorates which are based on a substantially smaller piece of research than the usual doctoral theses.

The majority of doctoral candidates are regular employees of universities and public research institutes while working on their dissertations – many of them are employed part-time; they might hold positions furnished by the university or research institute or positions paid for with the help of research grants. Others have ancillary teaching and research contracts at universities or are awarded a doctoral fellowship. Only a small minority are self-paying doctoral candidates. Most doctoral candidates are supervised by individual professors, while only a minority are incorporated into a doctoral programme with elements similar to U.S. graduate schools and programmes.

The award of a doctoral degree is not primarily a more or less safe step towards a senior position in academia. The majority of those with doctorates move to positions outside higher education institutions and public research institutes, and only somewhere between 10% and 15% eventually will be in senior positions in higher education and public research institutes.

Most academic staff at universities are employed on short-term contracts: up to two five-year periods in university positions and often for shorter periods in positions covered by research grants. Only a small minority are employed for longer periods, and some of them remain without appointment to a senior position. Altogether, about 30% of German academic staff at universities not in senior positions have a permanent contract.

Professors are appointed, as a rule, full-time and permanent – in most cases as civil servants. Part-time teaching in the professorial ranks is wide-spread, but these persons, as a rule, are not employed by the university and are not regular members with respective rights and duties.

The two professorial ranks at universities cannot be viewed as a clear career ladder as many professors are appointed to the higher rank from the very beginning. Moreover, in contrast to *Fachhochschulen*, there is no internal promotion scheme from the lower ranking to the higher ranking professorial position at German universities: a lower-ranking professor will move to a higher ranking professor position only if she or he gets a 'call' from another university.

Most information on academic careers in Germany focuses on universities. However, in addition to about 140,000 academics employed at universities, more than 3,000 are active in colleges of fine arts, about 20,000 in *Fachhochschulen* (translated as "universities of applied sciences"), *i.e.* colleges primarily in charge of teaching, and almost 30,000 in public research universities not in charge of teaching and not entitled to award doctoral degrees. Actually, the *Fachhochschulen* do not award doctoral degrees and rely on the universities to train junior academics for their professorial positions. It is often overlooked that about 40% of all professor positions at German higher education institutions (about 14,000 of altogether 38,000) are located at *Fachhochschulen*. The public research institutes, as a rule, are viewed as privileged places both for academic staff and senior academics. Many senior academics are appointed by universities as regular professors, though without salary, entitled to teach if they wish to do so and entitled to be supervisors of dissertations.

1.3 The Survey

The following study is based on a representative survey of the academic profession at German institutions of higher education and public research institutes (*Max Planck Society*, *Fraunhofer Society*, *Leibniz Society*, *Helmholtz Association*). The survey was undertaken from January to July 2007 in the framework of the international comparative study "The Changing Academic Profession".

The questionnaire was sent to more than 4,000 addresses at a selected number of institutions seen to represent the overall system appropriately. The study aimed to address only regularly employed, academically trained persons active in departments in charge of teaching and/or research. Thus, it does not address part-time staff on other contracts (*i.e.* for conducting single courses), those teaching without remuneration, ancillary teaching and research staff as well as academically trained staff employed in the general administration or in specific service units.

Altogether, 1,524 persons responded. The response rate is about 35%. Among the respondents,

- 326 were professors (senior ranks) at universities,
- 547 other academic staff at universities,
- 136 seniors at public research institutes,
- 300 other academic staff at public research institutes, and
- 215 academics (mostly professors) at Fachhochschulen.

One has to bear in mind that the sampling procedure deliberately called for an over-representation of professors and seniors compared to other academic staff as well as for an over-representation of academics from public research institutes as compared to those from higher education institutions. This procedure was chosen in order to secure a sufficient absolute number *per* staff category, gender and field of study even in the relatively smaller sectors. In the final analysis of the data, this over-proportionate representation can be counter-balanced by a respective weighing of the various sub-groups. This does not play any role, however, in the subsequent data analysis of this article, because only percentages and means are presented for the above named sub-groups.

2. Career and Employment

2.1 Career Stages Prior to Senior Position

According to official statistics, the total number of professors in positions comparable to full professors and associate professors is about 19,000 in Germany. About 14,000 were in positions by and large comparable to assistant professors or other middle-level positions. About 4,000 were lecturers for specific purposes (*i.e.* outside the career track towards a professorship), and about 102,000 were academic staff employed for purposes of research and possibly teaching and services.

There are no data available indicating the proportion of academics below senior positions at the various stages of the academic career. Of the 547 respondents to this survey, 36% (198) were not (yet) awarded a doctoral degree. We have reasons to assume that the actual proportion of academics at this career stage employed at German universities is higher, but no reliable statistics are available.

Most of those employed without a doctorate, either are awarded the doctorate within a few years or leave the universities without such a qualification. The number of those still employed without a doctorate 7-9 years after graduation corresponds to less than 30% of those employed 4-6 years after graduation. The number of those still employed without a doctorate 10-12 years after graduation corresponds to less than even 10% of those employed 4-6 years after graduation. A few of them have transferred to service functions, but are employed for longer periods for research and teaching tasks.

Of the academic staff at German universities with a doctoral degree and responding, 47% had graduated more than 12 years ago. The available data suggest that more than half of the academic staff with doctoral degrees continue to be employed at universities beyond the period typically considered to be necessary to qualify for a professorship. And more than half of these longer-term employed academic staff members with a doctoral degree are employed on a permanent contract. While it is generally believed that academics either succeed in becoming professors or have to leave the university, the actual proportion of academics with a doctoral degree persisting in a university beyond the formative years for a professorship is by no means negligible.

It should be added that academic staff at public research institutes have a substantially higher chance to ‘survive’ in this sector beyond the typical formative periods of qualification for a higher career level than their peers in the

university sector. The proportion of those employed at public research institutes in academic staff positions beyond the typical formative years is more than twice as high as in the universities both among those without and those with a doctoral degree.

2.2 Other Activities

The majority of those professionally active in academia for long periods do not change their professional sector at all. However, the 1992 survey did show that a relatively high proportion of professors in Germany had professional experience outside academia.

According to the 2007 survey, academic staff with a doctoral degree employed in non-professorial positions at universities have spent on average about 6% of the period since graduation in employment outside academia. On average, they were not employed for about 12% of that period (*e.g.,* working on their dissertation with the help of a fellowship or private means, predominantly active in family and child care, unemployed or active in job search, *etc*.).

The university professors responding have been professionally active outside universities, on average, for more than four years. On average, they have spent:

- 1.9 years at public research institutes;
- 0.9 years at other institutions of the public sector;
- 1.2 years in private institutions (including possibly activities in R&D); and
- 0.3 years being self-employed.

Longest periods of work outside universities are reported by professors of engineering (10.7 years), where the majority of professors had previously been employed outside universities. Above average occupational experience outside universities are also stated by professors in natural sciences (often in public research institutes), education and fine arts.

It should be added that professors at German *Fachhochschulen* are expected, as part of the official entry qualification, to have worked at least three years after their doctoral degrees outside academia in a professional area relevant to the study programme of their teaching assignment. Actually, the respondents employed at *Fachhochschulen* state that they have been employed 6.7 years full-time, on average, outside higher education, including less than one year at public research institutions and almost 6 years outside academia.

2.3 Employment Conditions of Academic Staff

Full-time *versus* part-time employment and working time

As already pointed out, the employment situation of junior academic staff at universities is inferior to those transferring to regular graduate jobs after graduation. Other surveys have shown that about five years after graduation more than 80% of professionally active graduates in Germany are employed full-time and that more than 70% of employees have a permanent contract at that early stage of their career (see *e.g.,* Schomburg & Teichler, 2006).

Most universities offer part-time employment, most frequently a half-time position, to junior academic staff without a doctoral degree. The young academics are entitled to spend a proportion of their working time on their dissertations, but they are expected as well to spend additional unpaid time for that purpose. Given this 'norm', it is surprising to note, as Table 1 shows, that about half of academic staff without a doctoral degree employed by the university within six years after graduation are actually employed full-time. In fields where universities cannot attract junior staff easily, for example in medicine, engineering and business studies, persons not yet awarded a doctoral degree are frequently offered full-time positions. Moreover, some junior staff, paid half-time through the university budget, get additional income through research grants. Finally, some contracts solely based on research funds are offered as full-time positions.

The academics employed without a doctoral degree at universities report that they spend actually 37 hours per week on average on their academic work, and those at public research institutes report 39 hours on average, as Table 2 shows.

Table 1 shows as well that more than 80% of academic staff with a doctoral degree are employed full-time. This corresponds more or less to the situation of graduates in other professional areas. The average number of weekly hours spent on the job is 42 hours (40 hours on average among those employed at public research institutes). The actual working time reported is about 15% higher than the paid working time.

In comparison, more or less all professors at universities and senior academics at public research institutes are employed full-time. Arrangements for part-time employment positions are made only if professors want to undertake a second major professional assignment alongside. The university professors report that they spend on average about 52 hours per week on their job (55 hours during lecture periods and 48 hours outside lecture periods).

Table 1. Full-time Employment at German Institutions of Higher Education and Public Re-search Institutes 2007, by Academic Rank and Years Elapsed since Graduation (%)

	Higher education institutions	Research institutes
Academic staff at universities		
Without PhD, up to 6 years since graduation	49	38
Without PhD, 7 and more years	62	88
Without PhD, all	52	54
With PhD, up to 12 years	82	84
With PhD, 13 and more years	87	92
With PhD, all	84	89
Professors at universities / seniors		
Lower rank	97	88
Higher rank	99	96
At Fachhochschulen	94	

Table 2. Actual Weekly Working Hours of the Academic Profession in Germany 2007

University professors	52
Directors of research institutes	44
Academic staff at universities with PhD	42
Academic staff at research institutes with PhD	40
Academic staff at universities without PhD	37
Academic staff at research institutes without PhD	40
Professors and academic staff at Fachhochschulen	40

Table 3. Gross Income at German Institutions of Higher Education and Public Research Insti-tutes 2007, by Academic Rank and Years Elapsed Since Graduation (1,000 Euro)

	Higher education institutions		Research institutes	
	Actual	Full-time equivalent	Actual	Full-time equivalent
Academic staff at universities				
Without PhD, up to 6 years	29	38	24	34
Without PhD, 7 and more years	40	48	55	57
Without PhD, all	31	39	31	40
With PhD, up to 12 years	44	46	45	46
With PhD, 13 and more years	53	54	61	61
With PhD, all	47	49	55	55
Professors at universities / seniors				
Lower rank	65		70	
Higher rank	82		99	
At Fachhochschulen	58			

These data correspond more or less to those reported 15 years earlier in the first international comparative study on the academic profession. In contrast, directors and other senior persons at public research institutes report only a weekly working time of 44 hours and academics at *Fachhochschulen* 40 hours on average.

Position and income

As one might expect, almost all academic staff members without a doctoral degree get a salary typical for entry positions of university graduates in the public sector. Only 7% of those employed at universities and 30% of those employed in public research institutions are at a higher position on the salary scale. This holds true almost exclusively for those who have graduated more than 6 years before the survey was conducted.

Most academic staff having been awarded a doctoral degree are also employed in positions equivalent to entry positions and salaries in the public sector. As a consequence, only 30% of academic staff at universities with a doctoral degree are in higher positions than the entry level.

Academic staff at German universities without a doctoral degree reported an annual average gross income of about €29,000 during the first few years after graduation, as Table 3 shows. This can be viewed as corresponding to one third of the average gross income of full professors. Full-time employed academic staff in this early career stage stated an average income of about €38,000, *i.e.* almost 45% of the income of full professors. The calculation takes into consideration that most junior staff are employed as employees holding the same legal status in the public and private sectors while almost all professors are civil servants who pay almost 10% of their gross income less for social benefits.

Academic staff awarded a doctoral degree who are in the typical age and career stage of junior academics state an average income of about €44,000. As most of them are employed full-time, the average income for those full-time employed is only moderately higher, *i.e.* about €46,000. This corresponds to slightly more than half of the average income of full professors.

Academic staff with a doctoral degree who continue to be employed at universities beyond 12 years after graduation are often promoted to advanced ranks. Therefore, their average income is almost 20% higher than that of young academic staff with a doctoral degree.

In comparison, Table 3 shows as well that lower ranking university professors earn slightly less than 80% of the average income of full professors. About 15% of the income difference is explained by the salary scale; the residual

difference of more than 5% is due to the fact that only full professors could negotiate income supplements in the remuneration system prevailing until 2002, and this was still valid for most of the professors at the time of the survey.

It should be added that academic staff at public research institutes and who have been employed there for longer periods report a clearly higher average income than their peers at universities. This is in part due to longer average periods of service and in part due to a higher likelihood of promotion to advanced positions. Senior academics at research institutes have a clearly higher average income than university professors. This reflects in part the fact, that most of them are not civil servants and have to pay higher costs for social benefits. Moreover, most of them in positions similar to full professors are more highly remunerated for their academic achievements, while only about one fifth of the full professors at universities got supplementary income in the remuneration system existing until recently, and that is still valid for most professors.

It should be noted that academic staff in Germany have hardly any additional income beyond their salary. Academic staff without a doctoral degree, both those employed at universities and at public research institutes, report a side-income of 2% on average; and academic staff with a doctoral degree state 4% and 3% respectively. Similarly, directors and other seniors at public research institutes state additional income of 3% on average. In contrast, university professors earn 14% additionally and academics at *Fachhochschulen* 16% on average.

Permanent *versus* short-term employment contracts

The most striking difference in the employment conditions between junior academic staff and the majority of university graduates of about the same age is the job security. More than 70% of all German university graduates have a permanent contract a few years after graduation, which ensures long-term employment if they work successfully and – in the case of private employers – if the company does not have to lay off substantial numbers of staff. Table 4 shows how this contrasts with the situation in universities.

- Only 1% of academic staff at universities without a doctoral degree have a permanent contract within the first six years after graduation. And only one-quarter get a permanent contract if they stay on beyond these six years without being awarded a doctoral degree.
- Only 18% of academic staff at universities awarded a doctoral degree are

already permanently employed in the typical time span after graduation, which can be viewed as preparatory for a *Habilitation* and professorship.

- Altogether, more than 30% of the academic staff at German universities have a permanent contract according to the survey undertaken in 2007. This is slightly higher than the respective proportion in 1992. Most academic staff at universities with a permanent contract are persons with a doctoral degree who have been employed at universities for a lengthy period (*i.e.* those who have graduated more than 12 years ago).

At public research institutes, a higher proportion of academic staff have a permanent working contract. Though also most of those employed only a few years have a short-term contract, the proportion of those having a permanent contract is higher than at universities in all the categories discussed. As was already pointed out, more than 95% of senior academics in the German higher education and public research system are permanently employed. At universities, almost all of them are civil servants whose life-time employment is guaranteed.

Table 4. Permanent Employment at Institutions of Higher Education and Public Research Institutes 2007, by Academic Rank and Years Elapsed since Graduation (%)

	Higher education institutions	Research institutes
Academic staff at universities		
Without PhD, up to 6 years	1	2
Without PhD, 7 and more years	24	84
Without PhD, all	3	31
With PhD, up to 12 years	18	28
With PhD, 13 and more years	71	91
With PhD, all	39	67
Professors at universities / seniors		
Lower rank	95	100
Higher rank	98	96
At Fachhochschulen	94	

3. Aspects of Learning and Work

3.1 The Context of Doctoral Work

In Germany, the view spread since about the 1990s is that academics will be better prepared for their academic assignment, if the doctoral dissertation is no

longer based on isolated work of an individual candidate supervised only by an individual professor. Rather, some type of programme, with a select number of courses, involvement of more than a single professor and communication and possibly cooperation among doctoral candidates, would be desirable. In the mean time, between 10% and 20% of doctoral candidates work on their doctoral dissertations in the framework of doctoral programmes. Moreover, a stronger emphasis is placed in recent years on the independent work of doctoral candidates.

The 2007 survey is a snap shot. It does not provide direct information on change over time. However, we might assume that the retrospective view of academic staff with a doctoral degree on their experiences during the period of work on their dissertation as compared to the retrospective view of university professors indicates whether changes have occurred over time.

Actually,

- 32% of the academic staff with a doctoral degree working at universities respond affirmatively that they "received intensive faculty guidance for their work on their thesis"; former university professors note this slightly less often (29%);
- only 13% of academic staff report that doctoral candidates have been "required to take a prescribed set of courses"; this is even a lower proportion than among the university professors (16%);
- 70% of the academic staff state that doctoral candidates "generally choose their own thesis topic"; this proportion is similar to that of the university professors (68%);
- 42% of the academic staff report that they have been involved in research projects with other academics during the period of work on the dissertation; the respective proportion was only 34% among persons now in the position of university professors.

Altogether, the findings do not confirm the view that the environment in which the work on the doctoral thesis takes place has changed substantially in Germany in recent years. Only in one respect, a noteworthy change is visible: an increasing number of doctoral candidates are already involved in collaborative research while writing their dissertations.

3.2 Teaching

Teaching assignments of junior academic staff are on the one hand both 'productive work' as well as a learning process for a future role as a university professor. On the other hand, teaching assignments are viewed as a burden, reducing time possibly devoted to a doctoral thesis, a *Habilitation* thesis and other research activities. According to the comparative study on the academic profession undertaken in the early 1990s, junior academic staff spent substantially less time on teaching (and teaching-related activities) on average than junior staff in other countries. While German junior staff on average spent a lower proportion of their working time on teaching than on research, junior staff in the United States, the United Kingdom, the Netherlands and Sweden spent a higher proportion of their working time on teaching than on research. Table 5 shows that the proportion of working time spent on teaching by junior staff in Germany in 1992 was only half as much as that spent on teaching by university professors.

Table 5 suggests that substantial changes have occurred by 2007.

- Academic staff now spend somewhat more time on teaching: the proportion of overall time increased from 18% to 21%.
- University professors reduced their time spent on teaching substantially in favour of reserving more time for research. The proportion of time spent on teaching declined from 35% to 27%.

As a consequence, the gap between junior staff and professors as far as time spent on teaching has been substantially reduced.

Table 5. Proportion of Time Spent on Teaching and Teaching-related Activities at German Universities 1992 and 2007 (%)

	1992	2007
Academic staff		
When classes are in session	21	26
When classes are not in session	12	13
Altogether (estimated)	18	21
Professors		
When classes are in session	43	34
When classes are not in session	20	16
Altogether (estimated)	35	27

Actually, academic staff still in their formative years, spend – according to the 2007 survey – 19% of the working time in the domain of teaching. Those

having been employed for longer periods are somewhat more strongly involved in teaching: academic staff not awarded a doctoral degree who graduated more than six years ago report that they spend 21% of their working time in this domain, and those awarded a doctoral degree who graduated more than 12 years ago spend 25% of working time on teaching and teaching-related activities, *i.e.* almost the same proportion as university professors.

3.3 Working Conditions

Academic staff members at German universities rate somewhat positively most of the resources for their academic work. On average, most aspects are rated between 2.3 and 2.9 on a scale between 1 = "excellent" and 5 = "very bad".

Of the 12 aspects addressed in 2007, 8 had been posed in the 1992 questionnaire. Actually, the responses in 2007 were almost identical on average to those of 1992; only office rooms were assessed more positively in 2007 than 15 years earlier.

It is interesting to note that academic staff at German universities on average rate the resources for their work more or less identically as university professors do. This holds true both for 1992 and 2007. In 1992, however, university professors assessed secretarial support more positively than academic staff, but this difference has more or less disappeared in 2007. Altogether, these findings suggest that academic staff at German universities do not feel disadvantaged as far as access to resources for teaching and research is concerned.

Table 6 shows that academic staff without a doctoral degree rate the resources for academic work somewhat more favourably than academic staff holding a doctoral degree. Obviously, the latter have higher expectations in this respect.

Moreover, it is interesting to note that the resources for academic work are assessed similarly in 1992 and 2007. Taking into account the widespread complaints in the German higher education system in recent years about lack of funds and resources for academic work, one could have expected a decline of positive ratings. Also, the majority of academics at German universities themselves argued that the working conditions at German universities have worsened since they had started their academic career. On a scale from 1 = "substantially better" to 5 = "substantially worse", the university professors rated the situation on average as 3.7 and the academic staff at universities as 3.6.

The most striking finding of Table 6, however, is visible in comparison between universities and public research institutes. Academic staff at public

research institutes rate the resources for academic work substantially better than those employed at universities. Similarly, senior academics at the public research institutes consider their resources for academic work clearly more favourably than university professors. This mirrors the widespread notion among experts that the public research institutes in Germany certainly are substantially better resourced for academic work than the universities.

Table 6. Assessment of Resources by Academic Staff at German Universities and Public Research Institutes 2007 (mean of a scale from 1 = "excellent" to 5 = "poor")

	Universities			Research institutes		
	Without PhD	With PhD	All	Without PhD	With PhD	All
Classrooms	2.3	2.7	2.6	2.1	2.2	2.2
Technology for teaching	2.3	2.7	2.5	1.7	2.1	2.0
Laboratories	2.4	2.7	2.6	1.8	1.6	1.6
Research equipment/instruments	2.3	2.6	2.5	1.7	1.5	1.5
Computer facilities	2.1	2.4	2.2	1.6	1.6	1.6
Library facilities and services	2.4	2.7	2.6	1.9	2.0	2.0
Your office space	2.1	2.5	2.3	1.9	1.9	1.9
Secretarial support	2.5	3.1	2.9	2.1	2.4	2.3
Telecommunications	1.6	1.9	1.8	1.4	1.5	1.5
Teaching support staff	3.1	3.6	3.4	2.5	3.2	3.0
Research support staff	3.0	3.4	3.2	2.4	2.4	2.4
Research funding	3.0	3.6	3.4	2.3	2.2	2.2

4. Values and Overall Assessment

4.1 Preference for Teaching or Research

It is widely assumed that German academics are strongly research-minded and consider teaching mostly as a secondary duty or even as an undesirable burden. The first international comparative study on the academic profession, however, showed that most academics in all countries surveyed appreciate a link between teaching and research, even though the majority have a stronger leaning towards research. The survey conducted in the early 1990s showed surprisingly, that an emphasis on teaching or at least a stronger leaning towards teaching was more widespread among German university professors (35%) than among professors of other European countries (22-27%). Actually, a high regard for teaching was least common in Japan in the early 1990s (9%). In contrast, the survey of the early 1990s has shown that preferences stated by professors and

academic staff in Germany differed more strongly in Germany than in other countries: the academic staff was more strongly research-oriented.

Table 7 shows that the preferences of academic staff at German universities in 2007 were quite similar to those of their predecessors 15 years earlier. However, the attitudes of university professors have moved somewhat towards research. As a consequence, notably the proportion of those primarily leaning towards research has remained higher among academic staff than among professors, but the difference has become smaller.

Table 7. Comparison of Interests of Academics at German Universities in Teaching and Research, 1992 and 2007

	Academic staff		Professors	
	1992	2007	1992	2007
Primarily in teaching	6	7	5	7
In both, but leaning towards teaching	22	22	30	20
In both, but leaning towards research	46	41	59	59
Primarily in research	26	30	7	14
Total	100	100	100	100

It might be added that a primary research-orientation of academic staff without a doctoral degree (33%) is somewhat higher than among academic staff with a doctoral degree (27%). The socialization process of the academic career seems to comprise a growing appreciation of teaching over time and with career stages.

4.2 Disciplinary versus Institutional Affiliation

The first international comparative study on the academic profession had shown that academics in all economically advanced countries surveyed feel a stronger affiliation to their discipline than to their department or their university. German academics, however, stood out in stating the weakest affiliation to their department or their university. Thereby, academic staff have stated a clearly lesser affiliation than professors to their university. The low affiliation to the university in Germany certainly reflects the fact that institutional mobility during the course of career is more highly regarded and rewarded in Germany than anywhere else.

From the early 1990s until recently various reforms of higher education were realized in Germany aimed at strengthening the role of the individual university, as far as decision-making power in general, resource allocation, and differential institutional prestige are concerned as well as in rewards and

sanctions. One could have expected, therefore, that academics' affiliation towards their department and their university would have grown over time.

Table 8, however, shows that the university professors' affiliation towards their department and their university has not changed on average at all between 1992 and 2007. The academic staff at German universities response on average is more similar to the professors in 2007 than in 1992. They do not rate their institutional affiliation as exceptionally low as their predecessors did in the early 1990s. Actually, the ratings of academic staff without a doctoral degree do not differ significantly from those with a doctoral degree.

Table 8. Important Affiliation of Academics at German Universities 1992 and 2007 (mean of a scale from 1 = "very important" to 5 = "not at all important")

	Academic staff		Professors	
	1992	2007	1992	2007
Academic discipline/field	1.6	1.5	1.3	1.6
Department	2.5	2.6	2.6	2.6
Institution	3.0	2.8	2.6	2.6

Table 9 indicates that academics at public research institutes in Germany consider themselves more strongly affiliated to their institution than their colleagues at universities. The institutional affiliation expressed by academics at public research institutes turns out to be similar to that of academics at universities in the U.S. and in Japan according to the survey of the early 1990s. This certainly reflects the disciplinary and thematic specialisation as well as the favourable working conditions at the public research institutes in Germany.

Table 9. Important Affiliation of Academics at German Universities and Public Research Institutes 2007

	Universities		Research institutes	
	Academic staff	Professors	Academic staff	Seniors
Academic discipline/field	1.5	1.6	1.7	1.6
Department	2.6	2.6	2.5	2.5
Institution	2.8	2.6	2.2	1.9

4.3 Overall Satisfaction

In the first international comparative survey on the academic profession, university professors expressed a higher degree of satisfaction with their overall professional situation than the academic staff in more or less all countries

included in the survey. But in various countries, this difference was by no means striking. On a scale from 1 = "very satisfied" to 5 = "very dissatisfied", university professors in Sweden responded 2.3 on average as compared to academic staff (2.6). The respective average responses were 2.3 and 2.7 in the U.S. and 2.5 and 2.8 in the United Kingdom. Germany stood out in terms of the widest gap between the satisfaction of university professors and academic staff. While professors in Germany had an average of 2.4, *i.e.* similar to professors in other economically advanced countries, academic staff in Germany, with an average response of 3.1, were clearly less satisfied with their professional situation than their colleagues in other economically advanced countries.

According to the 2007 survey, university professors in Germany are somewhat more satisfied than their colleagues were in 1992, with an average of 2.2 as compared to 2.4. Most noteworthy, however, academic staff at German universities are much more satisfied on average in 2007 than 15 years ago, with an average of 2.5 as compared to 3.1. Thus, the mean difference of ratings between university professors and academic staff at German universities has become substantially smaller. Further analysis will be needed to explain this change over time, as employment and work conditions in general are not viewed as having improved.

Again, we note that academics at public research institutes express a substantially more positive view. The average score of overall satisfaction is 1.7 for directors and other seniors and 2.0 for academic staff.

The ratings by academic staff vary according to status and seniority.

- They are most positive among academic staff without doctoral education during the first six years after graduation (2.4 on average),
- while those continuing in employment at universities for a longer period without a doctoral degree are less satisfied (2.8).
- Those with a doctoral degree, who graduated at most 12 years earlier, rate on average 2.7,
- while those with a doctoral degree employed for a longer time beyond graduation are, on average, more satisfied (2.5).
- Among academic staff at public research institutes, those employed a longer time after graduation are more satisfied on average than those in their junior years. This holds true most visibly for those without a doctoral degree (1.9 as compared to 2.5), but also for those with a doctoral degree (2.0 as compared to 2.0).

Thus, in the majority of cases, but not consistently, overall satisfaction increases also, when academic staff are employed in academic staff positions beyond the junior formative years.

5. Concluding Observations

In the first international comparative survey on the academic profession, undertaken in 1992, the academic staff at German universities stood as being least satisfied on average among academic staff in economically advanced countries. Also the gap between the average satisfaction of academic staff and professors was wider at German universities than in other countries.

In a search for explanations, major changes could be observed neither in the general employment conditions (*e.g.*, salary, part-time employment, temporary employment, *etc.*) nor in the resources for work. We concluded in the first study that a status gap between the formally distinct occupational categories of *Hochschullehrer* und *wissenschaftliche Mitarbeiter* and a lack of recognition as independent academics might have led to frustration on the part of many junior academics.

The second international comparative survey on the academic profession, undertaken in 2007, suggests that there were at most small changes in the employment and work situation of academic staff in Germany during the period of 15 years. Though both university professors and academic staff, when asked to assess change over time, believe that conditions have worsened, the average ratings of those surveyed in 1992 and 2007, are surprisingly similar. The similarities are also surprising, if we take into account the multitude of reforms aimed at changing the conditions for academic work in general and for junior academic staff specifically.

Only one observed single change deserves attention. While academic staff at German universities – in contrast to the situation in other economically advanced countries – have spent only half the proportion of their working time on teaching, as professors did in 1992, over time academic staff have become more involved in teaching, while professors reduced the proportion of their working time devoted to teaching and teaching-related activities. As a consequence, the gap in the proportion of time devoted to teaching has been cut by more than half.

Given these results, it is quite surprising to note that academic staff at German universities are substantially more often satisfied with their overall professional situation in 2007 than their predecessors were in 1992. Also, that

the university professors in Germany surveyed in 2007 express a somewhat higher degree of satisfaction than their predecessors did, but the differences of ratings between the academic staff and the professors have become substantially smaller over time. Further analysis will be needed to find plausible explanations for these changes.

The analysis of the 2007 data differs from the analysis of the preceding survey in looking additionally at differences among academic staff in terms of career stage. In various respects, junior staff at universities not (yet) awarded a doctoral degree rate their employment and work situation more favourably than those with doctoral degrees who can be regarded as still in a typical junior age and time-span since graduation. Obviously, expectations grew over time. The analysis provides evidence as well that a substantial proportion of academic staff with a doctoral degree 'survive' the typical junior staff period in academic positions at universities, and about half of them transfer to a permanent contract – contrary to the widespread notion that the normal alternative is to be appointed to a professor position or to leave academia. These persons rate their employment and work conditions often more positively than those in their junior years.

In addition, the 2007 survey not only addressed academics at universities and other higher education institutions in Germany, but also those employed at public research institutes. The findings suggest that work at these institutions is based on better resources, provides better chances of long-term employment without being promoted to senior ranks and creates a more powerful source of pride and identification.

Not all the findings can be interpreted easily, but they certainly suggest that in Germany empirical findings are often not in tune with the assumed impacts of reforms or public rumours about the state, perceptions and values of the academic profession.

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The Changing Academic Profession in Italy: accounts from the past, first insights from the present

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Italy was not included in the Carnegie Study on the Academic Profession (Altbach, 1996; Boyer, Altbach & Whitelaw, 1994). Yet, in the decades before the Changing Academic Profession Project was initiated two major surveys on the Italian academic profession were carried out. We shall first review the main results of these researches looking for findings regarding the themes of the CAP project, namely relevance, internationalisation, and management (Kogan & Teichler, 2007; Locke & Teichler, 2007), and we shall then present some first insights on these themes from the data which have been collected through the Italian survey of the CAP Project.

1. The Italian academic profession in the early 1970s: barons and bureaucrats

The first survey on the Italian academic profession (Giglioli, 1979), was carried out in 1972 as part of a project including also a review of official statistics and 30 in-depth interviews with academics selected in order to be representative by disciplinary field. The questionnaire was sent by mail – three times – to a random sample of 2,800 academics, half full professors (*professori di ruolo*) and half assistant professors (*assistenti di ruolo*). Valid, filled in questionnaires, 1,363, were collected with a response rate of 48.7%.

Data collection took place just after a major change occurred in the Italian higher education system, namely the establishment of an 'open door' policy as an answer to the growth of social demand for higher education (law number 910,

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December 1969), and at the beginning of a period of intense recruitment of new academic staff trying to counterbalance the ongoing growth of the student body.

The student body grew from 259,000 regular students in the academic year 1964-65, to 488,000 students in 1969-70, and to 676,000 students in 1972-73.[1] As a consequence of the unrestricted access to the university decided in 1969, the enrolment ratio (% of students enrolling for the first time with respect to the total of people aged 19) increased from 14.8% in 1967-68, to 21.4% in 1969-70, to 28% in 1971-72. The academic body grew from 18,200 academics in 1969-70, to 25,500 in 1972-73, and to 30,300 in 1975-76 (Giglioli, 1979, pp.34-35).

As a consequence of its timing, the survey portrays the Italian academic profession at the very moment of crisis in its traditional model of organisation caused by the growth of higher education. Thus, it can be considered as an extremely valuable term of reference in assessing the changes in the Italian academy in the following 35 years.

According to the author, the traditional organisation of the Italian academic profession was based on some long lasting characteristics of the national higher education system. Since the Casati law in 1859 – which reorganised the system under State monopoly in the frame of the process of national unification – the Italian system of higher education has had at least three major features: it was – and continued to be for a century and more – a highly centralised system lacking internal differentiation and competition among its constituent parts.

Finance, personnel, and curricula were strictly disciplined centrally. The system consisted of a single type of higher education institution – the university – providing a single type of degree, the *laurea*. There was no functional specialisation among institutions, there were no university centres dedicated only to research, and there was no institution – such as graduate schools – dedicated to the training of future university researchers and teachers. Higher education was mainly devoted to preparing bureaucrats for the State and professionals, in the sense of the traditional liberal professions. Because of the complete lack of autonomy, competition between universities – and other organisational units, such as Faculties – was hardly possible.

Despite the high degree of formal centralisation, central authorities lacked the organisational tools to enforce rules and regulations, to collect valuable information from institutions, or to control effectively personnel acting on the

[1] To the number of regular students must be added the number of overrun students (*studenti fuori corso*). They were 145,000 in 1972-73, and this number increased in the following years.

periphery, that is mainly the academics themselves. Thus, the system was poorly coordinated and lacked internal cohesion. As a consequence of the structural features of the Italian higher education system, the formal organisation of the academic profession was characterised by several elements, some of which are largely still in place nowadays.

Academics' legal status, salary, and career were all regulated nationally by law. University teachers were civil servants. They were hired through public competitions (*concorsi*) centrally managed, and were paid the same salary by the Ministry of the Treasury irrespective of the university they were serving in.

Besides these formal aspects, the organisation of the academic profession rested on two crucial elements providing the higher education system with a minimum level of cohesion and coordination: "the chair", and "the school".

The chair referred to a group consisting of a full professor – the chair holder – his assistants, and other people working under his supervision. The group was based on the personal authority of the full professor – or '*maestro*' – who controlled the process of recruitment and the career of his subordinates, especially their access to a chair, the apex of the academic profession. The relationship between a full professor and his subordinates – that is, aspirant chair holders – was based on a mechanism of mutual support. As in the system a formal institution for the training of future academics was lacking, the *maestro* provided training, through a long period of apprenticeship, and other crucial resources: temporary assignments, salaries and, finally, tenure. On their side, subordinates provided the *maestro* with personal and professional services allowing him to get involved in several activities outside academia, which increased his personal wealth, power, and prestige, and enhanced his influence within the university.

Schools were networks of chairs – established on ideological bases, family ties, or regional backgrounds, often operating at the national level – controlling relevant resources such as journals, publishers, political links with parties or single politicians, and especially controlling access to national commissions responsible for the operations of public competitions, and to government bodies in charge of higher education and research policies and funding.

Chairs and schools gave the Italian academic profession and the higher education system at large, their peculiar traits. A few core universities – which hosted the most powerful schools – dominated the entire system colonising peripheral institutions, monopolising recruitment and careers, structuring the geographical mobility of academics. At the local level, Faculties were weakly integrated 'federations' of chairs, the latter often coinciding with small units of

research (*istituti*). At the national level, disciplines were fragmented into schools, and academics considered their affiliation to them stronger than their affiliation to disciplines and to disciplinary associations. This organisational structure hindered scientific research and prevented competition within the system at all levels.

As the traditional model of organisation of the Italian academy was largely based on personal control over subordinates and weak boundaries between institutional roles and personal interests, the author of this first research on the Italian academic profession defined it "as a system of patrimonial relationships veiled by a fine gloss of bureaucratic regulations" (Giglioli, 1979, p.64).[2] Using a neo-Weberian terminology, Giglioli argued that in the traditional model of academic organisation, the patrimonial trait largely prevailed over the bureaucratic one.[3]

The traditional model of the Italian academic profession was put under severe pressure by the expansion of the academic body following the transition to mass higher education. While this expansion left unchanged two of the structural conditions supporting the traditional model, namely the high degree of centralisation, and the lack of competition, it affected two other crucial conditions: the small size of the academic community and the concentration of power in the hands of a few chair holders. Expansion took place mainly at the lower levels of the academic profession (*assistenti di ruolo*, and *professori incaricati*) unbalancing the numeric relation between chair holders and aspirant chair holders, hindering upward mobility in the academic profession thereby de-legitimising the authority of full professors and establishing a larger number of lower and intermediate permanent positions in the profession. Further, the slower but substantial increase of chairs weakened the control mechanisms based on schools.

Diminishing career opportunities, growing numbers of low and mid-level academics, increasing teaching loads following the student expansion and the

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[2] Translations from the original Italian versions are done by the author of this article.

[3] A very similar account of the Italian academy between the late 1960s and the early '70s can be found in Burton Clark's *Academic Power in Italy. Bureaucracy and Oligarchy in a National University System* (1977). Clark's fieldwork in Italy began in 1967, was mainly carried out in the academic year 1968-69, and complemented with short visits in the period 1972-74. The fieldwork included collecting documents, carrying out interviews, and observing Italian academic life, but not a survey. Both Clark and Giglioli mutually acknowledged sharing "interpretations and data" (Clark, 1977, p. ix), and discussing matters related to the evolution of the organisation of the Italian academy in that period (Giglioli, 1979, p.7).

enlargement of the academic community, triggered new and unprecedented tensions between the top and the bottom of the academic profession, weakened the integrative and coordination functions of the two pillars of the traditional model, namely chairs and schools, and fostered the transformation of the academic career toward the bureaucratic model of other branches of the public sector.

According to Giglioli, as chairs and schools were losing their functions, and as within the academic community there were no other organisational units – such as strong disciplinary associations – able to replace them, external big organisations would come into play, namely political parties and trade unions.

As a result, the traditional academic profession – the guild of peers bounded together by common ideals and material interests – would loose autonomy by being transformed into a bureaucratised profession controlled by external forces. Nevertheless, as networks of personal ties and the personal power of single chair holders would not vanish, Giglioli thought that the Italian academic profession was abandoning the patrimonial model of organisation in favour of a bureaucratic-patrimonial one. Academics – top academics – would carry a Janus mask, being at the same time '*baroni*' and '*burocrati*'.

Evidence from the survey showed that with a shift from one organisational model to another, the practical organisation of day-to-day academic activities, and academics' attitudes and opinions towards university problems differed very much within the Italian academic profession. Three deep cleavages were dividing the academic body, making it difficult to continue to speak of one single academic profession: academic rank, university sectors' or Faculties' degree of involvement in external professional activities (largely coinciding with the distinction between pure and applied disciplines), and academics' political orientation.

These cleavages largely explained differences in the organisation of academic work and structures, the division of labour between teaching and research, scientific productivity and attitudes towards issues widely discussed at that time, such as possible restrictions upon the access to higher education, the civil effects of the university degree, the introduction of more democratic procedures, the autonomy of the academic profession and the modernisation of the higher education system. One of the most important conclusions of the research was that the characteristics of the traditional model of organisation of the academic profession tended to survive in times of transition to mass higher education in the more professional sectors of the university.

2. Not so relevant links, low internationalisation, and weak management

Although this first survey of Italian academic profession did not address directly the three main topics of the CAP survey – in short, relevance, internationalisation, management – it is interesting to highlight some findings on these matters.

As far as relevance is concerned, two aspects can be mentioned. The first aspect refers to accountability and control over academic work as part of the problem of proving academics' work relevance to various internal or external stakeholders (Brennan, 2007). Here, it can be noted that within the traditional setting the single chair holder was completely independent in his own domain "as a lord in his fief" (Giglioli, 1979, p.26), and he was not asked to respond to the use and distribution of his work time nor of the functioning of the research unit he was leading. Although academic life was strictly disciplined by laws and regulations, state authorities completely lacked the ability to control academic work. Peer review, and other forms of informal control within the academic community, were hindered by the existence of the schools, that is closed groups seldom communicating one with another. Only 13% of respondents discussed their current research work more than two or three times a year with colleagues in other Italian universities. Comments on papers before publication were rarely asked. Of low and mid-level academics, 57% thought that the lack of contacts with other research units and single researchers were hindering their research work; 25% of full professors thought the same (Giglioli, 1979, p.118).

As mentioned, the Italian higher education system reacted to the expansion of the student body by enlarging the academic body. This change did not make the academic profession more responsive to students' needs. Universities reacted to the growing demand for higher education by increasing selectivity (longer effective duration of studies, higher proportion of dropouts), and assigning heavier teaching duties to the growing segment of low- and mid-level academics.

According to Giglioli, the expansion of the academic body opened the door to the intrusion of external forces, namely trade unions and political parties, supporting the corporatist claims of low- and mid-level academics, bureaucratising the academic profession, deepening the fragmentation of the academic community along political divides, strengthening external influences on the academic profession and weakening its autonomy.

A stronger link between the academic profession and politics did not help universities to better respond to the challenges of mass higher education. For different reasons major political parties, trade unions and the ministerial bureaucracy, were all against decentralisation and differentiation of the higher education system (and hence were in fact opposing the introduction of internal competition). Further, a stronger politicisation of the academy resulted not only in the formation of large politically-based groups with strong (and opposing) feelings about academic life, but also in the personal choices of some academics who shifted the core of their interest from the academy to the political system, abandoning the ideal of research and scholarship, and embracing that of political advocacy.

As far as the second aspect is concerned, namely relevance of academic knowledge for the economy, the most important thing to be noted refers to the role played by academics who were also members of the liberal or regulated professions. The proportion of these academics was very high (more than 70%) in sectors such as architecture, medicine, veterinary science, pharmacy and engineering, and quite high (between 30% and 70%) in other sectors, such as business administration, law, agrarian studies and political science. These academics were those most connected with the world of work, the professions and production. Yet, according to Giglioli, their influence on the higher education system was not especially positive. In fact, these academics were mainly interested in profiting from their academic qualifications in the market for professional services, while they were neither pressing to orient university policies towards vocational training, nor supporting the modernisation of higher education. On the contrary, they were "a source of resistance against innovations and reforms" (Giglioli, 1979, p.98). Academic 'professionals' were not the only academics transferring academic knowledge to the economy. Others were also doing so, but mainly on an individual basis through consultancies without involving their institutions or promoting strong university/industry relations. So, large sectors of the Italian university were connected to the economy but these links were neither fostering a change in the structural features of the system, nor were they a resource in facing the new problems following the transition to mass higher education.

At the time of the survey, the level of internationalisation of Italian academics was quite low: only 7% of them were discussing their current research work more than two or three times a year with colleagues of foreign universities (Giglioli, 1979, p.118); only 12% of them had been abroad for reasons linked to research work in the previous five years, and no more than

23% had done so more than five years before (Giglioli, 1979, pp.137-138). The rather marginal position of Italy in the international scientific community and the effects of the traditional model of organisation of the academic profession were considered to explain this condition. The long apprenticeship under the direct supervision of a chair holder, and the need to safeguard a position in the waiting list for a post, discouraged young scholars from going abroad. The wide range of institutional duties and especially the extra academic duties attached to the role of chair holder, hindered incumbents from investing in international relations.

Yet, internationalisation differed across disciplines and was not without effects. Cosmopolitan contacts were higher in the natural sciences and in humanities, two non-professional sectors, and lower in medicine and engineering/architecture, two professional sectors (Giglioli, 1979, p.133). Although academics with recent research experiences abroad had modest influence on the academic profession, they appeared to be more in favour of innovations and reforms than colleagues without such experience, or who had been abroad less recently (Giglioli, 1979, p.137). Disciplines well integrated in the international scientific community – such as economics or physics – were less internally fragmented than others (Giglioli, 1979, pp.61-62). Finally, for a few academics, participation in the international dimension of the academic profession represented a way to 'escape' individually from the difficulties of doing research in their university (Giglioli, 1979, p. 201).[4]

In a system as centralised as the Italian one, local universities' management was weak, often amateurish, ritualistic – that is, caring about the form and not the contents of decisions – and unable to face and solve even every-day life problems, especially in times of expanding student bodies. Important decisions were taken by top academics, who also performed administrative tasks. Data show that the extent of academics' managerial activities was linked both to the academic life cycle and to sector differences. As respondents obtained a chair, in their forties, the time dedicated to research activities dropped, and

[4] The questionnaire of the first survey contained several questions on the international dimension of the academic profession: number of articles published in a foreign language; books translated or published in a foreign language; requests for critical comments from foreign colleagues on a scientific work before publication; requests from foreign colleagues of critical comments on their work; frequency of scientific discussions with colleagues of foreign universities; foreign sources of research funding; study or research activities in foreign universities; length of periods abroad; teaching activity in a foreign university; name of the foreign institution and length of the teaching period abroad. Unfortunately, most of the answers were not included in the related book.

administrative duties grew (Giglioli, 1979, pp.128-129). Further, a number of full professors were directly managing their unit of research. This was especially the case in the more professional sectors, such as medicine and engineering, where 58% of full professors were leading so-called "*istituti mono-cattedra*", that is research units with one single chair (Giglioli, 1979, p.91).

3. Stability and resistance to change in the late 1980s

The second survey on the Italian academic profession (Moscati, ed., 1997) was carried out in two waves in the academic years 1987-88, and 1988-89. The questionnaire was mailed to a sample of 25,230 academics working in 24 universities (out of the existing 62). The sample was stratified by rank, geographical area of location of the university, and size of institution. The sample was checked against the population data by disciplinary fields, and proved to be representative according to this variable. Valid returned questionnaires were 5,754, with a response rate of 23%. The effective sample was weighted by the four mentioned variables. In the following years a number of in-depth interviews were also carried out.

Between the two surveys, the student body (regular and overrun students) grew from 803,000 students in 1972-73 to 1,153,000 in 1987-88 (+ 30%), while the academic body grew from 25,500 in 1972-73 to 48,900 in 1985-86 (+ 92%) (Denti, 1997a). Three main events affected the academic profession in this period (Moscati, 2001). First, in the 1970s, access to the profession was eased, especially through the provision of temporary positions (*professori incaricati*, *assegnisti* and *contrattisti*). Second, a major university reform was approved in 1980 (law number 382). The law introduced to the Italian university departments, doctoral programmes and degrees, some short study programmes, and reorganised academic careers. The old non-official positions (*assistenti volontari*) were abolished; temporary positions were turned into permanent positions; three stable positions – that is with tenure – were established; limits on the total number of staff in each of the three positions were fixed; national public competitions to access the three positions were maintained. While at the time of the first survey the academic profession mainly consisted of chair holders (full professors with tenure), and aspirant chair holders (several temporary positions), by the time of the second survey it consisted of three stable categories, namely full professors (*professori ordinari*), associate professors (*professori associati*),

and researchers (*ricercatori*).[5] Third, in 1987 a Ministry of University and Scientific and Technological Research was established as distinct from the Ministry of Education. The new Minister, Ruberti, promoted a set of measures aimed at introducing short cycles in the higher education system, recruiting teachers from outside the academic career, and decentralising the system by granting increased autonomy to universities. The survey took place while these very relevant proposals were discussed in Parliament and in the political system, but seldom within the academic profession.

According to the research project leader, two decades later, the impact of the shock produced by the 'open door' measures decided in 1969 proved to be temporary. Some of the effects of the crisis witnessed by the first survey on the academic profession turned out to be weaker than were expected. The political impact of students within the university was not the one anticipated in the early 1970s. Academics did not join trade unions as much as was expected. Orientation to the external world varied a lot across disciplinary sectors. Traditional academic power took advantage of this situation. While providing more stable conditions at the lower levels of the academic ladder, the law number 382 did not change career procedures, leaving largely untouched the power of chair holders and "school" leaders. The reforms proposed by Minister Ruberti, although they were approved by Parliament, had very weak support from academics, and were largely not implemented. The low quality of the Italian university, reported by the first survey on the academic profession, did not improve, and in the 1970s and 1980s the university was managed along traditional lines. At the end of the 1980s, bureaucratisation induced by the outside was no higher than at the time of the first survey in the early 1970s.

All in all, in the two decades preceding the second survey, the Italian academic world was characterised by a strong resistance to change. Moreover – and more importantly – the results from the research were showing that the Italian academic profession was not yet involved in the processes of change that were ongoing in other Western countries.

Differences across disciplinary sectors on both the relationship between the academy and the external world, and academics' attitude towards innovation were highlighted by the research. Applied disciplines – namely, medicine, law, engineering, and architecture – appeared to be more open to society and the

[5] Moscati noted that with law number 382: "The *en masse* admission of untenured staff filled up the three sections of academia that had predefined ceilings. As a consequence, recruitment from the outside became almost impossible, which put at risk an entire generation of young scholars" (Moscati, 2001, p. 121).

economy. Combining resources from internal and external sources (various forms of 'capital' in Bourdieu's terms), these sectors – showing also high proportions of academics involved in professional activities – were confirming their predominance over the entire higher education system already pointed out by Giglioli in the first survey. Yet, a stronger link with the world outside the academy did not necessarily mean a stronger attitude towards innovation and change. In this regard, the case of medicine was considered as paradigmatic representing a sector open to the external world and closed to innovation. This disciplinary sector was at the same time closer to the hard sciences, socially very relevant, and characterised more than other sectors by the permanence of a traditional model of organisation of the academic profession: the personal influence of chair holders on both recruitment and careers of subordinates, career advancements based not only on merit but also on seniority and a weak distinction between institutional roles and the private interests of incumbents. This combination was regarded as having negative effects on the overall system. In fact, medicine was strong enough to exercise a role of leadership within the academic world but was also too traditional to take the lead in the process of change in higher education, hindering the modernisation of the Italian system.

According to the results of the first survey on the Italian academic profession, differences in attitudes towards innovation were explained both by academic rank and the degree of academics' involvement in professional activities. In fact, "the most 'conservative' group consists of chair holders belonging to professional faculties, and the group more open to innovations consists of *assistenti* and *incaricati* (assistant professors) from sciences and from humanities" (Giglioli, 1979, p.109). As already noted, 'professional' faculties included medicine, engineering, architecture, and law. According to the results of the second survey, "the index of conservatism … reaches its maximum with medicine, and minimum values for the scientific group and for humanities. … Data indicate a strong conservative pole among full professors, especially within medicine, and on the contrary, an innovative pole among researchers in humanities" (Moscati, 1997, p.90). Twenty years later the picture drawn by the first survey was confirmed by the second, with a novelty which was going to play an important role in the following years. The degree of conservatism of engineering – one of the applied sectors dominating the system – was lower than that of medicine, and was approaching the level of the more innovative group composed by natural sciences, physics, and mathematics.

4. Inadequate demands, and a still unsatisfactory level of internationalisation

The final report of the second research study addressed several topics: quantitative aspects of the Italian system of higher education, disciplinary and social differences within the academic profession, the time dedicated to teaching, research and other academic activities, the determinants and impacts of academics' external professional activities, and the relationship between scientific and religious beliefs. For the first time, the issues of gender differences in the academic profession, and of the role of family in academics' careers, were discussed at length. Not surprisingly, because of the stability of the Italian higher education system, the relationship between academics and university managers was not addressed as an issue in its own right. Yet, the survey on the academic profession was complemented not only by in-depth interviews but also with an *ad-hoc* organisational study on a specific department established following approval of the law 382/1980.

The stability of the system and the resistance to change were related to the issue of relevance. According to Moscati, stability and lack of change depended – among other things – on the nature and the intensity of the societal demands placed upon higher education. The Italian situation displayed some peculiar traits. The little importance given to scientific research hindered the development of public or private research centres outside the university, reinforcing academics' monopoly on the production of knowledge and – at the same time – deprived universities of new and challenging demands. The economic system addressed the academy mainly through a fragmented demand for professional consultancies at the individual level which matched both the characteristics of many disciplines and the legal status of academics that permitted them to combine internal duties and external activities. On the other side, state intervention in the structure of the Italian higher education system, fostering more autonomy and diversification, was just at its very first steps; and the system was not submitted to any form of evaluation as a result of a weak demand for accountability and responsiveness and/or a strong ability to resist.

The international dimension of the profession was discussed, in opposition to academics' orientations towards localism and cosmopolitism (Denti, 1997b, pp.166-171; Moscati, 1997, pp.85-87). Four issues were taken into consideration: a) works translated into or published in a foreign language; b) receipt by academics of requests for comments or advice on research projects or works before publication from foreign colleagues in the two years preceding the

survey; c) submission by academics of their last work to foreign colleagues asking for critical comments; d) academics having spent a period of study, research, or teaching abroad. Of the interviewed academics, 27.6% had never seen a work translated or published in a foreign language, while 36.4% had seen some, and 36% a lot. Participation in foreign languages publishing circuits varied according to rank, and to discipline. Participation was higher among full professors (19% never published in a foreign language), and lower among researchers (37.3% never published in a foreign language). The most internationally integrated groups – as far as translations and publishing were concerned – were the scientific and medical groups (respectively, 9.4% and 11.6% never published in a foreign language), followed by the engineering group (27.7% never published in a foreign language). On the opposite side, the least internationally integrated was the humanities group (55.3% never published in a foreign language).

As far as international contacts were concerned, 16.7% of academics received a request for comments or advice from foreign colleagues (especially full professors, 25%), while 14.6% submitted a recent work to foreign colleagues asking for critical comments (full professors doing so slightly more, 17.1%). Again, the scientific group appeared to be the most internationally integrated with 21.5% of academics receiving requests for advice, and 21.1% asking for comments. The other groups were less involved, yet it is interesting to note that 19.2% of academics belonging to humanities had received a request for advice from foreign colleagues and 16.3% of academics of the medical group had asked foreign colleagues for comments.

Finally, 45.7% of the Italian academics had spent a period of study, research, or teaching abroad. Academics from social and political sciences (60.4%), and from natural sciences, physics, and mathematics (50.2%) were the more internationally mobile, while academics from engineering (34.4%), and architecture (28.5%) were the least mobile. These experiences were not without effects as among academics spending a period abroad, 26.8% were receiving requests for advice from foreign colleagues (against 8.2% among those who did not have this experience), and 24.4% were asking foreign colleagues for comments (against 7.1% among those who did not spend any period abroad).

According to rapporteurs, the international dimension involved a very limited number of Italian academics, and international exchanges were very modest. Differences across disciplinary sectors were explained by referring to various factors: a stronger tradition of international exchanges within the hard sciences; the appeal of foreign schools of thought for advanced studies in some

disciplines (England for economists, and Germany for jurists); the weak establishment of some disciplines such as political science and sociology in the Italian academy, and the need for scholars in these disciplines to study abroad, especially in the US. On the basis of the reports of the first two surveys on the Italian academic profession a full assessment of the changes in the international dimension is not possible. Nevertheless, the impression is that the internationalisation of the Italian academic profession was slowly developing.

5. The CAP Project in Italy

The field work for the CAP Project in Italy started on September 20, and ended on December 31, 2007. In order to reach an acceptable return rate, the Italian version of the master questionnaire was personally delivered through a network of junior collaborators to a random sample of 4,800 academics working in 30 of the existing 75 universities. Participating universities included the eight larger Italian institutions of higher education (so-called *mega atenei*), and a selection of large (6), medium (8) and small (8) institutions (16 institutions are located in Northern Italy, 6 in Central Italy and 8 in Southern Italy & Islands).[6] The sample was stratified by rank and by size of institution.[7]

During the survey, a preliminary message was sent to almost all the academics included in the sample by e-mail introducing the research project and the Italian research group. An introductory letter with the questionnaire was also sent to the Rectors of participating institutions. Further, two reminder

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[6] The list of the 75 Italian universities does not include the 12 newly established "*università telematiche*" (universities providing only on-line study programmes), and the 2 universities for foreign students. We also excluded from the survey universities with less than 200 academics. From the list of remaining universities – which accounts for 98% of the Italian academics in 2006 – we selected 30 universities including the 8 larger institutions, and slightly over-representing medium size and small size institutions. Very large institutions have more than 2,000 academics, large institutions from 1,200 to 1,999, medium size institutions, from 700 to 1,199, and small institutions, from 200 to 699. The number of 30 universities to be included in the survey was chosen because it was the maximum possible given budget constraints.

[7] From the National Register of Italian academics (full professors, associate professors, and researchers) of the year 2006, which is managed by CINECA (the Information Systems Inter-University Consortium), we drew the complete list of the academics of the 30 selected universities accounting for 69.7% of all Italian academics. Next we randomly selected a sample of academics stratified by rank (3 strata) and institutions' size (4 strata) using national proportions. As a consequence, the sample consisted of 32% full professors, 31% associate professors, and 37% researchers; further, it consisted of 36% academics working in very large institutions, 24% in large institutions, 23% in medium institutions, and 17% in small institutions.

actions were carried out, one by e-mail, and one by phone. In order to increase the response rate, in half of the institutions it was possible to ask senior staff (Pro-Rectors, Deans, Heads of Departments, reputed scholars) personally to contact prospective respondents. Almost all the completed questionnaires were personally obtained by junior collaborators, or collected by them through the internal mail service of the participating institutions. As a result, 1,701 questionnaires were returned with a 35.5% response rate.

Between the second survey on the Italian profession and the CAP Project, the student body grew from 1,153,000 in 1987-88 to 1,781,000 in 2006-2007 (+ 54%), while the academic body grew from 48,900 in 1985-86 to 62,000 in 2006-2007 (+ 27%).

The last fifteen years have been a period of very relevant changes in the Italian university (Moscati & Vaira, 2008). As far as the legal frame regulating the Italian university is concerned, several measures can be mentioned. In the 1990s (Moscati, 2001), following the reform action of Minister Ruberti, law number 341/1990 established short cycle study parallel to the traditional long one (*lauree brevi* and *diplomi universitari*) giving a first contribution to the diversification of curricula. In 1993, the Government changed the approach to university funding by deciding to give every year to each university a lump sum according to certain parameters and letting universities decide how to use it: "This measure represented the first real step toward university autonomy" (Moscati, 2001, p.113). A second period of reforms, started with the appointment of Luigi Berlinguer as Minister of University and Research in 1996. Major events of this period include: the start of what is now called the Bologna Process (Sorbonne Declaration in 1998, and Bologna Declaration in 1999); reform of public competitions giving access to the three grades of academic positions, which shifted operation of the competitions from the national to the local level (law number 210/1998); curricular reform with the introduction of the 'European' structure of study called "3+2+3", or "Bachelor/Master/Doctorate" (decree number 509/1999), and the introduction of the ECTS; the creation of a National agency of evaluation of the university system, and of related agencies within each single institution (law number 370/1999). Finally, in the 2000s some changes for curricular reform were approved (decree number 270/2004), and started to be implemented only very recently.

6. First evidences of a changing profession

According to the data, Italian academics participating in the CAP survey are quite satisfied with their jobs: 65.1% rate high or very high their overall satisfaction with their current job, full professors (77.6%) more than researchers (55.3%). Yet, they have a rather pessimistic view on young people beginning an academic career: 73.9% do think that this is a poor time for any young person to start an academic career and support the view that things have worsened since they started their careers (55.7% say that overall working conditions in higher education have deteriorated or very much deteriorated since they started their careers). As the curricular reform of 1999 has been one of the major changes in the Italian higher education system, we decided to add to the Italian version of the questionnaire a section evaluating it. All in all, respondents are critical of the reform with 74.4% of them giving a negative assessment to it. But more importantly, data show that the reform has had a strong impact on academic work: 61.6% of respondents say that it has increased teaching loads, and 75.7% say that it has increased academics' organisational and managerial duties.

Table 1. Evaluation of teaching by academic rank (%)

	Full Professor	Associate Professor	Researcher	Total
Your peers in your department or unit	16.0	19.3	24.9	20.4
The head of your department or unit	29.0	29.8	37.1	32.3
Members of other departments or units at this institution	3.3	3.8	4.4	3.9
Senior administrative staff at this institution	2.3	2.8	2.8	2.7
Your students	87.7	87.1	87.3	87.4
External reviewers	8.9	8.4	8.8	8.7
Yourself (formal self-assessment)	21.0	25.3	27.6	24.9
No one at or outside my institution	5.6	3.2	4.1	4.3
N=	514	533	638	1,685

E3 By whom is your teaching, research, and service regularly evaluated?

This is not the only change in the academic profession. Respondents' answers witness the changes following the introduction of evaluation mechanisms in the system. Teaching (see Table 1) is evaluated mainly by students with no differences according to rank. Further there are first evidences of evaluation along hierarchical and horizontal lines within academic units, and

also of self-evaluation. Very few people escape evaluation. Evaluation is not without consequences as 80.8% of respondents say that they are encouraged to improve their instructional skills in response to teaching evaluations. Even though the operations and outcomes of teaching evaluations can be criticised (Bonazzi & Vaira, 2003), the institutionalisation of academics' accountability towards students and other actors is increasing.

Though to a lesser extent, research is also evaluated (see Table 2). Here, external evaluators, on the one hand, and peers and heads of relevant units, on the other hand, play a major role. Further, research is no more an isolated activity as 75.7% of respondents collaborate in their research efforts with persons at other institutions in Italy.

Table 2. Evaluation of research by academic rank (%)

	Full Professor	Associate Professor	Researcher	Total
Your peers in your department or unit	28.2	36.6	48.0	38.3
The head of your department or unit	22.4	29.8	37.6	30.5
Members of other departments or units at this institution	6.4	7.3	10.0	8.1
Senior administrative staff at this institution	2.1	2.8	3.3	2.8
Your students	1.2	1.9	3.0	2.1
External reviewers	52.9	43.9	38.2	44.5
Yourself (formal self-assessment)	22.2	24.0	25.7	24.1
No one at or outside my institution	13.8	14.6	9.9	12.6
N=	514	533	638	1,685

E3 By whom is your teaching, research, and service regularly evaluated?

As far as the relevance of academic knowledge for the economy is concerned, we note that only 1.9% of respondents to the CAP questionnaire also work at a business organization outside the academe, and only 6.6% of respondents are also self-employed. [8] Although the distribution of self-employed academics by disciplinary sector follows the traditional pattern – their proportion is higher than average in law (15.5%), social sciences, medicine, engineering/architecture, and business administration (7.8%) sectors – we know

[8] Of respondents, 4.1% also work at a non-profit organization or government entity outside academe, and 8.4% also work at another research institute or higher education institution; all in all, 17.9% of respondents are doing some kind of additional remunerated work.

Table 3. Several aspects of academic knowledge relevance for the economy by disciplinary sector (%)

	Humanities and Arts	Social, Behavioural and Education sciences	Business and Administration, Economics	Law	Life sciences	Physical sciences, Mathematics, Computer sciences	Engineering, Manufacturing and Construction, Architecture	Agriculture	Medical sciences, Health related sciences, Social services	Other	Total
Applied/practically-oriented research (D2)	30.1	58.8	64.6	46.3	44.4	46.6	79.3	83.9	82.4	39.1	59.4
Commercially-oriented/intended for technology transfer research (D2)	2.1	4.6	6.8	1.9	13.7	15.6	34.5	31.5	14.6	11.7	16.4
Institution emphasizes commercially-oriented or applied research (D6)	20.4	27.9	27.9	35.6	42.5	35.7	51.7	41.1	37.5	31.6	36.8
Institution encourages academics to adopt service activities/entrepreneurial activities outside the institution (E6)	6.8	8.3	8.9	7.9	17.7	15.5	28.1	11.6	17.6	5.3	15.0
Academics involved in the process of technology transfer (D3)	1.7	6.0	4.3	2.4	16.9	14.4	33.3	17.7	16.0	10.8	14.6

D2 How would you characterize the emphasis of your primary research this (or the previous) academic year? Provision is made for answers to range over 5-levels from "(1) very much" to "(5) not at all". The figures show the percentages of respondents showing level (1) or level (2).

D6 Please indicate your views on the following. Provision is made for responses to range over 5-levels from "(1) strongly agree" to "(5) strongly disagree". The figures show the percentages of respondents showing level (1) or level (2).

E6 To what extent does your institution emphasize the following practices? Provision is made for answers to range over 5-levels from "(1) very much" to "(5) not at all". The figures show the percentages of respondents showing level (1) or level (2).

D3 Have you been involved in any of the following research activities during this (or the previous) academic year? Answers yes or no. The figures show the percentage of respondents answering "yes".

that the number of self-employed academics is greater than that.[9] Very likely, 'professional' Italian academics were too busy to answer the questionnaire, and they are under-represented in the final sample.

Taking these data into account, it is the more interesting to note several aspects of academics' research activities and of their institutions attitudes, related to the relationship with the economy (see Table 3). Most academics are engaged in applied research, especially in the agriculture sector (agrarian & veterinary sciences), medical sciences, engineering/architecture, but also in business administration and economics, and in social and behavioural sciences. One-third of those working in engineering/architecture and in the agriculture sector are also involved in commercially-oriented research or research intended for technology transfer. According to a high percentage (40-50%) of academics working in engineering/architecture, life science, and agriculture, their institution emphasizes commercially-oriented or applied research. According to a lower but still substantial percentage (15-30%) of academics working in engineering/architecture, life sciences, medical sciences and other hard sciences (physics, mathematics, computer science), their institution encourages academics to adopt service activities, or entrepreneurial activities outside the institution. First findings from the CAP survey show that also among academics not especially involved in additional remunerated work, activities linking universities and the economy are carried out possibly not only on an individual basis but also involving institutions. Of course the importance of these activities and attitudes varies a lot across disciplinary fields, with the engineering/architecture sector being at the forefront. These findings match with what we know about changes in the relations between university and industry in Italy (Rostan & Vaira, 2007).

Among respondents, 98.8% earned their first higher education degrees (the *laurea*) in the country of their current employment, that is, very likely Italy. Yet, over the whole sample, 23% has had its major postgraduate study experience – apart from doctoral studies – abroad, and 9.4% earned a PhD abroad. Further, data show that a process of internationalisation – still to be assessed more precisely – is on its way both in teaching, and research activities (see Tables 4,

[9] According to the second survey on the Italian academic profession, academics engaged also in professional activities (traditional liberal professions or regulated professions) were 19%, and academics engaged in other forms of consultancy were 13%. These are the two groups closer to the status of self-employed. All in all, academics engaged in additional remunerated activities (either professional activities, consultancies, external research activities, and external teaching and training activities) were 35% (Tota, 1997).

Table 4. Internationalisation of teaching activities by disciplinary sector (%)

	Humanities and Arts	Social, Behavioural and Education sciences	Business and Administration, Economics	Law	Life sciences	Physical sciences, Mathematics, Computer sciences	Engineering, Manufacturing and Construction, Architecture	Agriculture	Medical sciences, Health related sciences, Social services	Other	Total
Teaching abroad (C5)	17.3	16.0	18.3	22.6	14.1	7.7	11.6	11.5	13.3	21.7	13.6
Teaching in a language different from the language of instruction at your current institution (C5)	27.7	28.7	46.1	26.2	19.7	16.5	27.2	21.9	21.5	28.9	24.7
In your courses you emphasize international perspectives or content (C4)	71.3	65.7	62.2	63.0	63.0	55.8	55.0	62.6	60.6	64.6	60.9
Since you started teaching, the number of international students has increased (C4)	51.8	44.0	63.2	53.2	31.4	33.9	39.9	19.6	42.7	44.4	41.0
Currently, most of your graduate students are international (C4)	1.3	0.0	6.8	1.3	1.5	2.4	4.3	1.2	1.2	1.3	2.3

C5 During the current (or previous) academic year, are you teaching any courses? Answers yes or no. The figures show the percentage of respondents answering “yes”.

C4 Please indicate your views on the following. Provision is made for responses to range over 5-levels from “(1) strongly agree” to “(5) strongly disagree”. The figures show the percentages of respondents showing level (1) or level (2).

Table 5. Internationalisation of research activities by disciplinary sector (%)

	Humanities and Arts	Social, Behavioura and Education sciences	Business and Administration, Economics	Law	Life sciences	Physical sciences, Mathematics, Computer sciences	Engineering, Manufacturing and Construction, Architecture	Agriculture	Medical sciences, Health related sciences, Social services	Other	Total
International scope or orientation of research (D2)	78.2	63.8	72.5	63.2	77.2	83.3	74.4	67.4	72.6	73.2	74.9
Academics collaborating with international colleagues (D1)	57.8	48.0	37.4	47.6	70.4	71.2	56.9	63.5	51.4	56.6	58.6
No works published in a language different from the language of instruction at current institution (D5)	27.5	25.4	22.8	50.8	1.4	0.8	4.0	2.3	2.5	17.6	10.1
No works published in a foreign country (D5)	22.0	34.0	26.5	48.2	4.2	1.8	9.6	6.7	10.3	19.0	13.2

D2 How would you characterize the emphasis of your primary research this (or the previous) academic year? International in scope or orientation. Provision is made for answers to range over 5-levels from "(1) very much" to "(5) not at all". The figures show the percentages of respondents showing level (1) or level (2).

D1 How would you characterize your research efforts undertaken during this (or the previous) academic year? Do you collaborate with international colleagues? Answers yes or no. The figures show the percentage of respondents answering "yes".

D5 Which percentage of your publications in the last three years were published: in a language different from the language of instruction at your current institution; or in a foreign country. The figures show the percentage of respondents indicating no publications in these categories.

and 5). According to 40% of respondents, the number of international students has increased to 50-60% in business administration/economics, law, and humanities, and 60% of academics emphasize international perspectives and contents in their courses (70% in humanities). Yet, teaching in a language different from the one currently used involves 25% of academics (but 46% in business/economics), and only 13.6% teach abroad (or have taught abroad in the previous year). Almost 60% of academics are collaborating with international colleagues in research activities (70% in life science, physical sciences, mathematics and computer science), and the research activity of 75% of respondents is international in scope or orientation (around 80% in physical sciences, mathematics, computer science and humanities). Publishing in a foreign language, or in a foreign country, is widespread, especially in the hard sciences.[10]

Table 6. Evaluation of personnel and management (%)

	Secretarial support	Teaching support staff	Research support staff	Top administrators
Positive	34.6	16.1	17.3	32.7
Neutral	29.5	25.6	21.7	34.5
Negative	35.9	58.2	61.0	32.8
Total	100	100	100	100
N =	1,684	1,583	1,577	1,612

B3 At this institution, how would your evaluate each of the following facilities, resources, or personnel you need to support your work? Provision is made for answers to range over 5-levels from "(1) excellent" to "(5) poor". The figures show the percentages of respondents showing level (1) or (2) as positive, level (3) as neutral, or levels (4) and (5) as negative.

E5 Please indicate your views on the following issues: Top-level administrators are providing competent leadership. Provision is made for responses to range over 5-levels from "(1) strongly agree" to "(5) strongly disagree". The figures show the percentages of respondents showing level (1) or (2) as positive, level (3) as neutral, or levels (4) and (5) as negative.

[10] Figures in Table 5 refer to 1,472 respondents out of 1,701 for publishing in a different language, and to 1,303 out of 1,701 for publishing abroad. Assuming that people not answering these questions do not publish in a different language or in a foreign country, we would have 22.2% of all respondents who do not publish in a different language, and 33.0% of them who do not publish in a foreign country. According to the second survey on the Italian academic profession, in the late 1980s 27.6% of academics never published a work in a foreign language. It is to be noted that the second survey was referring to the entire academics' career while the CAP survey refers only to the last three years before the interview.

Finally, CAP data show that according to respondents, management, the relations between academics and support staff, and in general the administrative and organisational life within universities, are very critical issues nowadays in the Italian higher education system. Academics' evaluation of teaching, and research support staff – which refers to two crucial areas both exposed to strong demands – is largely negative, while their view on secretarial support and top administrators is more balanced, but hardly positive (see Table 6). Adding an extra item to the Italian questionnaire, we also asked for a view on the relationship between internal organisation and bureaucracy on the one hand, and research activity on the other hand: 58.4% of respondents strongly agree with the view that "the organisation of university life, and bureaucratic procedures are making it more and more difficult to devote oneself to research activities", and 26.6% also agree with this view, albeit not strongly. A large or very large, proportion of respondents thinks that professional development for administrative/management duties for individual faculty is not provided by their institution, there is no supportive attitude of administrative staff towards teaching, and research activities, the administrative process is cumbersome, there is a top-down management style, and there is no collegiality in the decision-making process (see Table 7).

7. Conclusions

The reforms of the 1990s have had an impact on the Italian academic profession and are beginning to change at least some of its features. The curricular reform increased both teaching loads and academics' organisational and managerial duties. Evaluation practices started to make academics more accountable towards students, other academics and external actors. It seems that substantial parts of the Italian academy are linked in new ways to the economy, are more integrated in the international scientific community and that international student mobility is beginning to involve also the Italian higher education system. Very likely these changes will trigger new tensions within the Italian academy. CAP survey first findings point to strong tensions at the institutional level where management, support staff, bureaucratic procedures, organisational settings and governance mechanisms do not seem to help academics in facing new demands and new tasks.

Table 7. Rating of the institution (%)

	Agreement	Neutral	Disagreement	Total	N=
A strong emphasis on the institution's mission	20.6	34.4	45.0	100	1,548
Good communication between management and academics	26.8	35.9	37.4	100	1,637
A top-down management style	51.9	31.9	16.2	100	1,602
Collegiality in decision-making processes	16.2	35.5	48.3	100	1,627
A strong performance orientation	22.6	37.6	39.8	100	1,597
A cumbersome administrative process	52.8	25.3	21.8	100	1,630
A supportive attitude of administrative staff towards teaching activities	19.3	27.1	53.6	100	1,621
A supportive attitude of administrative staff towards research activities	17.7	27.5	54.8	100	1,619
Professional development for administrative/management duties for individual faculty	4.4	11.4	84.2	100	1,616

E4 At my institution there is … Provision is made for responses to range over 5-levels from "(1) strongly agree" to "(5) strongly disagree". The figures show the percentages of respondents showing level (1) or (2) as positive, level (3) as neutral, or levels (4) and (5) as negative.

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Asia-Pacific Region

The Australian Academic Profession: a first overview

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Introduction

This paper provides a first preliminary analysis of the Australian CAP survey results. The Australian survey closed in early December 2007. Given the time necessary to clean and organise the database, there obviously has been little time to engage in in-depth statistical interrogation of the data. Nonetheless, even a cursory glance at the responses indicates a very rich and interesting data set that will lend itself to on-going analysis over the next months if not years.

To contextualise the outcomes of the survey, this paper begins with a few words on the background to Australian higher education, reminding the reader of some of the profound changes experienced by the sector over the last couple of decades. The next section summarises the methodological approach to sampling adopted by the Australian team. A rigorous sampling methodology has been used which allows for a high degree of confidence in the generalisability of responses (the overall response rate was approximately 25%, slightly below the target rate of 30% but delivering an appropriate effective sample size). An overview of the first key outcomes is the subject of the next

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section of the paper. We conclude with a few summary statements and an indication of where the next round of data analysis may take us.

The Australian higher education sector

An exceptional feature of the Australian higher education sector is that the states have legislative control over higher education institutions, whilst financial responsibility rests with the Commonwealth. Historically and constitutionally, all forms of education in Australia have been primarily a matter for the States. But in the years following the Second World War, there has been substantial and increasing Federal intervention in higher education. Successive government decisions have significantly changed the Australian higher education landscape and ensured that the Federal government would dominate planning and funding of this sector.

At the end of 2007, the nation's higher education sector consisted of 37 public universities, some of which are quite large with enrolments in excess of 45,000 students, two small private universities and a number of small specialist institutions both public and private. In 2005 an Australian branch of a USA university was established in Adelaide (Carnegie-Melon). Up to mid-2006 there were more than 150 non-self-accrediting higher education providers registered by the States and Territories. Only the 37 public universities were considered for inclusion in the Australian CAP survey sample.

In 2007, Australia had nearly one million students enrolled in higher education courses, about one-quarter of whom were overseas students. Up to now, the defining characteristics of an Australian university strongly endorsed the principles of unity of teaching and research and a broad, comprehensive curriculum. But the former Liberal Coalition government actively challenged this principle, and given the degree of emotion this has invoked amongst the academic profession, a few more words should be said about it.

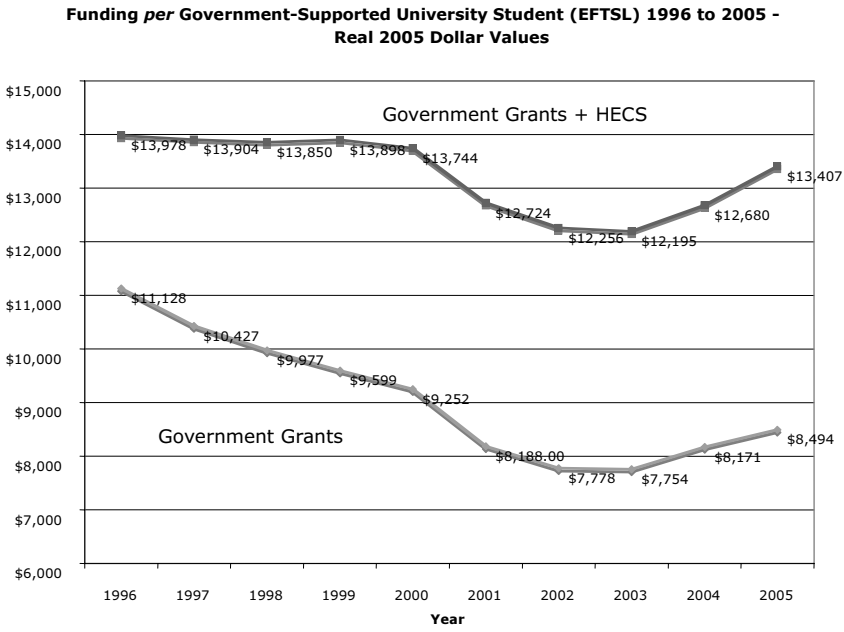
Commencing in 2005 and up to the end of 2007, successive Federal education ministers called for the Commonwealth to assume full legislative as well as financial control of higher education. This has been motivated, in part, by the desire of the Federal government to introduce more fee-for-service private higher education providers. In July 2006, the Minister announced, under the banner of enhancing diversity, that she had achieved agreement with her State and Territory counterparts to "provide greater choice for students to study at a variety of high quality higher education institutions". As indicated by the Minister, the new set of *National Protocols for Higher Education Approval*

Processes "will allow … higher education providers to accredit their own courses, bypassing costly and time consuming reaccreditation processes run by State Governments". Up to now, only universities could accredit their own courses. The agreement also included "specialist institutions having access to a university title" and the reduction of "research and higher degree teaching requirements for new universities in their first five years of establishment" (Bishop, 2006). This decision has the potential of transforming the Australian higher education landscape more than any other decision in the last decade. However, with the change of Federal government in December 2007 it remains to be seen whether the new Labor government will continue along a similar policy line with respect to this issue.

The evolving higher education policy context

Since the early 1990s, the Australian higher education sector has experienced profound change. This change has been driven by, amongst other things, massification – the rapid increase in student numbers that accelerated throughout the 1980s and 1990s. One of the government's key strategies to cope with the rapid expansion of higher education has been to encourage institutions to diversify their funding base and to adopt market-like behaviour. Australia is possibly the quintessential example of marketisation and internationalisation of higher education, which has had a profound impact on how its universities are governed and managed, and which in turn impacts on employment conditions in a variety of ways. Presently, the government provides only about 40% of the cost of higher education, and says itself that it no longer funds but subsidizes higher education. The other main sources of funding are domestic and international student fees, followed by research grants, consultancies, investments.

In most OECD countries, while private expenditure on higher education has risen more rapidly than public expenditure, public expenditure has expanded as well. Australia appears to be the exception (OECD, 2006). Funding of Australian higher education increased during the period 1996-2005 (1996 being the year the present Liberal Coalition government gained power) with respect to all sources of revenue. However, direct public funding from the Federal Government declined, as is illustrated in Figure 1. HECS in Figure 1 refers to the Higher Education Contribution Scheme – tuition fees for Australian students collected through the tax system – introduced in 1990.



Source: Kniest (2007, p. 26)

Figure 1. Funding *per* government-supported university student

In the late 1980s, the then Labor government, which initiated the reforms, explicitly stated that it was not prepared to fund growth entirely from the public purse and the current Liberal government has gone even further in demanding that an increasing proportion of the financing of higher education comes from sources other than the public purse. In Australia, as elsewhere, the last two decades have seen the development of a quite different approach to higher education steering from what prevailed previously, characterized by:

- reductions in public expenditure;
- increased emphasis on efficiency of resource utilisation;
- increased emphasis on performance measurement, particularly in terms of outcomes;
- increased emphasis on demonstrable contribution to the economy of the nation; and
- the strengthening of institutional management and of the policy and planning role of individual institutions.

There has been considerable pressure placed on Australian academic staff to be more competitive, productive and accountable, while simultaneously being more entrepreneurial and innovative. While many if not most have risen to the challenge, their status in society has declined. As Melleuish (2004) comments, "What's happened over the last 20 years or so is that comparatively academic salaries have dropped, people no longer listen to academics or have as much respect for them perhaps as they once had in the past".

Competitive market steering of higher education supposedly requires strong corporate style management at the institutional level. And in Australia, as elsewhere, in recent years there has been a substantial shift towards a more managerial approach to running universities, deliberately encouraged by government policy. The push to diversify the funding base and the emphasis placed on raising revenue from competitive private sources has been one of the primary factors making university management so difficult and complex (Gallagher, 2000).

Within the changed policy context, many responsibilities have been devolved to individual universities. But, at the same time, institutions are held more directly accountable for the effective and efficient use of the funding and other freedoms they enjoy. Moreover, institutions are now placed in a much more highly competitive environment, and considerable pressure has been placed on universities to strengthen management, to become more entrepreneurial and corporate-like. The large universities with more than 40,000 students and annual budgets that run to billions of dollars, rival in size and complexity many private corporations. Institutions must respond quickly and decisively in order to take advantage of market opportunities. There can be little doubt that the sheer size and complexity of Australian higher education demands strong and expert administration at the institutional level. Nonetheless, changes in the governance and management of Australian higher education directly concern the re-norming of the academic profession and possibly a fundamental transformation of the idea of knowledge and of the university itself (Meek, 2003).

We tend to make these observations as relatively detached critical higher education policy analysts. But to what degree do they actually reflect the perceptions of Australian academics? The need to answer that question was one of the fundamental reasons for our involvement in the CAP project.

Sample design

Sampling plays a critical role in ensuring the validity of survey processes and outcomes. The sampling process outlined below conforms to the international and cross-institutional sampling strategy that has been designed for the CAP project. This implies that inferences of population characteristics derived from the survey can be accompanied with accurate and defensible estimates of precision.

Population definition

The generalisability of results and hence the scope of the study is set through definition of the population. Desired, excluded and target populations are defined. The desired population is that about which generalisations are made. The excluded population represents individuals who are not included in the study. The target population is the difference between the desired and excluded populations, and is the list from which the sample has been drawn.

Desired population

According to the international sampling specifications, the CAP population is "composed of professionals in higher education institutes that offer a baccalaureate degree or higher (Type A of the OECD classification) and professional researchers in public research institutes". The term 'professionals' here is interpreted as 'academic staff'.

As in most countries, in Australia the term 'academic staff' covers a wide range of different roles. An incomplete list includes: Residential Tutor, Assistant Lecturer, Lecturer, Senior Lecturer, Associate Professor, Professor, Clinical Supervisor, Research Assistant, Research Fellow, Senior Research Fellow, Honorary Fellow, Sessional Lecturer, Sessional Tutor, Marker, Examiner, Supervisor, Reader, Principal Research Fellow, Professorial Fellow, Postdoctoral Fellow, Head, Chair, Dean, Director, Deputy Vice-Chancellor, Provost, Pro-Vice-Chancellor, Vice-Chancellor and Chancellor. Most, but not all, of these roles are included in the desired population for this survey.

Excluded population

Public research institutes were not included in the Australian CAP study. Professional staff working at such institutions were therefore not included in the study, and the results can not be generalised to them. The same is true for those higher education institutions not defined as 'Table A' providers in the Australian

context, such as private and overseas providers.

While all Australian universities were invited to take part in the Australian CAP survey, participation was voluntary and certain institutions elected not to be involved. In theory, such institutional non-response has the potential to introduce bias into the sample. In practice, however, the number of institutions that elected to take part in the Australian CAP survey has been sufficiently high to ensure the validity and relevance of the survey results.

The Australian CAP survey excludes specific academic roles. Broadly, these include adjunct, casual/sessional and honorary roles. Examples from the above list of roles include Honorary Fellow, Sessional Lecturer, Sessional Tutor, Marker and Examiner. Note that individuals should only be excluded if one of these roles is their substantive role. Thus, a full time Lecturer who also holds an Honorary Fellowship in another department is not excluded from the population.

Central senior university executive staff are also excluded from the Australian CAP survey target population. These include staff working in positions such as Assistant Pro-Vice-Chancellor, Pro-Vice-Chancellor, Deputy Vice-Chancellor, Vice-Chancellor and Chancellor.

Target population and sampling frame

In total, 22 institutions agreed to participate in the Australian CAP survey which is more than half of Australia's 37 public universities. This large number of participating institutions provides an initial indication that the study includes a representative selection of Australian institutions.

A number of further factors affirm the representativeness of the selection of institutions. Review of the list indicates that the participating institutions reflect a wide range of sizes, histories and missions. They therefore can be considered representative of the 16 institutions that chose not to take part in the study.

With these details in mind, the target population for the Australian CAP survey includes all academic staff within participating institutions who are working in Faculties rather than central administration, and who do not have adjunct, casual or honorary appointments as their substantive position.

Sample Strategy

The Australian CAP survey employed a probabilistic sampling strategy designed to select a sufficient number of academic staff into the study to generate powerful and representative statistical estimates at the national level. The basic approach has taken the form of a systematic random sample across

participating institutions.

Stratification

Stratification often plays an important role in large-scale samples as it improves the efficiency of the sample, helps to ensure the representativeness of the sample, eliminates potential confusion, and blocks the population along lines suggested by research and practice. Strata might be defined at the institution and individual level.

Institutions provide the explicit stratum as separate, independent samples have been drawn for each institution in the Australian CAP survey. A systematic selection method was planned to ensure proportional representation of academics across these strata.

While no explicit individual-level strata were specified, implicit stratification helps to ensure that bias in the sample is minimised. A number of implicit strata within each institution were recognised such as sex, appointment fraction, term of appointment, academic classification/level, work sector and academic function.

Implicit stratification was managed by sorting the sampling frame and using a systematic selection process. Thus, no systematic bias has been introduced into the sampling process as a result of the selection method or default orderings in the target population list.

Level of analysis

Large-scale social surveys occur within various contexts, and the 'level of analysis' is the level at which it is desired that generalisations are made. The 'level of analysis' should not be confused with the 'unit of analysis,' the latter being the object of the analysis, which in the CAP study is academic staff.

There are multiple levels of analysis in the CAP survey. The first level of analysis is the international level and the second is the national level. The national level requires an effective sample size of 800.

Multistage selection

Institutions volunteered to participate in the Australian CAP survey in response to an invitation sent to all Australian 'Table A' universities. In broad terms, 'A' institutions are defined as public providers by the Australian Government.

Table 1 lists participating institutions by state and territory, and institutional group. Australia has eight states and territories: Western Australia (WA),

Northern Territory (NT), South Australia (SA), Victoria (VIC), New South Wales (NSW), Tasmania (TAS), the Australian Capital Territory (ACT) and Queensland (QLD). Australian higher education has three formal institutional groupings: the Australian Technology Network of Universities (ATN), the Group of Eight (Go8) and Innovative Research Universities (IRU). Not all Australian institutions are covered by these three groups. As a result, a number of additional informal groupings are frequently used. For current purposes, institutions not included in the ATN, Go8 or IRU in Table 1 have been classified as either regional (REG) or New Generation Universities (NGU). The number of institutions in each group and state is shown in brackets beside the label.

Table 1. Institutions participating in the Australian CAP survey

State	ATN (5)	Go8 (8)	IRU (6)	REG	NGU
WA (4)	Curtin University of Technology	University of Western Australia			
NT (1)					Charles Darwin University
SA (3)	University of South Australia		Flinders University		
VIC (8)	RMIT University	University of Melbourne		University of Ballarat	Victoria University Deakin University
NSW (10)		University of Sydney	Macquarie University	Charles Sturt University Southern Cross University University of New England University of Wollongong	University of Western Sydney
TAS (1)					
ACT (2)					University of Canberra
QLD (8)	Queensland University of Technology	University of Queensland		University of Southern Queensland University of the Sunshine Coast	

The distribution of institutions in Table 1 provides assurance as to the national representativeness of the participating institutions. The institutions

cover the range of states and groups. The notable exceptions are that there is no institution participating from the state of Tasmania, and that only two of the six IRU universities are involved.

Participating institutions supplied a population list from which the staff sample was drawn. A systematic sampling procedure was used to obtain a probabilistic sample of staff within each institution. A systematic approach was used because it was sufficiently parsimonious to be applied consistently across institutions, and because it ensures proportional representation of academics across the implicit strata.

Sample size

A national effective sample size of 800 was set for the study through the international specifications. This effective sample size has been determined by considering the substantive focus of the survey and the kinds of statistical analyses likely to be performed.

To achieve an effective sample size of 800, it is necessary for the actual sample size to be larger than 800 to account for non-response and the clustered nature of the target population. It is necessary to use complex sampling methods because of the structural characteristics of universities and the higher education system.

It is important to account for the natural clustering which occurs within institutions as a result of disciplinary groupings and organisational structures. Such clustering arises because survey responses can be more homogeneous within institutions than across the Australian academic community as a whole.

The international sampling specifications propose that a design effect of 2.0 be factored into sample size calculations. This is considered a conservative estimate, and is based on survey work conducted in the United States. The observed clustering effect behind this figure is affirmed by a recent Australian survey of academic leaders (Scott, Coates & Anderson, forthcoming).

A design effect of 2.0 means that twice the sample size is required to achieve the effective sample size, so a national sample size of 800 × 2 = 1,600 academics was proposed to satisfy the international sampling specifications.

The sample size also needs to be adjusted to reflect anticipated response rates. Experience in prior studies (Scott, Coates & Anderson, forthcoming) suggests that response rates to surveys tend to hover between 30 and 50%. A conservative response rate of 30% was assumed for the Australian CAP survey. This means that the complex sample size needs to be multiplied by 100 / 30. A design sample of 1,600 × (100 / 30) = 5,333 therefore was identified to meet the

international requirements for this survey. To be conservative, the design sample size has been rounded upwards to 5,500.

To satisfy the requirements of the international survey, the national design sample size of 5,500 was allocated proportionally across the participating institutions, according to the number of academics within each institution.

Drawing the sample

Sampling management

Preparation of the sample involved collaboration between participating institutions and the Australian Council for Educational Research (ACER), the agency that coordinated the design and development of the Australian CAP sample. Rather than supply institutions with the full specifications, a sampling manual was produced to assist institutions identify relevant academic staff. The manual provided an introduction to the CAP survey and sampling process, an overview of the sampling strategy, and key steps for selecting defined academic staff.

Institutions were asked to provide a full list of academic staff at their institution from which ACER could draw a sample. For this, they were provided with a data specification defined in terms of the national statistics collection. Specific elements included staff e-mail, institution code, sex, work contract, current duties term, current duties classification type and level, work sector, academic function.

ACER worked with institutions to ensure the consistency and integrity of the data provided. All but one of the 22 sampled institutions provided a list of academic staff. Of the remaining 21 institutions, one provided e-mail addresses only, and one did not provide information on work contracts. Once all data were received, a number of recordings were conducted, and out-of-range, duplicate records and individuals in the excluded population were removed. The first column of Table 2 shows that the cleaned population list comprised 20,563 academic staff members from 21 institutions.

Sample production and verification

The population list was sorted using the variables obtained for the purposes of stratification (sex, work contract, current duties classification, academic function, and current duties term). A systematic random sample was then selected for each of the 21 remaining institutions. A total sample size of 5,496 was obtained. The number of staff selected within each institution is shown in the final column of Table 2.

As a final check, the sample statistics were compared with the population parameters. This showed that the sample was representative of the population at the participating institutions in terms of sex, work contract, current duties term, current duties classification, and academic function. Table 2 presents comparisons between the distribution of staff in the target population and in the planned sample.

Secured sample analysis

Sample size and consistency

The online survey was distributed to the 5,496 individuals sampled from the target population list. The initial distribution was made between 18 and 26 September 2007, with follow up distributions sent to non-respondents on 3 October, 29 October and 3 December 2007. The fieldwork was closed mid-December.

Of the 5,496 individuals in the sample, a total of 187 were unable to be reached electronically, either due to their account being closed, or the individual no longer being employed at the institution. Each undelivered e-mail was checked for validity and at times an alternative e-mail address was retrieved and used to contact the individual. It was necessary to resend e-mails to staff at one institution that had initially provided e-mails in an incorrect format.

A total of 153 individuals indicated that they were away from their e-mail during the survey period, and would not return until after the closing date of the survey. While this is a useful figure for working purposes, there is some unreliability in this figure given that not all individuals receive vacation messages and that some individuals may still respond even though out of their offices.

A total of 1,382 individuals logged on to the survey. Only a single version of the instrument was used and the number of responses varied due to item-level non-response. While 1,222 individuals responded to the first section, for instance, only 982 individuals provided comments in the second section of the questionnaire.

After final validation of responses, 1,252 responses were classified as valid in that the individual answered one or more questions. After subtracting undeliverables and out-of-office numbers from the initial sample, this number of responses implies a response rate of 24.2%. This rate is 5.8 percentage points below the planned rate of 30%, but certainly in the range of what would be required for an acceptable response.

More importantly, the complex sample size of 1,252 implies an effective

sample size of 626, given the assumed design effect of 2.0, which is 174 below the planned effective sample size of 800. This has implications for the consistency of the sample. Specifically, it means that confidence bands around point estimates would be plus or minus 3.9 rather than 3.5 standard errors. This is not a large variation in certainty.

Sample distribution and bias

It is important to compare the secured sample against the target population to test the representativeness and hence generalisability of the sample. Close correspondence between the designed and secured distributions of staff on key variables helps provide confidence in statistical estimates.

Table 2 presents figures that allow comparison of the distribution of staff across the target population, planned sample and secured samples. Note that certain percentages do not sum to 100 due to missing data.

In summary, the figures show that:

- the secured sample is distributed proportionately across the 21 institutions despite slight under- and over-representation at a few institutions;
- females tended to respond more than males compared with population distributions, although the number of responses for both sexes is high;
- the secured sample is distributed representatively by work contract;
- compared with population distributions, more staff with limited-term appointments have responded while fewer staff with confirmed tenure have responded;
- the sample is representative in terms of level of duty; and
- the secured sample is well distributed in terms of academic function.

Overall, while the distribution of respondents in terms of marker variables in the secured sample varies slightly from that in the population, the variations are slight. As anticipated in the sample design, the secured sample of responses appears to be representative of the target population of academics from the 21 institutions. Given the distribution of these institutions across the Australian higher education sector, it is appropriate to use the survey data to make generalisations at the national level.

An important consequence of the representativeness of the secured sample is that it is self-weighting. This was anticipated from the use of explicit and implicit stratification, and the use of systematic random selection procedures to sample academic staff in the target population. It is confirmed through the figures presented in Table 2. While sampling weights could be applied to adjust for slight disproportionalities in relation to institution, sex and tenure, the corrections would be small and would likely not be balanced by the reduction in analytical parsimony.

Table 2. Population and sample comparisons

		Target population		Planned sample		Secured sample	
		n	%	n	%	n	%
Institution	University of Western Australia	1,201	5.8	321	5.8	60	4.8
	University of Southern Queensland	467	2.3	125	2.3	29	2.3
	Curtin University of Technology	1,239	6.0	331	6.0	68	5.4
	University of Canberra	355	1.7	95	1.7	29	2.3
	Charles Darwin University	271	1.3	72	1.3	21	1.7
	University of Western Sydney	905	4.4	242	4.4	52	4.2
	Charles Sturt University	639	3.1	171	3.1	63	5.0
	Victoria University	544	2.6	145	2.6	35	2.8
	University of Queensland	2,286	11.1	611	11.1	142	11.3
	University of South Australia	1,050	5.1	281	5.1	88	7.0
	Flinders University	722	3.5	193	3.5	56	4.5
	Deakin University	959	4.7	256	4.7	55	4.4
	RMIT University	1,108	5.4	296	5.4	61	4.9
	The University of Melbourne	3,105	15.1	830	15.1	172	13.7
	Southern Cross University	278	1.4	74	1.3	28	2.2
	University of New England	446	2.2	119	2.2	29	2.3
	University of Sydney	2,682	13.0	717	13.0	161	12.9
	Queensland University of Technology	1,146	5.6	307	5.6	52	4.2
	University of the Sunshine Coast	152	0.7	41	0.7	14	1.1
	University of Ballarat	241	1.2	64	1.2	20	1.6
	University of Wollongong	767	3.7	205	3.7	17	1.4
	Total	20,563	100.0	5,496	100.0	1,252	100.0
Sex	Female	8,700	42.3	2,327	42.8	622	50.5
	Male	11,622	56.5	3,105	57.2	610	49.5
	Total	20,563	100.0	5,432	100.0	1,232	100.0
Work contract	Full-time work contract	16,044	82.0	4,291	82.1	1,022	84.1
	Fractional full-time work contract	3,511	18.0	936	17.9	193	15.9
	Total	19,555	100.0	5,227	100.0	1,215	100.0

Current duties term	Limited term 1-60 months	8,122	40.0	3,260	50.0	761	50.0
	Limited term > 5 years	826	4.1	215	3.3	41	2.7
	Probationary tenurable term	1,963	9.7	521	8.0	145	9.5
	Confirmed tenurable term	9,377	46.1	2,518	38.6	574	37.7
	Other	34	0.2	6	0.1	1	0.1
	Total	20,322	100.0	6,520	100.0	1,522	100.0
Current duties classification type and level	Level E	2,287	11.3	614	11.3	122	9.9
	Level D	2,455	12.1	654	12.0	153	12.4
	Level C	4,660	22.9	1,249	23.0	294	23.9
	Level B	6,912	34.0	1,842	33.9	449	36.4
	Level A	4,008	19.7	1,073	19.8	214	17.4
	Total	20,322	100.0	5,432	100.0	1,232	100.0
Academic function	Teaching only function	582	2.9	153	2.8	32	2.6
	Research only function	3,773	18.6	1,005	18.5	219	17.8
	Teaching and research function	15,632	76.9	4,183	77.0	951	77.2
	Other function	335	1.6	91	1.7	30	2.4
	Total	20,322	100.0	5,432	100.0	1,232	100.0

Introducing Colin and Cheryl: the average Australian academics

In this section we present a preliminary overview of the outcomes of the Australian CAP survey. We must emphasize that this indeed is a first run through the data, that a full analysis has not been possible due to the limited time available since the closing of the survey, and that we still are in the process of coding the open questions. We therefore can only present some initial results.

As our responses are evenly distributed across males and females, and representative of the target population, we have chosen to present the results not in terms of the 'average Australian academic' but rather in the persona of Colin and Cheryl (two popular names in 1960, the average year of birth of our respondents). When they are addressed as a couple, the outcomes pertain to the overall mean score on the item; when addressed separately, the outcomes obviously reflect the male and female positions. Percentages in brackets in the text indicate the mean score. The reader is referred to the questionnaire for the individual questions and their relevant response categories.

Background characteristics

Colin and Cheryl both are married (82%), with their partners having experienced tertiary education (54%). It is noteworthy, though, that quite a

number of their female colleagues are single when compared to the men (22% *versus* 9%). Neither is married to an academic (78%). Whilst almost half of the Australian male academics would have a full-time working partner (49%) and almost a third a part-time working partner (30%), three-quarters of the female academics have a partner who works full-time (77%). Colin and Cheryl have two children and speak English as their native language. Colin has had no major career breaks (91%), whilst quite a few of Cheryl's female colleagues have had interruptions in their careers (44%). On average these have been for 4 years (sd 4.524). By and large they are the first academics in their families. Our survey results show that 27% of the respondents have a father with a tertiary education background, with 20% of the mothers having tertiary experience.

Colin and Cheryl received their bachelor degrees from an Australian university (63%) in 1985, although quite a number of their colleagues have first degrees from overseas universities. The majority of these are from British (32%) and US (14%) institutions. Overall, 97% of Australian academics have a bachelor or an equivalent degree. Though this may seem a bit strange – 3% of the academics not having a first degree – this can easily be explained by people having obtained a first degree in Europe where prior to 'Bologna' many first degrees would be at the masters level. Colin and Cheryl got their masters' degrees in 1991 (66%), also from an Australian university, but once again have many colleagues who obtained masters elsewhere (32%), predominantly from the UK (29%) and the US (23%). As to the doctorate, our colleagues (73%) obtained this in 1996 in Australia (71%), with once again those having received their doctorate from overseas institutions (29%) being mainly from UK (37%) and US (22%) universities. It also is worth noting that on average, female Australian academics have obtained their respective degrees two years later than the average academic.

For many in Australian academe (73%) getting a doctorate means writing a thesis/dissertation, without a prescribed set of courses (12%), and fairly independently on the basis of their own topic selection, supported by a doctoral fellowship. In their quest for a doctorate, they have received little training in teaching, have not sat on university committees, but have been involved in research projects with senior colleagues.

Colin has worked 14 years in approximately three higher education institutions, mainly on a full-time basis since his first degree. Cheryl's career is somewhat shorter, being 11 years. Both currently are employed full-time (85%), though part-time employment is somewhat more common for female Australian academics than for men (19% *versus* 7%). As to their contracts,

both are permanently employed, either tenured (50%) or on a continuous basis (12%). However, in terms of ranks, Australian male academics are more likely to occupy the higher academic ranks (levels D and E) than female academics as is shown in Figure 2.

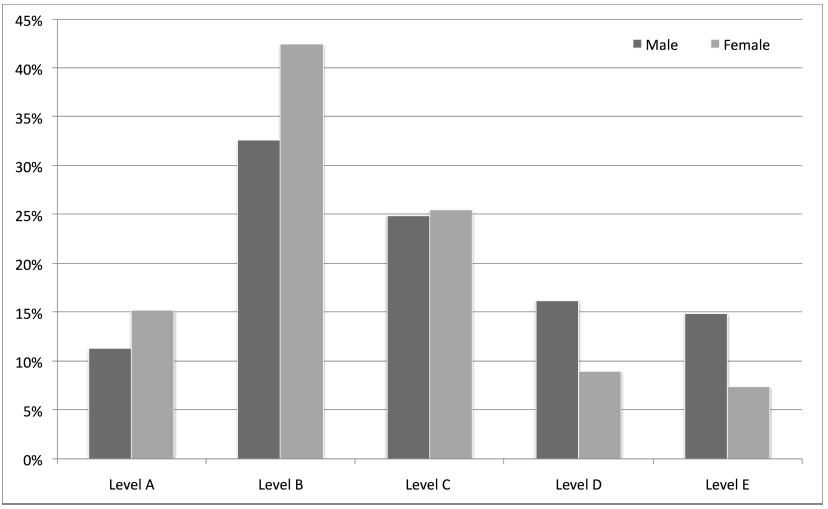


Figure 2. Academic rank by gender

Job satisfaction

Overall, Colin and Cheryl would appear to be rather satisfied with their academic life. They score very high (14%) to high (41%) on the direct satisfaction question, whilst only 13% indicate low or very low (7%) job satisfaction. This picture is confirmed by fairly strong disagreement with the statement "If I had to do it over again, I would not become an academic" (mean 3.60, sd 1.296 on a scale of 1-5, with 1=strongly agree), and an almost neutral score on the statement that the current job is a source of considerable personal strain (mean 2.65, sd 1.258).

These survey results are the more remarkable when we take into account the fact that many Australian academics are of the opinion that working conditions in higher education have deteriorated. Almost two-thirds of the respondents believe that this is the case, with a very even distribution between those who think it has deteriorated much and those who think this has deteriorated very much. Only some 9% feel that working conditions have improved since the start of their career.

This deterioration does not appear to be related to the physical facilities

provided by Australian institutions. Classrooms, laboratories, research equipment, office space and computer and telecommunications facilities are not considered poor (scores range from 2.39-2.81, with 1 being excellent and 5 poor) whilst library facilities and services are perceived as good (mean 2.04, sd .982). Colin and Cheryl are more critical when it comes to secretarial support (mean 3.42, sd 1.283), teaching support staff (mean 3.30, sd 1.211), and research support staff (mean 3.42, sd 1.225).

In light of this, it is perhaps not unsurprising that Colin and Cheryl are somewhat cautious in their advice to young persons about to start an academic career. The mean score on the statement "This is a poor time for any young person to begin an academic career in my field" is 2.77 (sd 1.387).

The fact that our colleagues are quite satisfied with their jobs does not mean that they are not considering changing them. Only a quarter of Australian academics have not considered making major changes in their jobs. Most popular, which is a bit surprising given the overall job satisfaction, is to consider working outside the sector (38%), followed by a move to another institution (33%). A quarter of Australian academics has considered leaving the country for an overseas academic position, whilst 15% has considered a management position. Colin would appear to be a bit more inclined to consider a move to management than Cheryl (55% *versus* 45%), as is his thinking about moving overseas (55% *versus* 45%).

However, intentions are not the same as action. Only 11% has undertaken concrete action to move out of higher education, 12% to obtain an overseas academic position, 19% to change institutions, whilst 9% has undertaken action to move to a management position in their institution.

Working in an Australian university

Colin and Cheryl spend quite a few more hours on their work than they are contractually obliged to do. Irrespective of whether classes are in session or not, on average they spend 50 hours *per* week on their jobs. When classes are in session, obviously a good deal of time is spent on teaching (18.3 hrs, 36%), though they still find time to do research (14.6 hrs, 29%). Administration throughout the year takes close to 20% of their time. When classes are not in session, research activities increase (23.5 hrs, 47%), although some time still is devoted to teaching (7.7 hrs, 15%). A summary of this is provided in Figure 3.

This pattern of activities appears to reflect Colin and Cheryl's academic interests quite well, which are geared towards the research side of the spectrum. The majority of Australian academics express a preference for research over

teaching, with only 7% indicating a preference for teaching. Of those preferring research, 40% lean towards or have a strong preference for research (29%). These preferences, however, are not matched by their perceptions on the availability of research funding, which is considered rather poor (mean score 3.50, sd 1.169).

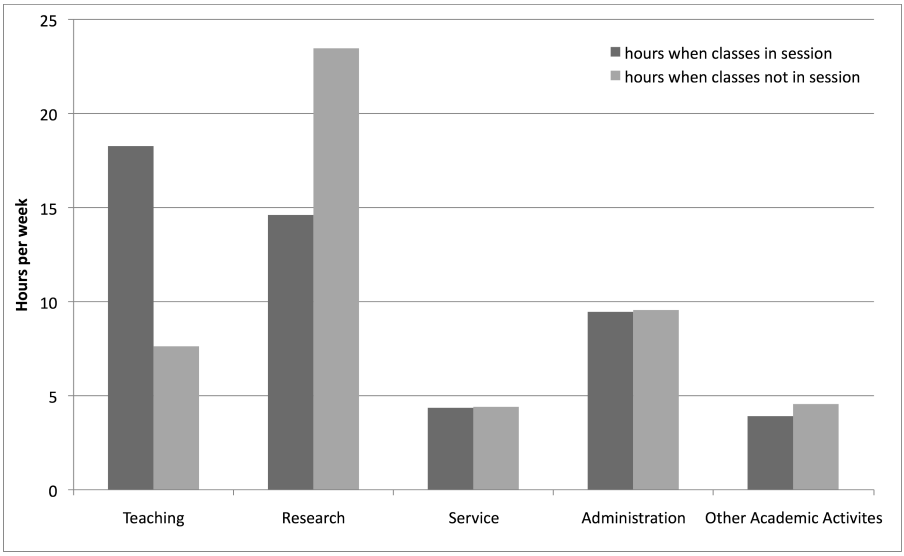


Figure 3. Time spent on activities when classes are in and out of session

Teaching

When teaching, Colin and Cheryl spend most of their time on undergraduate programs (mean 59%, sd 32.824), with the remainder divided between masters' and doctoral programs (means: 27%, 22%). Undergraduate classes on average have some 220 students (sd 259.313), with 37 students in masters' classes (sd 63.913) and 5 in doctoral programs (sd 10.755).

As to their teaching activities, not surprisingly they engage in lecturing/ classroom instruction (67%) as well as individualized instruction (58%), supported through electronic communications with students (66%) and are involved in the development of course materials (63%) and curricula (54%). Face-to-face interaction with students outside of class also takes place on a regular basis (61%). Project and laboratory work occur less frequently (37%, 30%). A quarter of Australian academics is involved with distance education, whilst a clear minority is active in off-shore teaching (14%).

Colin and Cheryl are quite outspoken about informing their students of the

implications of plagiarism and cheating (mean 1.66, sd .930) and about the fact that their grading practices strictly reflect levels of student achievement (mean 1.85, sd .934). As one would expect given the peculiarities of Australian higher education, they agree that the number of international students has increased since they began teaching (mean 2.00, sd 1.167).

As to their approach to teaching, practically oriented knowledge and skills are emphasized (mean 2.03, sd .970), teaching is reinforced by their research (mean 2.04, sd 1.091), values and ethics are discussed (mean 2.07, sd 1.081), and they include an international perspective (mean 2.14, sd 1.049). Nevertheless, Colin and Cheryl complain a bit that they have to spend more time than they like teaching basic skills due to deficiencies of their students (mean 2.39, sd 1.169).

Quality appears to be on the agenda as well, with encouragement to improve instructional skills in response to teaching evaluations (mean 2.37, sd 1.107) and with the availability of adequate training courses to enhance teaching quality (mean 2.59, sd 1.070).

Research

Much of the research being done by Australian academics appears to be on an individual basis (79%), although Colin and Cheryl indicate that they do have collaborators (88%), and also at other Australian institutions (70%) and overseas (61%).

Perhaps somewhat surprisingly given that almost half of our response population (43%) belongs to the so-called Group of Eight institutions, according to Colin and Cheryl their research is much more characterized by an applied/practical orientation than by a basic/theoretical one (respective means of 1.96, sd 1.072 *versus* 2.62, sd 1.273). Being multi-disciplinary in nature (mean 2.07, sd 1.134), it is both international in scope and orientation (mean 2.23, sd 1.267), socially oriented (mean 2.39, sd 1.349), and not much geared towards the commercialisation of outcomes (mean 3.93, sd 1.304). The latter is supported by the fact that only 14% of Australian academics indicate that they have been involved in technology transfer. Clearly, for a better understanding of these outcomes, some further analysis along the lines of institutional type, disciplinary background and field of study needs to be undertaken.

In terms of outputs over the last three years, Colin and Cheryl mainly write book chapters and/or academic articles (mean 7.80, sd 12.083) and present papers at conferences (mean 6.22, sd 7.342). Research reports (mean 2.92, sd 5.427) and newspaper/magazine articles (mean 2.96, sd 8.746) feature somewhat less, but nevertheless appear in line with the focus of their research discussed

above. Clearly, given the large standard deviations further analysis of these outcomes is needed as well.

In line with the funding and incentive regime in Australia, the majority of publications are peer reviewed (67%), and are co-authored with other Australian colleagues (52%). Not surprisingly in light of the relative lack of availability of high impact academic publication outlets in Australia, a large proportion (45%) is published overseas. Although 61% of our respondents have indicated that they collaborate with international colleagues, this appears not to lead to vast numbers of joint publications: 20% of the publications are co-authored with overseas colleagues.

As we have seen in terms of teaching and warning about plagiarism, Colin and Cheryl are also very outspoken in the sense of their research complying with ethical guidelines (mean 1.27, sd .608). They strongly adhere to the principle that research results should be freely available to other researchers and the community (mean 1.58, sd .825) and are quite neutral as to the influence of external sponsors or clients on their research (mean 2.75, sd 1.381). Somewhat surprisingly, given the previous responses on commercialisation and technology transfer, they indicate that their institutions emphasize commercially-oriented research. Most probably, though some further analysis is needed, this can be explained by the addition in the questionnaire of "or applied research" since we have seen earlier that the applied nature of Australian research is a quite striking feature. By and large Colin and Cheryl do not feel that restrictions on the publication of results from either public or privately-funded research have increased during their careers (means of 3.55 and 3.43 respectively), though they are of the opinion that high expectation to increase research productivity (mean 2.05, sd 1.073) and to a slightly lesser extent expectation of useful results (mean 2.37, sd 1.191) are a threat to the quality of research. They do not support the notion that research funding should be concentrated (targeted) on the most productive researchers (mean 3.24, sd 1.212), but are quite clear about the fact that pressures to raise external research funding have increased since they began their careers (mean 1.58, sd .915).

The latter is an interesting observation if related to the sources of funding and the percentage of respondents that indicate that they have received funding from these sources. The major funders for Australian academic research appear to be the research councils (49%, sd 37.681), with 41% of our respondents receiving grants from them. Institutional funding follows this (44%, sd 41.101), though clearly many more academics benefit from this (61%). Government agencies appear as the third source of funding being responsible for 32% of the

funding for 34% of Australian academics. Industry, foundations and international organizations play a significantly smaller role (20%, 17%, 10% respectively) though there is still quite a substantial group benefiting from them (26%, 24%, 20%). It should be noted that 3% of respondents reported that a proportion of their research is 'self-funded'.

Management

When it comes to influence, Colin and Cheryl as individual faculty members perceive that they have quite a bit of influence over the establishment of international linkages – in fact they are the key players here (42%), though institutional managers are seen to be influential in this area as well (32%). Also in terms of setting internal research priorities, they believe that they have a good bit of influence (23%), but not as much as institutional managers (35%).

The overall picture that the survey shows when it comes to influence at the institutional level is one of shared powers between institutional/unit managers and Faculty committees, with the exception of setting budgetary priorities, which very largely is seen to be in the hands of the managers at the institutional (56%) and Faculty (21%) level. Interestingly, the influence of government or external stakeholders on internal management is considered to be marginal, with the possible exception of research evaluation. Whether the latter is the result of the proposed introduction by the former Howard government of the Research Quality Framework that has now been abandoned by the new Rudd government probably will remain an untested hypothesis.

Students also are seen as marginal players, with the exception of evaluating teaching. Teaching evaluation, in fact, is the one aspect of institutional management that has the most 'spread influence' over all actors.

For Colin and Cheryl, this means that they feel they have a fair bit of influence over what goes on at the departmental level, a little at the school level, but not very much at the institutional level. Most illustrative in this respect are the scores on the 'not at all influential' category: 22% at the department level, 48% at the school level, and 67% at the institutional level.

Despite our observation about shared powers, for Colin and Cheryl one of the defining characteristics of their institution is a top-down management style (mean 1.93, sd 1.084) with cumbersome administrative processes (mean 1.87, sd 1.051), and a strong performance orientation (mean 2.16, sd 1.035). Collegiality is not very apparent with respect to decision-making processes (mean 3.55, sd 1.090), and communication between management and academics is not considered to be very good (mean 3.50, sd 1.165), a characterisation that

often is associated with managerialism.

When it comes to these managers, our respondents are quite reserved in their judgements. With the exception of their view that their university should play an active role in the local community (mean 1.86, sd .835), they are more or less neutral on the statements provided to them. Clearly, some further analysis is needed to make sense out of the data on institutional management.

Conclusion

We started our paper by summarizing the major changes that Australian higher education has experienced over the recently past decades. For many observers within and outside the system, these changes have been profound and sometimes quite dramatic. The results of the national survey amongst Australian academics does support these views. There has been much change, conditions are perceived to have deteriorated, there is much pressure to perform, and there is a perception of managerialism within the sector. Yet, the survey results also show that this is but one side of the coin of Australian academe. The other side is one of job satisfaction, of relative autonomy, of international collaboration, and of involvement.

The apparent fact that Australian academe is multi-faceted comes as such as no surprise. But it is clear that our preliminary analysis has only skimmed the surface. A second analysis along the variables used for explicit and implicit stratification no doubt will shed further light on the complexities of the sector. This will answer some of the more obvious questions, such as does rank influence perceptions, is tenure related to job satisfaction, is the nature of research related to the type of institution, does the discipline play a role?

It will take a good deal of time and analysis to fully reap the wealth of information contained in the Australian CAP data. But once done, we are convinced that it will seriously enhance our understanding of the sector. An essential component to this also will be to benchmark our data to the overall international data set. For it is only through such an international comparative analysis that we truly can understand the uniqueness as well as the commonalities of Australian academe.

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Governance and Decision-Making Related to Academic Activities: the case of higher educational institutions in Malaysia

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Introduction and Overview

This paper analyses the data set from the recently completed survey on the "Changing Academic Profession in Malaysia". The primary aim of this paper is to highlight an emerging pattern of university governance and decision-making process at the Faculty or departmental level, specifically with respect to academic and academic-related issues. In this paper we are not concerned with the governance that shapes the relationship between the central government and the university (system governance) for this has been discussed in some detail in Abdul Razak, Sarjit and Morshidi (2007). The governance of public universities in Malaysia is continually being re-examined in light of the transformation in higher education and the changing role of universities *vis-à-vis* the government (and other stakeholders) (Abdul Razak, Sarjit & Morshidi, 2007, p.62). In this paper, we are interested in three other types of governance: institutional governance, college governance and departmental governance. What are the implications of changes in the governance of universities, particularly those affecting the academic and academic-related activities of the academe? Are academics more empowered and what are the degrees of decentralization? How much control is exerted on the activities of academia and who gets to evaluate them? Where are the locations of decision-making

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authority? Where are the locations of evaluation authority? How influential are the academics themselves and where do they exert their influence?

However, the coverage of these three types of governance in this paper may vary substantially. This is because the theme of this paper is to illustrate how governance at both the university and faculty level is shaped and determined by certain groups of academics *cum* administrators who are very close to the locus of power, and thus were able to exploit the 'system' as a basis for accumulating power for themselves.

Our analysis reveals complex and multilateral relationships between the major actors, both academics and administrators, involved in the governing system and decision-making process within the higher education institutions in Malaysia.

Literature Review

The literature has indicated two different but complementary approaches to the study of the internal processes of university governance. The first, from organizational and management theories, focuses on a study of the whole organization and this is generally exemplified by studies on organizational models of universities. Typically, these studies would investigate issues such as decision-making processes, organizational cultures and characteristics. The second, which is heavily dependent on arguments and theories in political science and sociology, is generally less preoccupied by the organization itself than by the reforms that have an impact on the governing structures in universities. Issues or aspects of interest for studies in this category are the composition and working of the university senates, the college, and the academic leadership at all levels of university administrations such as university presidents, vice-chancellors or rectors, deans, central administrators, department chairs. The first approach to the study of university governance is mostly dedicated to 'process and structure' (Becher & Kogan, 1992), while the second focuses more on the 'actors' of the governance system of universities. In this paper we thought it is useful to analyse university governance and decision-making processes from both approaches. In doing so we are able to identify both the processes and the actors involved in university governance at the same time.

While there are many attempts to describe higher education institutions, in particular universities, in terms of organisation, the literature identifies several descriptive models. It appears that these models have been identified in an attempt to describe the nature of the organisation of universities since the 1960s.

According to Mignot-Gérard (2002), in the beginning it was fashionable to describe universities as organisations thriving on the basis of 'collegiality'. On this basis, decisions were arrived at as a result of long democratic debates among the community of academic peers, a community that was able to regulate itself and coordinate actions without any need for hierarchical authority (Goodman, 1962; Millett, 1962). However, the collegial model was seen as too consensual and was noted as not reflecting the actual decision-making process in universities. Baldridge's (1971) 'political model' was based on the assumption that conflicts and bargaining between disciplines (or Faculties) may actually reflect the real decision-making process in universities, at least in relation to academic and academic-related matters. Arguably, this model was considered as appropriate if seen in the context of decision-making processes within universities, particularly in times of budgetary and resource constraints. Yet again, both collegial and political models are based on a strong underlying hypothesis reflecting consensus on the one hand and conflict on the other (Mignot-Gerard, 2002). In this situation of conceptual limbo, Pfeffer and Salancik (1974, cited in Mignot-Gerard 2002) argued that faculties are rational actors struggling for influence and able to mobilize external resources in order to maximize their individual interests. It can be argued that, this model also assumes that decisions on budget allocations involve an identified and stabilized group of actors, who bargain over a clearly defined period.

Work on conceptualising a descriptive model for the organisational structure of higher education institutions to address the conceptual shortcomings of the previous models continued and in the late 1970s Weick introduced the notion of "loosely coupled-systems". According to Weick (1976), the determining characteristics of such institutions are "a lack of coordination; a relative absence of regulations; little linkage between the administrative management and the academic staff; a lack of congruence between structure and activity; differences in methods, aims and missions among different departments; little interdependence among departments; infrequent inspection; and a lack of transparency of much that happens".

In fact, earlier in 1972, Cohen and March (cited in Mignot-Gérard, 2002) had studied universities, and subsequently invented the metaphor of 'organized anarchy', describing the institutions as having three general characteristics: 1) they have inconsistent and ill-defined goals and preferences, so that the intentionality of organizational action becomes problematic; 2) organizational processes and technology are unclear or poorly understood by the members of the organization; and 3) there is fluid and part-time participation.

Mignot-Gérard (2002) noted that by the end of the seventies, consensual and rational models, which were the basis of many conceptual formulations, were replaced by more 'anarchistic models' of universities. But then, it was soon to be realised that bureaucratic, managerial, or authoritative styles, characteristics of the anarchistic models, did not fit in the evolving university context. In fact, Kogan (2007, p.162) noted that the dominant description depicting university organisations as a duality, namely the collegium and the hierarchy/bureaucracy, is really an oversimplification of the real situation of university governance and internal processes. Kogan (2007, p.162) argued that "the changing tasks of higher education have led to changes in internal power relationships, including the precipitation of hybrid roles". Furthermore, Mignot-Gérard (2002) reasoned that recent developments in the university environment and the pervasiveness of the notion of 'manageralism' and 'value for money' in higher education have led to several experiments with notions of management, steering and accountability as underlying building blocks in the governance of universities. The concept of an 'entrepreneurial university' is one of the outcomes of such experiments.

Methodology

This study is part of a larger study that looks at the changes in the academic profession worldwide. It involves no less than 22 countries using a common methodology, to allow for cross-national comparisons. However, some degree of flexibility is in-built into the survey design to accommodate the unique differences that exist between nations. This section reports on the survey instrument, sampling and the data analysis deployed in the Malaysian survey.

Instrumentations and Questionnaire Design

As stated earlier, this paper only reports on issues related to governance of higher educational institutions in Malaysia. Therefore the primary focus is on the issue of location of decision-making power, the level of influence individual faculty has at the various levels of the organizational hierarchy and the evaluation authority for academic activities. Location of decision-making power of academic activities is measured on a scale of 1 to 6 with 1 representing the students, whilst 6 represents external authority/owner (government or major stakeholders). A larger number on the scale reflects a lower level in the hierarchy of decision-making. The decisions involved include selection of key administrators, choosing new faculty, promotion and tenure decisions, budget

priorities, teaching load, admission standards for students, approval of new programs, evaluation of teaching and research, establishing research priorities, and establishing international linkages.

The second dimension of governance addressed in the study relates to the level of influence an individual academic has at the three levels of the organization, namely departmental or unit level, the Faculty of school or college, and the institutional level. These three items were measured on a 4-point Likert-like scale from very influential (1), to not at all influential (4). Additionally a "not applicable" response was also included.

The third dimension of governance addresses the question of who regularly evaluates the teaching, research and service work of the individual academic. These three items were measured on a nominal scale to include categories such as "no one at all", students, external reviewers, senior administrative staff, departmental peers, head of department, and members of other departments.

The full questionnaire also captures other issues such as the general work situation and environment, teaching, research, professional career history and personal information. The English version of the questionnaire (which was agreed by all 22 countries taking part in this global study) with minor modifications for the Malaysian context, was translated into the national language using a back-to-back translation technique. It was pilot tested in one of the public higher education institutions and, except for minor clarifications, the common complaint was the time taken to complete the questionnaire. This however is inevitable due to the wide coverage of the full study.

Population and Sampling

The target population of the study is academics working in higher education institutions (HEIs) based in Malaysia. HEIs included in this study, are those classified as universities or university colleges recognised by the Ministry of Higher Education, as they are the only institutions that offer education at degree level. At the time of the study, there were 18 HEIs that were publicly funded and 16 private ones. However, one public HEI, which was only recently established, was excluded for lack of data. Similarly, seven private HEIs were excluded from this study. From the HEIs included in this study, secondary data regarding the number of academics, classified by their academic rank as well as their discipline, were sought either directly (from the HEI) or indirectly from the Ministry of Higher Education. A total of 13,546 academics form the target population of this study. These data form the basis for the sample of the study.

The co-ordinating body of the global study agreed upon an effective sample

size of 800 respondents. Targeting a response rate of 40%, a gross sample of 4,000 is required to achieve the effective sample size. This number was then allocated in proportion to the categories (academic rank and discipline) within each institution. Upon rounding up, the final sample is as shown in Table 1 below. The final choice of the respondents within each cell at each HEI was made using a systematic random sampling design with a single random start. The final sample that responded is as shown in Table 2.

Table 1. Sample Sizes (by discipline, academic rank and type of institution)

Sample Size / Discipline	Public HEIs			Private HEIs			Total
	Professor	Associate Professor	Lecturer	Professor	Associate Professor	Lecturer	
Medical	66	96	363	14	17	38	594
Engineering	61	139	628	10	22	106	966
Science	105	239	773	4	22	70	1213
Arts	78	176	930	3	19	135	1341
Total	**310**	**650**	**2694**	**31**	**80**	**349**	**4114**

Table 2. Final Sample (responses)

Sample Size / Discipline	Public HEIs			Private HEIs			Total
	Professor	Associate Professor	Lecturer	Professor	Associate Professor	Lecturer	
Medical	13	25	51	1	2	14	106
Engineering	5	32	135	4	21	73	270
Science	19	31	73	2	7	43	175
Arts	10	34	167	2	5	67	285
Total	**47**	**122**	**426**	**9**	**35**	**197**	**836**

Note: A total of 1,176 responded; but 340 of them did not indicate one of the three categories and were therefore treated as missing data.

The total number of questionnaires returned was 1,176 giving a response rate of 28.6%, whilst the response rate for each of the cells in the above categorization varies from a low of 8.2% for engineering professors in public HEIs to a high of 95.5% for associate professors of engineering in the private HEIs. The overall response rate (that can be categorized) was 20.3%, which represents a higher percentage than is typical of most surveys in Malaysia.

Table 3 provides a summary of the profile of the respondents in this survey. We note that the male and female distribution is about equal, and the majority

(81%) are married or with a partner, with 70% of their spouses being employed full-time. The majority of respondents' spouses have tertiary level education (80%) and are non-academics (69%). Of those who are married, only 19% of the respondents do not have children and a large majority (95%) have had no interruptions in their careers to care for children or elderly family members. In so far as respondents' parents are concerned, the fathers of only 22% and the mothers of 12% had tertiary level education. Most of the respondents are of the Malay race and therefore their mother tongue is Malay; but a majority use English in their teaching and research. In terms of age, though we have respondents as old as 72 years, the average is about 40, with a mean academic career of 11 years. Since they obtained their first degrees, the careers of our respondents also saw them spending time in other countries. On average they have spent 10 years in the country where they obtained their first degree, 11 years in the country of their current employment, and only 2 years on average in other countries.

Data Collection Procedure

The manner in which the questionnaires were distributed and collected is as follows. First, the Ministry of Higher Education alerted the participating HEIs of the impending survey. A resident official of each of the participating HEIs was appointed as the project field official (some of them are members of the project team) and remunerated accordingly. These officials were invited to a one-day workshop that briefed them of the rationale of the study, the content of the questionnaire, the identification of the respondents, the data collection procedure and other administrative matters related to the distribution and collection of the questionnaires. A two-month period was given for the purposes of data collection. The final samples of respondents are as described in Table 2 above.

Table 3. Demographic Profile of the Respondents

Profile	Frequency	%
GENDER		
Male	603	52.21
Female	552	47.79
FAMILIAL STATUS		
Married/partner	933	80.92
Single	206	17.87
Others	14	1.21

AGE (years)		
Mean	39.38	Max. 72
Standard Deviation	39.38	
EMPLOYMENT STATUS OF SPOUSE (IF MARRIED)		
Full-time	665	68.91
Part-time	54	5.60
None	246	25.49
ACADEMIC STATUS OF SPOUSE		
Yes	298	31.11
No	660	68.89
NUMBER OF CHILDREN LIVING WITH RESPONDENT		
One	180	17.79
Two	256	25.30
Three or more	385	38.04
None	191	18.87
INTERRUPTION IN EMPLOYMENT		
Yes	62	5.81
No	1005	94.19
Years of Interruption (years)		
Mean	3.21	Min. = 0
Standard Deviation	2.45	Max. = 9
HIGHEST EDUCATION LEVEL OF...		
FATHER		
Tertiary	252	22.91
Secondary	403	36.64
Primary	308	28.00
No formal Education	137	12.45
MOTHER		
Tertiary	132	12.01
Secondary	352	32.03
Primary	374	34.03
No formal Education	241	21.93
SPOUSE		
Tertiary	707	79.62
Secondary	149	16.78
Primary	22	2.48
No formal Education	9	1.01
ETHINICITY		
Malay	792	71.87
Chinese	209	18.97
Indian	48	4.36
Others	53	4.81

MOTHER TONGUE		
Malay	803	69.40
English	86	7.43
Others	268	23.16
LANGUAGE USE IN TEACHING		
Malay	238	20.24
English	887	75.43
Others	32	2.72
LANGUAGE USE IN RESEARCH		
Malay	148	12.94
English	982	85.84
Others	14	1.22
YEARS SPENT SINCE AWARD OF FIRST DEGREE (yrs.)		
In country of first degree	10.34	
In country of current employment (if different)	11.36	
In another country	2.26	

Findings

The discussion that ensues begins with the findings from the descriptive statistics and a factor analysis of the three issues of governance that form the focus of this paper. Whether these findings vary by academic rank, the type of institution and discipline were explored next using both parametric and non-parametric techniques.

Location of Decision-Making Power

One of the issues of governance identifies the location of decision-making power in relation to decisions related to the allocation of resources (human resources such as administrators and faculty as well as financial), teaching and research. Table 4a provides the frequency distribution, while Table 4b provides the associated row percentages, of the location of decision-making power for each of 11 decisions.

The Tables 4a and 4b indicate the following:

- Most decisions are still vested with the top management and head of units. Students and individual faculty play minimal roles (in fact students only play a role in evaluating teaching). Faculty committees play a moderate role in decision-making almost a quarter of the time.
- In terms of decision areas, the involvement of government and external

stakeholders is limited to selecting faculty, key administrators and approval of new academic programs. Students' involvement is limited to evaluation of teaching. Faculty committee involvement is limited to a unit's internal spheres of teaching and research related matters. Heads of units are involved in all the decision areas whereas top management is involved in virtually all areas except for teaching load and teaching evaluation.

If one treats the locations as ordinal in nature, then Table 5 below provides a mean and standard deviation analysis of decision-making location, whilst Table 6 summarizes comparative evaluation by using a Friedman test of related samples.

Tables 5 and 6 indicate the following:

- The Friedman test clearly indicates that there are significant differences in the ranking of each of the decision areas. Selecting key administrators is the lowest (related to the source of power residing with the government and external stakeholders), whereas evaluating teaching is the highest ranked decision areas (indicating that teaching evaluation rests with the lowest group of individuals in the chain of hierarchy, namely individual faculty and students).
- The above is also supported by the mean levels where the lower mean levels indicate that the source of decision-making power is with government and top management. We note that the mean for selecting key administrators is 2.05 indicating that in general, top management has the power to make such decisions. On the other hand, the mean level for teaching evaluation is 3.71 indicating that decision lies with unit head and Faculty committee. Similar interpretations can be offered for the other decision areas.

Further, when the locations of the decision-making power were factor analyzed, three clear factors emerged as shown in Table 7 and we named these three factors as "resource related decision" (factor 2), "teaching related decision" (factor 3) and "research and linkage decisions" (factor 1). When tested for differences (Friedman test) clearly the three decision areas are significantly different with resource related decisions being more centralized at the top management and ministry level, whilst research related decisions are at the departmental level.

Table 4a. Sources of Power (Frequency)

Decision Areas	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Selecting key administrators	267	568	208	38	11	0
Choosing new faculty	29	352	590	109	25	0
Making faculty promotion and tenure decisions	48	553	426	81	7	0
Determining budget priorities	75	530	412	76	11	0
Determining the overall teaching load of faculty	15	102	738	177	62	0
Setting admission standards for undergraduate students	98	329	420	214	19	0
Approving new academic programs	214	492	226	149	9	0
Evaluating teaching	20	77	547	199	61	189
Setting internal research priorities	27	270	488	203	92	1
Evaluating research	28	285	405	312	58	0
Establishing international linkages	64	636	246	74	70	2
Total	**885**	**4194**	**4706**	**1632**	**425**	**192**
(1): Government or External Stakeholders; (2) Institutional Managers (VC, DVC, etc.); (3) Academic Unit Managers (Dean, Head of Dept.); (4) Faculty Committee; (5) Individual Committee; (6) Students						
Note: The total in each column or row is not the same as the total sample size: respondents are allowed to tick more than one location of decision-making *i.e.* more than one decision-maker may be involved in each of the decisions.						

Table 4b. Sources of Power (%)

Decision Areas	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Selecting key administrators	**24.5**	**52.0**	**19.0**	3.5	1.0	
Choosing new faculty	**24.45**	**52.01**	**19.05**	3.48	1.01	
Making faculty promotion and tenure decisions	4.30	**49.60**	**38.21**	7.26	0.63	
Determining budget priorities	6.79	**48.01**	**37.32**	6.88	1.00	
Determining the overall teaching load of faculty	1.37	9.32	**67.46**	**16.18**	5.67	
Setting admission standards for undergraduate students	9.07	**30.46**	**38.89**	**19.81**	1.76	
Approving new academic programs	**19.63**	**45.14**	**20.73**	13.67	0.83	
Evaluating teaching	1.83	7.04	**50.05**	**18.21**	5.58	**17.29**
Setting internal research priorities	2.50	**24.98**	**45.14**	**18.78**	8.51	1.00
Evaluating research	2.57	**26.19**	**37.22**	**28.68**	5.33	
Establishing international linkages	5.86	**58.24**	**22.53**	6.78	6.41	0.18
(1): Government or External Stakeholders; (2) Institutional Managers (VC, DVC, etc.); (3) Academic Unit Managers (Dean, Head of Dept.); (4) Faculty Committee; (5) Individual Committee; (6) Student						
Note: Percentages in bold type indicate the largest groups of decision makers for each decision.						

Table 5. Descriptive Analysis of Decision-Making Power

Decision Areas	Mean	Std. Deviation
Selecting key administrators	2.05	0.8145
Choosing new faculty	2.77	0.7494
Making faculty promotion and tenure decisions	2.50	0.7208
Determining budget priorities	2.47	0.7636
Determining the overall teaching load of faculty	3.15	0.7164
Setting admission standards for undergraduates students	2.75	0.9344
Approving new academic programs	2.31	0.9644
Evaluating teaching	3.71	1.2685
Setting internal research priorities	3.06	0.9398
Evaluating research	3.08	0.9270
Establishing international linkages	2.50	0.9540
Note: The lower the mean values, the higher in the organizational hierarchy is the decision-making location		

Table 6. Friedman Test for Equality of Means of Related Samples

Decision Areas	Mean Rank
Selecting key administrators	3.64
Choosing new faculty	6.21
Making faculty promotion and tenure decisions	5.24
Determining budget priorities	5.08
Determining the overall teaching load of faculty	7.60
Setting admission standards for undergraduates students	6.14
Approving new academic programs	4.49
Evaluating teaching	8.45
Setting internal research priorities	7.08
Evaluating research	7.14
Establishing international linkages	4.93
Chi-Square = 2657.10; Asymptotic Significance = .000	
Note: The higher the mean rank, the lower in the organizational hierarchy is the location of the decision-making power	

Extent of Influence of the Academics

To what extent the individual faculty feel that they can exert influence in the governance of the institutions they are employed in is explored at the three levels of department, Faculty and institution. Table 8 below provides the frequencies as well as the overall mean levels. As expected, the level of influence decreases as we move up the organizational hierarchy, with negligible influence at the institutional level. Furthermore, when tested using the Friedman test, the results indicated that the extent of influence differs significantly ($p\text{-value}<0.01$).

Table 7. Factor Analysis of Sources of Decision-Making Power

Decision Areas	Component		
	Factor 1	Factor 2	Factor 3
Selecting key administrators		0.70	
Choosing new faculty		0.71	
Making faculty promotion and tenure decisions		0.74	
Determining budget priorities		0.63	
Determining the overall teaching load of faculty			0.51
Setting admission standards for undergraduates students			0.81
Approving new academic programs			0.77
Evaluating teaching	0.50		
Setting internal research priorities	0.82		
Evaluating research	0.83		
Establishing international linkages	0.59		
MSA = .808: % variance captured = 54.3%			
Note: Factor loadings of 0.3 or less were suppressed.			

Table 8. Extent of Influence of Academics

Degree of Respondent's Influence	Level of Organizational Hierarchy		
	Departmental	Faculty	Institution
Very influential	99 (9.6%)	62 (6.4%)	15 (1.8%)
Somewhat influential	389 (37.9%)	249 (25.7%)	103 (12.4%)
A little influential	397 (38.7%)	394 (40.7%)	281 (33.9%)
Not at all influential	141 (13.7%)	264 (27.2%)	430 (51.9%)
Total	**1026**	**969**	**829**
Mean	**2.565**	**2.888**	**3.358**

Note: 1 = very influential; 2 = somewhat influential; 3 = a little influential; 4 = not influential at all
Total responses do not add up to total respondents nor are they equal for all levels due to missing values.

Table 9. Evaluation Authority (Frequency)

Evaluators	Teaching	Research	Service
Peers in department or unit	331	291	269
Head of department or unit	732	584	835
Members of other department in the institution	150	264	224
Senior administrative staff at the institution	184	230	418
Students	925	60	206
External reviewers	223	343	116
Self-assessment	537	447	452
No one at or outside my institution	33	47	43

Evaluation Authority

Table 9 provides the frequency distribution for the third dimension of the governance addressed in this paper, namely that which relates to the question of "Who evaluates the activities of the academics?" It indicates the following results.

- Teaching is evaluated largely by the students and the heads of units.
- Research evaluation activities are carried out by heads of units and external reviewers.
- Evaluation of service of academics is carried out by heads of departments and senior administrative staff.
- We note that self-assessment is also a significant part of the evaluation of academic activities.
- Though peer evaluation (by peers in the same unit) plays a role in evaluating all activities of an academic, it is still rated below self-assessment.
- Heads of departments or units still dominate the monitoring of the activities of their academic subordinates.

Differences in Governance between Public and Private HEIs

In the Malaysian context, the private institutions of higher educations are primarily driven by profit motives and operate just as any business entity. On the other hand, the public institutions were established with social agenda in mind. Due to the contrasting philosophies that underlie these two types of higher educational institutions, it is relevant to discuss the differences (if any) in the governance of these two types of HEIs.

Table 10 summarizes the t-test analysis (independent sample) for the location of decision-making as well as the extent of influence the academic has at the three levels of the organizational hierarchy. Table 11 provides a similar analysis for distribution of the location of the evaluation authority.

On the whole, the tables indicate only minor differences in the governance of the public and private HEIs. In terms of location of decision-making power, significant differences occur in resource related decisions, particularly in the appointment of key administrators and budgetary decisions, as well as in the approval of academic programs. In appointing key administrators, the decision lies with the ministry and top management in the public HEIs, whilst in private HEIs, it is shared between top management and departmental heads. Budget priorities in the public HEIs are more decentralized, on average, within top management and heads of department, whilst the power rests more with

institutional managers in the private HEIs. Surprisingly, the decision-making power for approval of new programs is more decentralized in the private HEIs compared to their public counterparts, probably because of the market driven nature of the HEIs, where expert knowledge is likely to reside at departmental level.

In terms of the extent of influence the academics exert, we find that significant differences occur at the departmental and Faculty levels only, not at the institutional level, where academics in the public HEIs are more influential compared to their counterparts in the private HEIs. In terms of the evaluation authority for academic activities, there is very little difference between public and private HEIs, though minor difference can be seen with regard to evaluation of research activities.

Table 10. Location of Decision-Making Power

	Mean Values		t-value	p-value
	Public HEIs	Private HEIs		
Location of Decision-Making Power				
Selecting key administrators	1.96	2.29	-5.89	*0.0000*
Choosing new faculty	2.76	2.81	-0.98	0.3287
Making faculty promotion and tenure decisions	2.49	2.56	-1.55	0.1211
Determining budget priorities	2.51	2.38	2.32	*0.0206*
Determining the overall teaching load of faculty	3.17	3.12	1.15	0.2488
Setting admission standards for undergraduate students	2.73	2.81	-1.38	0.1676
Approving new academic programs	2.27	2.43	-2.49	*0.0128*
Evaluating teaching	3.69	3.73	-0.52	0.6022
Setting internal research priorities	3.04	3.13	-1.39	0.1635
Evaluating research	3.05	3.18	-1.93	0.0535
Establishing international linkages	2.50	2.52	-0.29	0.7730
Location of Decision-making: Resource Decisions	2.43	2.52	-2.22	*0.0265*
Location of Decision-making: Teaching Related Decisions	2.73	2.79	-1.30	0.1941
Location of Decision-making: Research and Linkage Decisions	3.08	3.15	-1.45	0.1480
Extent of Academic Influence				
Departmental Level	2.60	2.46	2.27	*0.0235*
Faculty or School Level	2.92	2.78	2.14	*0.0325*
Institutional Level	3.38	3.32	1.11	0.2655
Maximum Sample Size	804	283		
Minimum Sample Size	586	240		

Notes: For location of decision making power, lower mean values indicate that the decision making power is located higher up in the hierarchy, with 1 being with the government or external stakeholders and 6 being with students.
The extent of influence was measured on a 4 point scale with 1 (very influential) and 4 (not at all influential)

Table 11. Evaluation Authority (%)

Percentage of Respondents	Teaching		Research		Service	
	Public	Private	Public	Private	Public	Private
Peers in department or unit	10.76*	10.42	12.89	12.97	10.41	10.71
Head of department or unit	23.43	23.64	25.32	27.20	33.62	29.87
Members of other department in institution	5.13	3.76	12.43	8.37	8.75	8.77
Senior administrative staff at the institution	5.59	6.42	10.50	9.83	16.22	17.37
Students	29.70	30.06	3.09	1.05	7.47	9.09
External reviewers	6.90	7.76	14.70	16.32	4.70	4.06
Self assessment	17.39	16.97	19.14	21.76	17.45	17.53
No one at or outside my institution	1.09	0.97	1.93	2.51	1.39	2.60
Total (%)	100	100	100	100	100	100
Total No of Respondents	2202	825	1714	478	1874	616
CHI-SQUARE p-value	0.7835		*0.0430*		0.2993	
* the figures indicate the percentage distribution in each column						

Differences in Governance by Academic Disciplines

Changes in global and national context do not occur uniformly across all sectors of society. In the Malaysian context, the changes in the economy from an agricultural base to a manufacturing one and more recently to a more high-tech knowledge-based economy produce different demands on the various Faculties that are traditionally found in the university. This is reflected in the bias towards science and technology in the more recently set-up HEIs, be they public or private. On this basis, comparisons in the governance in the HEIs as viewed by members of HEIs of different disciplines warrant investigation.

Categorization of the different disciplines in the questionnaire had to be consolidated to ensure a sufficient sample size in each category for meaningful comparisons. The discussion that ensues uses the following areas and combinations: (1) Humanities is combined with Social and Behavioural Sciences, (2) Business with Law and Personal Services, (3) Life Sciences with Agriculture, (4) Engineering, (5) Medical Sciences, (6) Physical Sciences and (7) Education.

Tables 12 and 13 provide summaries for the comparative analysis of the three issues of governance. In terms of location of decision-making power, ANOVA analysis shows significant differences only for three decisions: those related to choosing new faculty, determination of budget priorities and the establishment of international linkages. The selection of new faculty is more decentralized in the humanities and social sciences, compared to the other faculties; budget priorities and establishment of international linkages are more decentralized in Medical and Life Sciences than the other faculties.

Table 12. Location of Decision-Making Power

Management Decisions	Mean Values							F-value	p-value
	Education	Humanities Soc. Sc.	Business & Law	Life Sc. & Agri.	Physical Sciences	Engineering	Medical Sciences		
Location of Decision-Making Power									
Selecting key administrators	2.02	2.09	2.17	1.95	1.95	2.04	2.08	0.99	0.4306
Choosing new faculty	2.77	3.00	2.76	2.84	2.66	2.75	2.66	2.41	0.0256
Making faculty promotion and tenure decisions	2.43	2.63	2.62	2.46	2.42	2.43	2.43	2.01	0.0617
Determining budget priorities	2.41	2.45	2.38	2.61	2.30	2.51	2.60	2.22	0.0391
Determining the overall teaching load of faculty	3.02	3.18	3.10	3.32	3.09	3.21	3.30	1.94	0.0711
Setting admission standards for undergraduates students	2.68	2.79	2.74	2.88	2.74	2.76	2.60	0.64	0.6999
Approving new academic programs	2.14	2.34	2.27	2.61	2.26	2.31	2.23	1.40	0.2133
Evaluating teaching	3.63	3.69	3.65	3.89	3.95	3.77	3.64	1.00	0.4264
Setting internal research priorities	2.96	3.13	2.98	3.11	3.11	3.06	3.15	0.50	0.8055
Evaluating research	3.00	3.16	3.13	3.22	3.00	3.13	3.23	0.83	0.5447
Establishing international linkages	2.36	2.45	2.32	2.72	2.44	2.57	2.81	3.27	0.0035
Location of Decision-making: Resource Decisions	2.41	2.54	2.49	2.47	2.35	2.43	2.45	1.23	0.2877
Location of Decision-making: Teaching Related Decisions	2.61	2.77	2.72	2.92	2.70	2.77	2.72	1.30	0.2540
Location of Decision-making: Research and Linkage Decisions	3.01	3.11	3.05	3.23	3.13	3.16	3.23	0.95	0.4576
Extent of Academic Influence									
Departmental Level	2.50	2.62	2.80	2.54	2.56	2.58	2.27	3.68	0.0013
Faculty or School Level	2.68	2.89	3.07	2.88	2.90	2.96	2.76	1.88	0.0822
Institutional Level	3.33	3.39	3.55	3.22	3.38	3.39	3.33	1.27	0.2675
Maximum Sample Size	60	100	124	58	120	266	106		
Minimum Sample Size	43	75	91	49	90	209	82		

Table 13a. Evaluation Authority for Teaching

Evaluation Authority for Teaching (%)	Percentage						
	Education	Humanities Soc. Sc.	Business & Law	Life Sc. & Agri.	Physical Sciences	Engineering	Medical Sciences
Peers in department or unit	10.81	13.39	11.83	16.39	10.45	10.73	18.14
Head of department or unit	6.76	7.09	4.66	4.10	4.85	6.13	6.64
Members of other departments in the institution	6.76	7.09	4.66	4.10	4.85	6.13	6.64
Senior administrative staff at the institution	8.78	7.48	5.38	7.38	8.21	7.16	7.08
Students	35.14	32.68	37.99	35.25	42.54	38.50	33.19
External reviewers	10.14	10.24	10.39	4.10	7.84	9.20	6.19
Self-assessment	18.92	20.87	23.30	26.23	20.15	20.95	20.80
No one at or outside my institution	2.70	1.18	1.79	2.46	1.12	1.19	1.33
Total	100	100	100	100	100	100	100
CHI-SQUARE (p-value)	**0.73**						

Table 13b. Evaluation Authority for Research

Evaluation Authority for Teaching (%)	Percentage						
	Education	Humanities Soc. Sc.	Business & Law	Life Sc. & Agri.	Physical Sciences	Engineering	Medical Sciences
Peers in department or unit	10.61	12.50	14.56	13.51	11.52	13.06	13.82
Head of department or unit	20.45	21.76	28.16	25.00	22.30	29.70	24.88
Members of other departments in the institution	13.64	11.57	9.71	9.46	11.90	10.91	10.14
Senior administrative staff at the institution	12.88	11.57	7.28	10.14	11.52	9.30	11.98
Students	2.27	4.17	2.43	2.70	2.97	2.15	2.76
External reviewers	16.67	16.20	11.65	13.51	17.47	16.10	14.75
Self-assessment	21.21	21.76	21.84	23.65	19.70	17.53	19.35
No one at or outside my institution	2.27	0.46	4.37	2.03	2.60	1.25	2.30
Total	100	100	100	100	100	100	100
CHI-SQUARE (p-value)	**0.73**						

Table 13c. Evaluation Authority for Service

Evaluation Authority for Service (%)	Percentage						
	Education	**Humanities Soc. Sc.**	**Business & Law**	**Life Sc. & Agri.**	**Physical Sciences**	**Engineering**	**Medical Sciences**
Peers in department or unit	10.53	11.42	9.42	11.35	11.82	6.81	17.62
Head of department or unit	28.07	27.56	30.43	32.62	31.76	38.53	33.81
Members of other departments in the institution	8.19	9.06	8.70	7.09	8.11	9.32	5.71
Senior administrative staff at the institution	16.96	19.29	14.13	17.02	16.89	15.77	18.10
Students	9.36	8.66	11.59	4.96	8.11	8.06	4.76
External reviewers	7.60	5.12	4.35	2.84	5.41	2.51	2.86
Self-assessment	17.54	16.93	19.20	20.57	16.55	17.74	16.67
No one at or outside my institution	1.75	1.97	2.17	3.55	1.35	1.25	0.48
Total	100	100	100	100	100	100	100
CHI-SQUARE (p-value)	**0.02**						

Table 14. Location of Decision-making Power by Academic Rank

Management Decisions	Mean Values				F-value	P-value
	Professor	Associate Professor	Senior Lecturer	Lecturer		
Location of Decision-Making Power						
Selecting key administrators	1.83	1.90	2.04	2.12	5.61	0.0005
Choosing new faculty	2.76	2.73	2.70	2.82	0.97	0.1533
Making faculty promotion and tenure decisions	2.20	2.35	2.49	2.60	11.02	0.0000
Determining budget priorities	2.39	2.46	2.44	2.51	0.70	0.4716
Determining the overall teaching load of faculty	3.04	3.15	3.10	3.19	1.11	0.2341
Setting admission standards for undergraduates students	2.63	2.81	2.60	2.79	2.28	0.0510
Approving new academic programs	2.31	2.25	2.27	2.35	0.50	0.6328
Evaluating teaching	3.55	3.89	3.70	3.70	1.51	0.2105
Setting internal research priorities	2.99	3.19	3.10	3.03	1.91	0.1772
Evaluating research	2.98	3.19	3.12	3.06	1.50	0.2386
Establishing international linkages	2.54	2.52	2.71	2.44	3.70	0.0091
Location of Decision-making: Resource Decisions	2.28	2.37	2.43	2.52	6.19	0.0001
Location of Decision-making: Teaching Related Decisions	2.68	2.74	2.66	2.78	1.38	0.1512
Location of Decision-making: Research and Linkage Decisions	2.99	3.21	3.17	3.06	3.03	0.0324
Extent of Academic Influence						
Departmental Level	2.11	2.34	2.52	2.70	17.86	0.0000
Faculty or School Level	2.30	2.72	2.83	3.04	20.02	0.0000
Institutional Level	2.79	3.29	3.42	3.45	17.62	0.0000
Maximum Sample Size	73	140	145	636		
Minimum Sample Size	81	183	186	651		

Table 15a. Evaluation Authority for Teaching by Academic Rank

Evaluation Authority for Teaching	Percentage of Respondents			
	Professor	Associate Professor	Senior Lecturer	Lecturer
Peers in department or unit	9.47	9.20	10.85	11.03
Head of department or unit	24.85	23.91	24.22	23.13
Members of other departments in the institution	3.55	3.45	3.10	5.51
Senior administrative staff at the institution	5.33	5.29	5.43	6.23
Students	32.54	33.33	31.98	28.13
External reviewers	5.92	7.59	6.01	7.42
Self-assessment	15.38	16.32	17.83	17.57
No one at or outside my institution	2.96	0.92	0.58	0.98
Total	100	100	100	100
CHI-SQUARE (p-value)	0.26			

Table 15b. Evaluation Authority for Research by Academic Rank

Evaluation Authority for Research	Percentage of Respondents			
	Professor	Associate Professor	Senior Lecturer	Lecturer
Peers in department or unit	11.43	11.67	14.29	13.15
Head of department or unit	24.00	28.61	24.73	25.49
Members of other departments in the institution	9.71	11.11	12.09	12.03
Senior administrative staff at the institution	13.14	10.28	9.34	9.79
Students	2.29	2.50	3.85	2.39
External reviewers	18.29	16.67	14.84	14.42
Self-assessment	18.86	18.06	20.33	20.18
No one at or outside my institution	2.29	1.11	0.55	2.54
Total	100	100	100	100
CHI-SQUARE (p-value)	0.62			

Table 15c. Evaluation Authority for Service by Academic Rank

Evaluation Authority for Service	Percentage of Respondents			
	Professor	Associate Professor	Senior Lecturer	Lecturer
Peers in department or unit	11.31	10.88	11.04	9.95
Head of department or unit	32.14	36.79	30.18	32.33
Members of other departments in the institution	9.52	7.51	8.33	8.97
Senior administrative staff at the institution	20.24	16.84	18.24	15.31
Students	2.98	5.96	9.01	8.90
External reviewers	4.76	4.40	5.18	4.32
Self-assessment	16.07	15.03	17.34	18.72
No one at or outside my institution	2.98	2.59	0.68	1.51
Total	100	100	100	100
CHI-SQUARE (p-value)	0.16			

In terms of extent of influence, significant differences occur only at the departmental level, not at Faculty or institutional levels, where the Medical Sciences academics are relatively most influential, and business academics are least influential.

In terms of who is empowered to evaluate the activities of faculty members, significant differences arise across disciplines only for activities related to service, not teaching or research. Three parties dominate the evaluation of services of academics, namely the head of department, senior administrative staff of the institution, and self-assessment. Even though the head of department dominates the authority in evaluating the services of academics in all disciplines, the second highest authority in evaluation of services of academics are the senior administrative staff of the institution for those in Humanities and Social Sciences, Physical Sciences and Medical Sciences, whereas for the other disciplines, self-assessment provides the second highest authority.

Differences in Governance by Academic Ranks

Academic rank refers to the general hierarchy of an academic career, namely lecturer, senior lecturer, associate professor and professor. It is highly correlated to age and tenure (experience) of the individual. Differences in views and perceptions of different cohorts may provide some indication of the changes that have taken place in the academic environment. Further, given that the hierarchical nature of the Malaysian academic institutions does reflect a differing scope of activities and responsibilities, this may or may not affect academics' views in relation to the governance and management of HEIs.

Tables 14 and 15 capture the findings of this comparative analysis, after reclassification of assistant professors (a rank not commonly used in Malaysia) as lecturers. Table 14 provides evidence to support the supposition that the location of decision-making powers for resource related decisions and research and linkage decisions are perceived differently by academics of different ranks. In both these decision areas, decisions related to resource allocations and research are seen to be more centralized by the professors, whereas junior ranked academics viewed these decisions to be more decentralized at the top management and the ministry level. This is probably due to the greater involvement of professors at the management level of institutions. Not surprisingly also, the level of influence of individual academics differs significantly at all the levels of the organizational hierarchy, where professors have greater influence than their junior-ranked colleagues.

In terms of location of the evaluation authority of teaching, research and

service activities of the academics, no significant differences can be discerned in the views of academics of different academic ranks.

Conclusion

The four organisational cultures which are deeply embedded in the governance and decision-making processes of universities and HEIs are: bureaucratic, collegial, political, and organized anarchy. It is important to note that each of these cultures has a unique and correspondingly different set of assumptions about faculty-administrator and peer group relationships. Based on the data set that is available, in so far as academic and academic-related activities are concerned, while in theory faculty leaders in the sampled HEIs in Malaysia actively seek to establish a more collegial and shared-decision making model of faculty governance, in practice however, a clear pattern of where power and decision-making authority lie becomes immediately evident. In other words, the more general tendency is that there are more instances of a 'power over' culture than of a move towards 'partnership power'. This 'partnership power' should be an agenda for the future among the universities in Malaysia, with the ultimate aim of facilitating a more democratic faculty governance processes. In fact, the National Higher Education Strategic Plan 2007-2010 aspires to this aim.

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A Preliminary Review of the Hong Kong CAP Data

Gerard A. Postiglione* and Hei Hang Hayes Tang**

This paper contains a preliminary look at the 2007 data from the Hong Kong CAP study. It includes basic information about the sample and methodology, as well as a review of selected data about the profile of academic staff and their views about working conditions, management and internationalism. The paper also makes reference to selected data gathered in 1993 and 1999. Finally, the paper provides a brief summary and some thoughts about possible directions for future research on Hong Kong's changing academic profession.

Survey Methods

The Hong Kong CAP 2007 data were collected through a paper survey. The questionnaire, consisting of 53 questions in 6 sections, was designed based on the one developed by the international CAP team and modified by the Hong Kong CAP team. The survey work was contracted to the Social Sciences Research Centre (SSRC) of the University of Hong Kong. A pilot survey was conducted in May 2007, after which selected questions were modified based on the results of the pilot. Staff lists were acquired for each institution and a senior academic at each institution was invited to become a Hong Kong CAP affiliate. The role of the affiliate was to encourage academic staff at their institutions to participate in the survey. This was accomplished mainly by sending follow-up reminders. The Hong Kong CAP principal investigator wrote an article for the

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Hong Kong press preceding the launch of the survey which outlined the purpose of the CAP and the reasons why it was important for Hong Kong to participate.

Hong Kong academics were sent a survey package comprising a cover letter with a two page explanation of the CAP survey, the survey questionnaire and a stamped envelope addressed to the Social Science Research Centre (SSRC) for returning the questionnaire. The survey packages were distributed in bulk to each department/each institution, and academic staff received the survey *via* their in-trays. A reminder card was sent after a ten-day period, and a second reminder followed. Reminder e-mails were also sent by the institutional affiliates.

During the period from May to August 2007, respondents returned their completed surveys to SSRC. A total of over 811 questionnaires were returned *via* the post, institutional affiliates, and the project assistant. SSRC was also responsible for data input and data cleaning. A data set and codebook were delivered to the Hong Kong CAP team in January 2008.

Sample Representation

When compared with the actual profile of academic staff in Hong Kong, the Hong Kong CAP sample indicates a relatively less bottom heavy structure in terms of the profile of academic ranks. The University Grant Council (UGC) of the Hong Kong SAR Government keeps updated demographic profiles of Hong Kong higher education staff. The UGC 2006/07 figures show that nearly three-fourths (73%) of Hong Kong academics were of assistant professor's rank, equivalent or below, including teaching fellows, instructors, *etc*. However, as Figure 1 indicates, the CAP 2007 sample has a larger representation of senior scholars, with more than half (50.1%) being associate professors or professors (as compared with the actual distribution of 26.9%). This is because teaching fellows/instructors are more likely employed on a part-time or temporary basis. Only 4.5% of the HK CAP 2007 respondents were part-timers, whereas the actual proportion of part-time academics in the Hong Kong higher education sector is 16.4% (UGC 2007). Regarding gender distribution, there is also a slight dispersion (32.7% women *vs*. 67.3% men in the HK CAP 2007 sample) from the UGC distribution of 36% women and 64% men. The over-representation of women among the teaching fellows/instructors is one possible explanation for this dispersion. Notwithstanding the above, it is the full-time academics at the core of the faculty who are of primary interest in the Hong Kong CAP analysis.

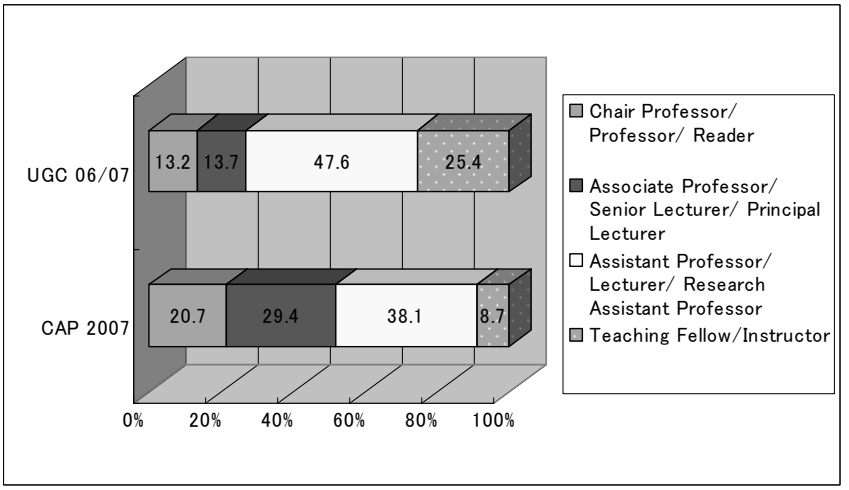

Figure 1. The Shape of the CAP HK 2007 Sample

Profile

In 2006-2007, the total number of faculty across the eight UCG-funded institutions was 6,608. The Hong Kong sample survey constituted 6,291 faculty across academic ranks within all departments and similar academic units of the eight UGC-sponsored degree-granting institutions of higher education, a private university, the Hong Kong Academy for Performing Arts and the Open University of Hong Kong. There was a 12.9% response rate from the sample surveyed.

One-third (34.2%) of the Hong Kong faculty respondents are tenured; within that group, close to 60% (59.4%) are at what we refer to as type I institutions, those that offer research postgraduate programs for a significant number of students in selected subject areas; most type II institutions also offer postgraduate degrees but not on the scale of the type I institutions. The average number of years that faculty have been employed at both Type I and II institutions is 9.3 years, the median is 8 years.

Between 648 and 670 (79.9% to 82.6%) of the respondents had doctorates; this includes 82.1% to 84.8% of those from type I institutions and 77.6% to 80.3% from type II institutions.[1] Most faculty had earned their highest degrees

[1] Despite the successful pilot survey, question one of the CAP survey apparently confused some Hong Kong academics and only a range rather than an exact figure on this question could be acquired.

outside Hong Kong, with 66.8% to 67.7% and 73.5% to 74.3% of the respondents having earned their first masters' degrees and doctorates outside Hong Kong, respectively. The highest percentage of doctorates were earned in the United States (27.6% to 28.5%), followed by the United Kingdom (20.7% to 21.5%).

Table 1. Region where Doctoral Degree Was Earned, 1993 and 2007 (%)

	1993	2007
Hong Kong	10	25.7 to 26.5
United States	39	27.6 to 28.5
United Kingdom	27	20.7 to 21.5
Others	24	23.5 to 26
(N)	(249)	(648 to 670)

Sources: The Carnegie Foundation for the Advancement of Teaching, The International Survey of the Academic Profession, 1991-1993 and CAP 2007 Survey of Hong Kong.

Despite the high proportion of doctorates earned outside the country, the figures are a significant reduction from the 1993 survey which indicated close to 40% of Hong Kong academics had earned their doctorates in the United States. Since that time, the capacity of Hong Kong's type I universities to turn out doctorates has increased. However, most of the Hong Kong academic staff who originated in mainland China earned their doctorates in the United States and elsewhere.

Table 2. Doctorates and Ethnicities of Hong Kong Academics (%)

	Place of Residence – At Birth	
Doctorate Earned in	**Mainland China**	**Hong Kong SAR**
USA	40.4	21.0
Hong Kong SAR	21.3	36.1
Mainland China	12.4	0.8
United Kingdom	10.1	24.6
Australia	7.9	9.8
Canada	4.5	4.6
Others	3.4	3.0

Source: CAP 2007 Survey of Hong Kong.

The profile of academic ranks indicated a relatively bottom-heavy structure. Within type I institutions, 24.2% of respondents are full professors/readers, 27.1% are associate professors/senior lecturers/principal lecturers, 36.4% are assistant professors/lecturers/research assistant professors, 7.7% are teaching

fellows/teaching assistants or instructors. Within type II institutions, 17.1% of respondents are full professors/readers, 31.6% are associate professors/senior lecturers/principal lecturers, 39.8% are assistant professors/lecturers/research assistant professors and 9.7% are teaching fellows/teaching assistants/instructors.

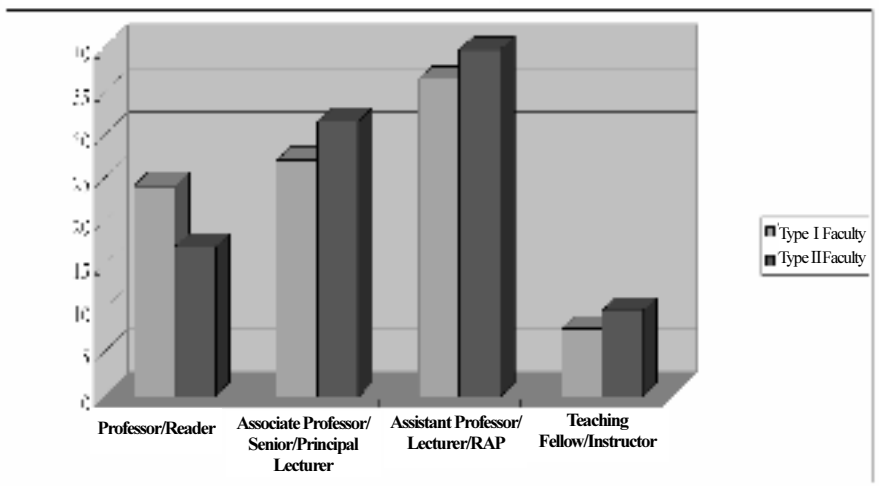

Figure 2. Academic Ranks and Types of Faculty

If all academics are divided into either science/technology or social science/humanities, then 35.5% are in the former and 61.3% are in the latter groupings. The average age of the faculty respondents is 46.4 years; the largest group, 38.9%, are in their forties.

Faculty at both type of institutions are of similar ages. The proportion of men exceeds that of women by 67.3% to 32.7%. The proportion of women faculty has increased from 24.6% in 1993 to 28.6% in 1999 and 32.7% in 2007. The feminization of Hong Kong academics also agrees with the global trend of greater gender equality within the intelligentsia. Within type I institutions, about three-fourths (72.8%) of the respondents are men, as compared to about three-fifths (61.6%) of respondents at the other institutions. However, men are more than four times as likely to be full professors.

Although Hong Kong faculty salaries are internationally competitive, more than one-tenth of the respondents indicated that they had considered working outside higher education within the last five years, and among them, about one-fourth took some concrete action. Hong Kong's economy provides academics with opportunities to supplement their salaries, but faculty seldom earn income from work outside their institutions. Only 8.9% reported that they

had concurrent employers and the mean of those second incomes was only US$2,229 (HK$17,384). Hong Kong academics have experienced two or three voluntary pay cuts since 2003 and several universities removed taxes on outside practice. During the period of economic difficulties, the government also offered matching funds for donations to universities.

Table 3. Gender, 1993, 1999 and 2007 (%)

	1993	1999	2007
Female	24.6	28.6	32.7
Male	75.4	71.4	67.3

Sources: The Carnegie Foundation for the Advancement of Teaching, The International Survey of the Academic Profession, 1991-1993, Hong Kong Academic Staff Profession Survey of 1999 and CAP 2007 Survey of Hong Kong.

Table 4. Gender and Types of Faculty, 2007 (%)

	Type I Faculty	Type II Faculty
Female	27.2	38.4
Male	72.8	61.6

Source: CAP 2007 Survey of Hong Kong

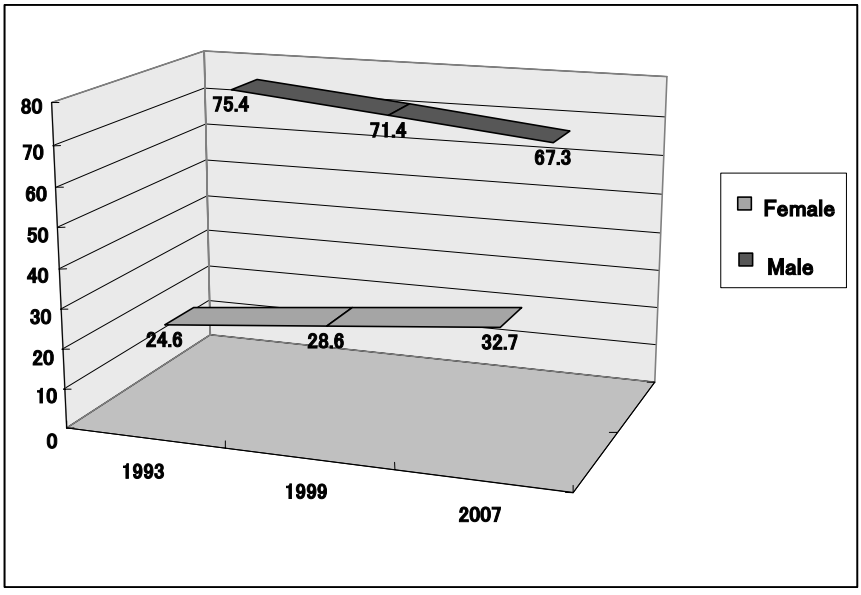

Figure 3. Gender of HK CAP Sample, 1993, 1999, 2007

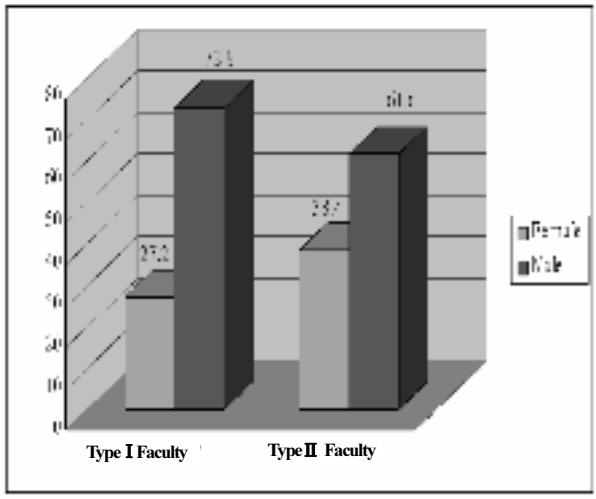

Figure 4. Gender and Types of Faculty

Working Conditions

Hong Kong academic staff report relatively high workloads in teaching, research, administration and service activities. The average working hours *per* week are 52 when classes are in session and 50.2 when classes are not in session. When classes are in session, an average of 19.9 hours is allocated to teaching and 16 hours to research. When classes are not in session, time spent for research takes a greater proportion (25.7 hours) than teaching (7.6 hours). There are only very slight differences in hours spent on administration and services whether classes are in session or not (8.5 hours on administration during school term and 8.6 hours *per* week during term break). Faculty, spend somewhat more hours on services (4.4 hours) than they do when classes are in session. They allocate 4 hours for services when they need to teach during school term.

Hong Kong's tertiary institutions are thought to be well endowed with resources to support professional practice in teaching and research. Faculty members gave high ratings to the physical resources supporting their work – including classrooms, laboratories, and research equipment. They are especially satisfied with the computer and library facilities. A high proportion (82.4%) of the respondents evaluated the library facilities and services as either very good or excellent. Relatively high ratings (very good and excellent) were also given for telecommunications (79.5%), computer facilities (75.3%) and technology for teaching (71.8%). These figures are lower than those indicated

by academic staff in the first international survey.

Attitudes toward social working conditions are in contrast to those concerning physical resources. For instance, 47.2% of the surveyed faculty thought they were given excellent or very good secretarial support, whereas only 29.3% evaluated their research support staff as excellent or very good. Most faculty also felt they were not well-supported financially for research – with one-fourth of faculty (29.7%) indicating that they received very good or excellent research funding.

Regarding the relationship between faculty and administration, only 25.3% strongly agreed or agreed that there was good communication between management and academic staff. The largest group (31.6%) showed a neutral response rate but 21.7% of faculty disagreed and 21.4% strongly disagreed that they enjoyed good communication with the management of their institutions. Faculty at type II institutions showed a slightly higher satisfaction with this communication: there are 27.4% of the respondents from type II institutions who strongly agreed or agreed that their communication with the management was good, whereas the figure for type I institutions was 23.2%.

Hong Kong academics are more committed to their discipline/field than to their department and more to their departments than to their institutions. Almost all (90.1%) indicated that their discipline/field was very important or important to them. Nearly three-fourths (72.3%) showed their commitment to their department/division as important or very important, whereas 59.8% described the same commitment to their institutions. The above cases are especially true for type I faculty.

Faculty Mobility

Within the last five years, 24.3% of the respondents considered changing to an academic position in another higher education institution within Hong Kong, with 13.2% taking concrete action for the idea. Only 4.1% have changed to a management position in the last five years, with further 5.1% indicating that they have considered such a change. On being asked whether they considered a job change to an academic position outside Hong Kong, 23.7% indicated a positive response whereas 8.4% took action to do so in the previous five years.

Table 5. Hours *per* Week on Professional Activities, 1993 and 2007 (hours)

Classes in Session	Total		Teaching		Research		Service		Administration		Other	
	1993	*2007*	*1993*	*2007*	*1993*	*2007*	*1993*	*2007*	*1993*	*2007*	*1993*	*2007*
All Faculty	50.3	52	19	19.9	13.6	16	5.3	4	8.6	8.5	3.8	3.6
Professor/Reader	53.2	54.8	10.5	15	14.6	17.7	5.7	4.4	17.1	12.9	5.3	4.8
Associate Professor/ Senior Lecturer/ Principal Lecturer	50.3	55.2	16.8	19.6	14.7	17.7	4.9	4.2	10	9.8	3.9	3.9
Assistant Professor/ Lecturer/Research Assistant Professor	52.3	49.8	18.6	21.3	14.5	16.4	7	3.6	8.4	5.7	3.8	2.8

Classes Not in Session	Total		Teaching		Research		Service		Administration		Other	
	1993	*2007*	*1993*	*2007*	*1993*	*2007*	*1993*	*2007*	*1993*	*2007*	*1993*	*2007*
All Faculty	48.1	50.3	7.8	7.7	22	25.7	5.4	4.4	8.4	8.6	4.5	3.9
Professor/Reader	54.9	52.9	5.2	4.9	18.6	26.3	6.6	4.3	18.1	12.7	6.4	4.7
Associate Professor/ Senior Lecturer/ Principal Lecturer	49.8	53.7	6.3	7.6	23.1	27.0	6	4.6	9.7	10.1	4.7	4.4
Assistant Professor/ Lecturer/Research Assistant Professor	49.1	45.5	7.4	7.5	23.8	27.6	5.6	4.3	7.9	5.8	4.4	3

Sources: The Carnegie Foundation for the Advancement of Teaching, International Survey of the Academic Profession, 1991-1993 and CAP 2007 Survey of Hong Kong.

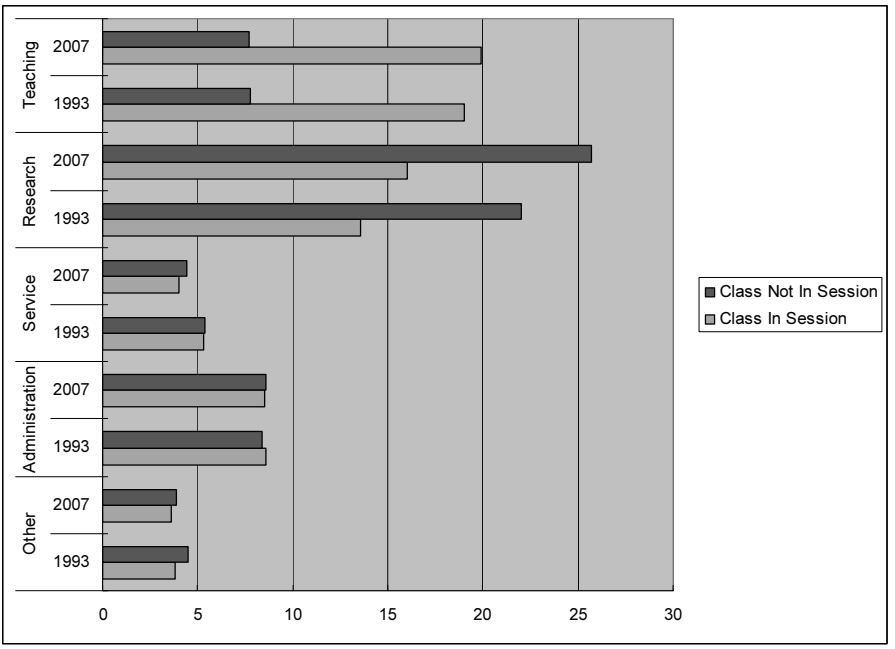

Figure 5. Hours *per* Week on Professional Activities, 1993 and 2007 (hours)

Table 6. Faculty Attitudes toward Working Conditions, 2007 (%)

	Excellent	Good	Fair	Quite Poor	Poor
Classroom	18.6	49.2	23.2	6.6	2.4
Libraries Facilities and Services	36	46.4	12.4	4.5	0.8
Laboratories	12.4	37.2	34.9	11.7	3.9
Research Equipment and Instruments	9.9	42.2	31.6	11.9	4.4
Computer Facilities	23.3	52	17.8	5.7	1.1
Telecommunications	31.7	47.8	16.3	3.8	0.4
Technology for Teaching	22.4	49.4	22.7	4.4	1.2
Teaching Support Staff	8.3	27.3	32.2	19.2	13
Research Support Staff	5.9	23.4	34.6	22	14.1
Research Funding	6.1	23.6	35.7	19	15.6
Secretarial Support	15.9	31.3	24.8	16.4	11.6
Office Space	18.6	40.2	22.5	9.8	9

Source: CAP 2007 Survey of Hong Kong.

Teaching and Research

The majority of the Hong Kong academics teach. Ninety-two percent of respondents indicated that they were involved in the teaching of undergraduate and/or graduate level courses. Type II faculty (94.8%) tended to do more teaching than their counterparts at type I institutions (89.2%). Responding to questions on whether research activities and service activities reinforce teaching, 72.6% strongly agreed or agreed that research activities reinforced their teaching but a lesser proportion (43.9%) showed the same extent of agreement that service activities reinforce their teaching. More type I faculty (79.3%) than type II faculty (71.3%) agreed that their teaching was reinforced by research activities, whereas more type II faculty (47.5%) than their colleagues at type I institutions (39.8%) agreed that service work reinforced their teaching.

A high percentage of respondents reported that quantitative load targets or regulatory expectations were set on their teaching: number of hours in the classroom (72.6%); number of students in their classes (43.9%); time for student consultation (33.5%); number of graduate students for supervision (27.6%); percentage of students passing exams (14.1%). In terms of teaching evaluations, these were carried out by various stakeholders: students (87.8%); department head (67.7%); self (formal self-assessment) (43.9%); peers in their department or unit (36.4%); senior administrative staff (29.6%); external reviewers (23.2%); members of other departments/units at their institution (9.6%).

On being asked whether they spent more time than they would like teaching basic skills due to student deficiencies, 55.3% of Hong Kong academics agreed or strongly agreed with the statement. Type II teaching staff tended to agree more in this regard (62.6% agreed or strongly agreed) than their colleagues at type I universities (47.7%).

When asked to declare if their interests lay primarily in teaching or research, or both, nearly eighty percent (79.4%) of the Hong Kong academic profession indicated both teaching and research. More than half (51.8%) lean toward research, whereas only 27.6% lean toward teaching. There is another 11.3% who indicated they have a primary interest in research only.

Faculty at type I institutions express a greater interest in doing research than faculty at type II institutions. A majority (56.4%) of type I faculty indicated their interests lean toward research while 47.1% of type II faculty also indicated so. Academics at type II institutions showed comparatively greater interests in teaching. About one-third (35.4%) of type II academics were interested in

teaching and research, but lean towards teaching – yet only 19.8% of type I faculty indicated likewise. About one in ten academic members (10.4%) at type II institutions were primarily interested in teaching whereas 15.5% of type I faculty are primarily interested in research.

Table 7. Faculty Assessment on the Influences of Research and Services on Teaching, 1993 and 2007 (%)

	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	1993	*2007*	*1993*	*2007*	*1993*	*2007*	*1993*	*2007*	*1993*	*2007*
Research Activities/Commitments Reinforce Teaching	17	29.5	27.7	43.1	34	17.7	14.9	6.3	6.4	3.5
Service/ Nonacademic Professional Activities Reinforce Teaching	5.1	14.5	13.9	29.4	62	28.4	13.9	17.3	5.1	10.4
Type I and Type II Institutions, 2007										
	Type I	**Type II**	**Type I**	**Type II**	**Type I**	**Type II**	**Type I**	**Type II**	**Type I**	**Type II**
Research Activities/Commitments Reinforce Teaching	30.3	28.7	43.6	42.6	16.4	18.9	6.4	6.2	3.3	3.6
Service/ Nonacademic Professional Activities Reinforce Teaching	14.7	14.3	25.1	33.2	28	28.8	20.1	14.8	12.1	8.8

Sources: The Carnegie Foundation for the Advancement of Teaching, International Survey of the Academic Profession, 1991-1993 and CAP 2007 Survey of Hong Kong.

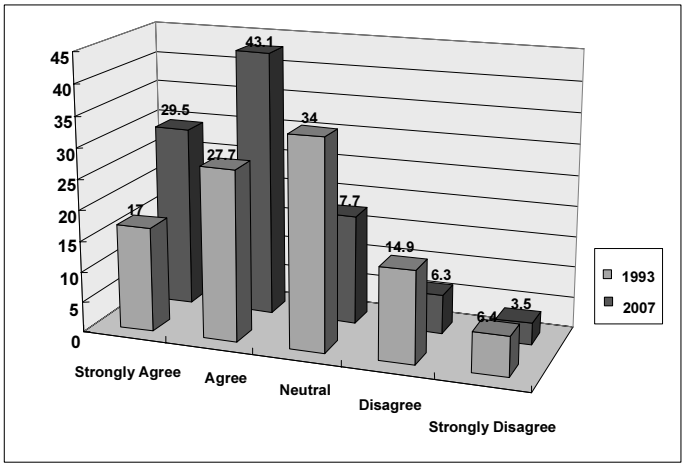

Figure 6. Research Activities/Commitments Reinforce Teaching (%)

The type and amount of research activities have increased rapidly in recent years. During the past two years, 78.7% of our respondents showed that they wrote academic papers that contain research results or findings; 62.8% answered calls for proposals or writing for research grants; 52.8% supervised a research team or graduate research assistants.

The averaged number of scholarly books authored or co-authored, during the period of 2005-2007 is 0.86; scholarly books edited or co-edited is 0.82; whereas for articles published in an academic book or journal, the average was 10.1. Type 1 faculty published more academic articles (11.8 on average) than type II faculty (8.3) but type II faculty had slightly better output of books (0.89). Hong Kong academics also presented papers at scholarly conferences (8.11), wrote professional articles for newspapers or magazines (4.02), wrote research reports/monographs for funded projects (2.57). Faculty at type II institutions wrote more computer programs for public use (0.33 *vis-à-vis* 0.09 by type I faculty), and performed or exhibited more artistic work (0.98 *vis-à-vis* 0.25 by type I faculty). Academics at type I institutions secured an average of 0.58 patents on a process or invention in the past two years, while type II faculty had an average of 0.29. Video or films were also produced by Hong Kong faculty with an average production of 0.39 by type II faculty and 0.2 by type I.

More than 80% of the Hong Kong academics worked on research projects, in which collaborative projects (84.1% of the respondents took part) were preferred to individual projects (50.5%). Type I faculty worked more on collaborative projects (85.9%) than their colleagues at type II institutions (82.3%); whereas type II faculty were more involved in individual researches (52.5% *vis-à-vis* 48.6% by type I faculty). Collaborations were carried out with partners at other Hong Kong higher education institutions or institutions outside Hong Kong. Most (55.6%) of the respondents indicated that they had research collaborators at other Hong Kong higher education institutions; 44.9% collaborated with persons in other parts of China, while 61.4% had research collaboration with colleagues overseas.

Concerning research funding, 50.6% of the respondents indicated that their funding came from their own institution and 23.1% indicated it came from public research funding agencies. There is a large dispersion in the sources that fund the research by type I faculty and type II faculty. About 41.7% of faculty members at type I institutions indicated that their funding came from their own institutions while 60.7% of type II faculty so indicated. Public research funding agencies (for example the Research Grant Council of Hong Kong) funded 32.1% of type I faculty member's projects but only 13% of type II

academics' research fund came from public research funding agencies. Nearly one in five (18.7%) of the Hong Kong faculty's research projects were funded by government entities, 3.3% by private not-for-profit foundations/agencies, and 2.3% by business firms or industry. Of the research funding about 90% was from Hong Kong – only 7.6% from international organizations/entities and 3.2% from entitles in other parts of China. About 10% of the respondents revealed that they received no funding for research projects.

Management

Decision-making power is centralized mostly at the level of academic units (deans, departmental heads). Almost two-thirds (62.6%) of Hong Kong academics indicated that academic unit managers have the primary influence on determining the overall teaching load of faculty. Deans/department heads are also the most influential actors in a number of decisions: on choosing new faculty (as indicated by 49.6% of the respondents), on determining budget priorities (43.1%), on making future faculty promotion and tenure decisions (42.6%), on evaluating research (40.2%), on setting internal research priorities (39.3%), and on evaluating teaching (36.3%). Institutional managers were considered by 46.9% and 31.3% of the respondents as having primary influence on key administrator selection and establishing international linkages, respectively. Elsewhere, decision-making power was centralized at Faculty committees/boards for setting admission standards for undergraduate students (as shown by 34.4% of Hong Kong faculty) and at university senate for approving new academic programs, according to the views shown by 29.5% of the respondents.

Where personal influence on shaping key academic policies was concerned, Hong Kong faculty perceived that it diminished as it proceeds up the institutional hierarchy. Hong Kong academics (40.7%) stated that they were either very influential or somewhat influential at departmental level, yet the figure dropped to 18.7% and further to 6.9%, respectively when personal influence at school/Faculty level and institutional level was concerned. Interestingly, a larger proportion of type I faculty perceived greater personal influence at departmental level than type II faculty (42.4% as compared with 39.1%); but a higher percentage of type II academics considered themselves very influential or somewhat influential on shaping key academic policies at school/Faculty level (19.5% as compared with 17.8% of type I faculty) and at institutional level (8.8% *vis-à-vis* 4.9%).

Table 8. Faculty Influence at the Departmental Level in Helping to Shape Key Academic Policies, 1993, 1999 and 2007 (%)

	Very Influential			Somewhat Influential			A Little Influential			Not At All Influential			Not Applicable		
	1993	*1999*	*2007*	*1993*	*1999*	*2007*	*1993*	*1999*	*2007*	*1993*	*1999*	*2007*	*1993*	*1999*	*2007*
All Faculty	13	13.1	14.2	34	26.2	26.5	28	34.6	31	23	25.7	22.1	2	0.5	6.2
Type I Institutions	16	11.4	15.8	41	22.9	26.6	24	34.3	29.5	16	30.5	20.9	3	1.0	7.2
Type II Institutions	10	15.1	12.7	28	30.2	26.4	31	34.9	32.6	29	19.8	23.3	2	0	5.2

Sources: The Carnegie Foundation for the Advancement of Teaching, International Survey of the Academic Profession, 1991-1993, Hong Kong Academic Staff Profession Survey of 1999 and CAP 2007 Survey of Hong Kong.

Academic Freedom

Hong Kong academics were asked to indicate how much they agreed with the statement. "The administration supports academic freedom". One-sixth (16.0%) strongly agreed with the given statement, 37.8% agreed and 31.0% indicated a neutral stance. In comparison with the figure of 48.7% for type II colleagues, type I academics indicated a more positive view toward the issue; 58.9% of them either strongly agreed or agreed that the administration supported academic freedom.

Table 9. The Administration Supports Academic Freedom, 1993 and 2007 (%)

	Agree		Neutral		Disagree	
	1993	*2007*	*1993*	*1993*	*2007*	*1993*
All Faculty	49.5	53.8	27.3	31	23.2	15.1
Type I Faculty	65.7	58.9	23.2	29.7	12.1	11.2
Type II Faculty	34.7	48.7	30.6	32.3	34.7	18.9

Sources: The Carnegie Foundation for the Advancement of Teaching, International Survey of the Academic Profession, 1991-1993 and CAP 2007 Survey of Hong Kong.

Internationalism

Hong Kong's academic profession has one of the most internationalized profiles in the world (THES, 2007). Therefore, external factors are highly significant. These include the academic characteristics of the other national systems that exert a strong influence on it, especially the United States, where most earned their highest degree, the United Kingdom, which was the colonial power up to 10 years ago, and China, which is not only influencing the priorities of higher education, but also is an increasing source of recruitment of academics

into the profession. Hong Kong academics have either one of or the lowest proportion of within-system doctorates, though this number is increasing with questionable consequences, including a slight upturn in in-breeding.

Faculty from both types I&II institutions share similar views on increasing internationalism at their institutions. More than half (54%) of Hong Kong faculty strongly agreed or agreed that the number of international students had increased since they started teaching. Slightly more type II faculty (54.7%) than type I faculty (53.2%) identified the increasing number of international students in their institutions. Of type I faculty, 17.0 % agreed that most of the graduate students at their institutions are international students, while 10.2% of type II faculty agreed so. The combined figure is 13.5%. In the academic years 2005/2006 or 2006/2007, 10.9% of Hong Kong academics were teaching course(s) abroad and 13.8% in a language different from the language of instruction they use at their current institution.

Increasing internationalism in research has been the case in recent years. Over three-fourths of the Hong Kong CAP 2007 respondents claim that their primary research can be characterized as international in scope or orientation. The situation can be reflected by the nature of their research outputs. In the last three years, more than one in five (22.5%) of type I academics' publications were co-authored with overseas colleagues (outside of Hong Kong but not including Mainland China) while 19.8% of type II faculty's publications were similarly co-authored. Hong Kong academics also wrote with colleagues located in other parts of China. Type II academics had more frequent co-authorship with authors from other parts of China (11.9% of their publications) than type I academics (10.9%). Most of the works of Hong Kong academics were published internationally (overseas, but not including Mainland China): 78.6% of publications by type I faculty and 77% of type II faculty's were published in other countries. Some of their publications were published in other parts of China as well (type I faculty: 6.9%; type II faculty: 8.3%).

Table 10. Internationalism in research: How would you characterize the emphasis of your primary research as international in scope or orientation during the past two years?

	Percentage
1 - Very much	30.1
2	35.0
3	18.7
4	8.1
5 - Not At All	8.1

Source: CAP 2007 Survey of Hong Kong.

Table 11. Nature of Publications

	Proportion of the Total Publications (Percentage)	
	Type I Faculty	*Type II Faculty*
Co-authored with overseas colleagues	22.5	19.8
Co-authored with colleagues located in other parts of China	10.9	11.9
Published internationally	78.6	77.0
Published in other parts of China	6.9	8.3

Source: CAP 2007 Survey of Hong Kong.

Providing internationalism in teaching and research, English has been the primary *lingua franca* in Hong Kong academe. More than 80% of the Hong Kong faculty used English as the medium of instruction for their teaching whereas English was employed as the primary language by even more (88.8%) of the researchers in Hong Kong.

Table 12. Primary Language Employed in Teaching and Research (%)

	Teaching	Research
English	82.0	88.8
Chinese	23.0	14.9
German	0.1	0.5
Japanese	0.0	0.5

Source: CAP 2007 Survey of Hong Kong.

Relevance

One of the most visible trends affecting the academic profession has been the demand for relevance. Hong Kong's small size, pragmatic traditions in business and commerce, and stiff dependency on international economic trends, ensure that relevance embeds itself in the guiding discourse of social institutions. In higher education, some factors also work against relevance, including: (a) the many decades when universities were relatively insulated from society; (b) the bloated public sector of higher education in which the *laissez faire* economic philosophy has only produced one private university, and for most universities, the lack of large numbers of *alumni* who anchor universities to a wider assortment of public concerns.

One of the more prominent international trends that have affected the academic profession has been the call for universities to become more relevant. This has made itself felt across all dimensions of scholarship and one of the most

visible manifestations has been in the weakening of traditional disciplinary boundaries. More than two-thirds (67.3%) of academic staff characterize their research as multi- or inter-disciplinary.

This corresponds closely with how scholars view their university's emphasis on multi- or inter-disciplinary research. Most (61.5%) of the Hong Kong faculty agreed that their institutions emphasized interdisciplinary research. Despite the diverse backgrounds of academic staff, there seems to be little resistance to university efforts to open boundaries across fields. The fact that disciplinary-based academic associations in Hong Kong are small and less influential may contribute to this.

Table 13a. Would you characterize the emphasis of your primary research as multi- or inter-disciplinary during the past two years?

	Percentage
1 – Very much	32.2
2	35.1
3	14.3
4	11.4
5 - Not at all	7.0

Source: CAP 2007 Survey of Hong Kong.

Table 13b. Inter-disciplinary research is emphasized at my institution

	Percentage
1 - Strongly agree	22.2
2	39.3
3	26.9
4	7.6
5 - Strongly disagree	4.0

Source: CAP 2007 Survey of Hong Kong.

Table 14a. How would you characterize the emphasis of your primary research during the past two years? (%)

	Applied or practically -oriented	Socially-oriented or intended for betterment of society
1 – Very much	29.0	19.0
2	42.7	30.5
3	14.8	20.6
4	7.6	15.2
5 - Not at all	5.8	14.7

Source: CAP 2007 Survey of Hong Kong.

A large majority (71.7%) of the Hong Kong researchers characterized their primary research as much or very much applied or practically-oriented, while half (49.5%) saw it as socially-oriented or intended for the betterment of society. Similarly 68.4% of the Hong Kong academics agreed that their teaching emphasized practically-oriented knowledge and skills. While there is a clear shift in support towards more practical and social oriented research and an emphasis on transmitting practical knowledge and skills in teaching, the universities' efforts to commercialize have been less influential on scholarly work. A smaller proportion of the respondents (34.5%) agreed that commercially-oriented or applied research was emphasized by their institutions.

Table 14b. Teaching in your institution emphasises practically-oriented knowledge

	Percentage
1 - Strongly agree	23.5
2	44.9
3	21.2
4	9.4
5 - Strongly disagree	1.1

Source: CAP 2007 Survey of Hong Kong.

Table 14c. Your institution emphasizes commercially-oriented or applied research

	Percentage
1 - Strongly agree	10.4
2	24.5
3	36.8
4	18.0
5 - Strongly disagree	10.3

Source: CAP 2007 Survey of Hong Kong.

Table 14d. Would you characterize the emphasis of your primary research as commercially-oriented or intended for technology transfer during the past two years?

	Percentage
1 – Very much	1.8
2	9.0
3	15.5
4	18.2
5 - Not at all	55.6

Source: CAP 2007 Survey of Hong Kong.

The reasons may not be easy to identify without further research. However, the elevated position of business and commerce among other institutions in a society such as Hong Kong's could mean that the academe is hardly able to reach the expected standard. Moreover, part of the academic community views it as part of its role to ensure that, while universities can be run more like business and commercial enterprises, they should not be part of that sector.

Table 14e. To what extent does your institution consider the practical relevance or applicability of the work of colleagues when making personnel decisions (%)

	Percentage
1 – Very much	4.5
2	20.3
3	46.0
4	19.6
5 - Not at all	9.7

Source: CAP 2007 Survey of Hong Kong.

Table 14f. To what extent does your institution emphasize recruiting faculty who have work experience outside academia? (%)

	Percentage
1 – Very much	3.3
2	17.6
3	37.1
4	28.5
5 - Not at all	13.6

Source: CAP 2007 Survey of Hong Kong.

Table 14g. The pressure to raise external research funds has increased since my first appointment (%)

	Percentage
1 - Strongly agree	44.4
2	33.7
3	14.7
4	4.7
5 - Strongly disagree	2.6

Source: CAP 2007 Survey of Hong Kong.

Given the demand for relevance, Hong Kong faculty not only have their research funded by their own institutions. They also raise research funds from outside academe. Institutional financial support constitutes half of their

funding sources, whereas government and public research funding agencies support another forty percent. Academics also seek funds from non-profit making foundations (3.3%) as well as business firms (2.4%). The changing academic profession indicated that there had been an increasing pressure to raise research funds outside their institutions. Nearly 80% of the respondents agreed that the pressure to raise external funds for research has increased since their first appointment. It is expected that the proportion of institutional financial support for research will continue to diminish in the future.

Table 14h. During the current academic year, have you done any of the following?

	Percentage
Been a member of a community organization or participated in community-based projects	36.8
Worked with local, national or international social service agencies	21.4
Been substantially involved in local, national or international politics	6.1
Served as an elected officer or leader of unions	5.3

Source: CAP 2007 Survey of Hong Kong

Higher education institutes, like other modern organizations, are reaching beyond the ivory tower to build networks and create business opportunities for revenue expansion (Cummings, 2006). To work in line with the mission of a relevant academy, Hong Kong scholars are involved in activities, organizations and commitments outside academe. During the academic year 2006-07, 36.8% were members of community organizations or participated in community-based projects and 21.4% worked with local, national or international social service agencies. Only 6.1% had substantial involvement in local, national or international politics and only 5.3% indicated that they served as an elected officer or leader of a union.

Concluding Remarks

We would have expected a greater difference in response patterns of academics in Hong Kong since the surveys of 1993 and 1999. However, many response patterns have been sustained in a number of areas, despite the fact that economic globalization has moved most university systems in a new, more entrepreneurial direction (Postiglione, 2008; UNESCO, 2004; Berger, 1991,

pp.24-27; Wong, 1988). The Hong Kong academic profession has been responsive and adaptive, and not unexpectedly, academic entrepreneurialism (Clark, 2002; Mok, 2005) is on the rise.

Given the preliminary nature of this review, it may be premature to set out the directions for more in depth analysis. Yet, the following directions may show promise: the impact of academic entrepreneurialism on professional autonomy, the extent to which an academic career is still able to attract the most talented of the younger generation, the feminization of academic profession, doctoral localization, and the effect of internationalization on the mobility of the academic profession across national and regional borders.

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Progress of the Academic Profession in Mainland China

Hong Shen[*†]

Introduction

China is a large country. It has a population in excess of 1.3 billion. Its higher education system reflects the same scale. There are over 23 million students attending courses in mainland China; and more than 18 million attending "regular" courses. Providing these courses are 1,876 regular higher education institutions (RHEIs). Of these, 720 RHEIs provide 4-year full-time degree level courses: 691 are public institutions, and 29 private. The public institutions are affiliated either to central government (105) or to local government.

The total number of faculty in the 1,876 RHEIs is in excess of one million, 1,075,989. Those in the 720 institutions that provide 4-year full-time degree level courses number 677,056. It is these faculty members who constitute the academic profession in mainland China for the purposes of the CAP survey.

The CAP national survey used the agreed common questionnaire. Its application involved challenges from the scale – both numerical and geographical. The arrangements for the selection of a sample population, for distribution of the questionnaire and the processing of responses are discussed in Section 1. A preliminary discussion of the statistics from the responses is provided in the subsequent sections. The discussion is selective: it focuses

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[†] Professor Shen was unable to prepare a written text. This article was prepared by the editor from the material presented by Professor Shen to the CAP meeting in Hiroshima in January, 2008. Errors, misjudgments and misconceptions that may have arisen in this process are entirely the responsibility of the editor.

mainly on the progress achieved by the academic profession in China and on the current levels of satisfaction that are expressed. The paper ends with a brief statement of some initial conclusions.

Section 1. Structure, Distribution and Response of the Sample Population

Sample Structure

The size and distributions of the academic profession in mainland China impose clear requirements for a balanced selection of the survey sample. The numbers are large and distributed unevenly; the geographical environments are diverse. To render the process of selecting a representative sample of suitable size manageable, a number of operating principles were established. These were applied to sample selection at the level of both institutions and members of faculty.

Institutions

Guidelines for the CAP project identify 4-year degree-awarding institutions as a basis for the survey. Accordingly, it was decided to exclude the short-cycle and private colleges and that the survey population would be drawn from the 691 public RHEIs. These institutions are affiliated with either local government (586), spread over 31 provinces, or national government (105), located in 10 provinces. The uneven provincial distribution suggested that, as a matter of principle, it would be appropriate to use the six administrative regions as sampling units. In order to constrain the survey to a practicable size, a further decision was to limit the sample to 1 in 10 of the 4-year institutions and apply this separately to the two categories. By combining these principles, the institutional samples were identified as 10 national and 60 regional institutions as shown in Table 1.

Faculty

To obtain representative samples from the institutions it is similarly necessary to identify principles for operation. Academic and disciplinary diversity were accommodated by limiting the sample size from each institution to 60, and by ensuring that each of the institutions selected for survey had faculty in not less than 5 disciplines. Arrangements to be made within institutions were

identified as the means by which a representative distribution of academic rank, age and gender could be obtained.[1]

Table 1. Selection of Institutions to provide Samples for CAP Survey

(a) National Institutions

Region	**National system (number of national institutions)**	**Sampling**
North China	41: Beijing (34); Tianjin (3); Hebei (4)	4
East-north China	10: Liaonin (5); Jilin (2); Helongjiang (3)	1
East China	24: Shanghai (8); Jiangsu (9); Zhejiang (1); Anhui (2); Fujiang (2); Shandong (2)	2
Central-south China	13: Hubei (8); Hunan (2); Guangdong (3)	1
West-south China	8: Chongqing (2); Shichuan (6)	1
West-north China	9: Shanxi (6); Ganshu (2); Xingxia (1)	1
6 regions	105 national institutions in 20 provinces	10

(b) Provincial Institutions

Region	**Provincial systems (number of local institutions)**	**Sampling**
North China	90: Beijing (23); Tianjin (15); Hebei (26); Shanxi (16); Inner-Mongolia (10)	9
East-north China	76: Liaonin (34); Jilin (21); Helongjiang (21)	8
East China	168: Shanghai (20); Jiangsu (33); Zhejiang (24); Anhui(24); Fujiang (14); Jiangxi (18); Shandong (35)	17
Central-south China	128: Henan (27); Hubei (24); Hunan (22); Guangdong (31); Guangxi (19); Hainan (5)	13
West-south China	70: Chongqing (13); Shichuan (24); Guizhou (14); Yunnan (16); Tibet (3)	7
West-north China	54: Shanxi (26); Ganshu (11); Qinghai (3); Xingxia (3); Xingjiang (11)	6
6 regions	586 local institutions in 31 provinces	60

Responses

The survey extended to 60 members of faculty in each of 70 institutions

[1] With hindsight, it would have been useful to have also sought explicit information about the nationality of faculty.

distributed in 11 of the 31 provinces. Support for the survey, provided by intervention from the Central Ministry of Education following representations from the Chinese CAP team, yielded an exceptionally high response rate. Responses were received, by October 2007 from 68 of the 70 institutions (97%) and individually from 3,618 faculty (86%). The response constitutes a 5% sample of the faculty in all the 720 4-year institutions. The overall characteristics of the respondents, in terms of gender, age, degrees and academic rank, are shown in Table 2.

Table 2. Basic Statistics on Gender, Age, Degrees and Rank (%)

	highest academic qualification			academic rank				
Survey	bachelor	master	doctor	full prof.	associate prof.	lecturer	assistant lecturer	others
CAP	27.8	41.5	30.6	23.5	33.9	28.3	11.3	3
National	57.6	29.5	10	13.4	29.6	32.4	19.8	4.8

	gender		marriage		age (years)					average age (years)
Survey	M	F	married	single	≤30	31~40	41~50	51~60	> 60	
CAP	63	37	88	12	20.1	38.3	32.3	8.1	1.2	38.7
National	57	43			30	35	25	9	1	(36.3)est

Notes: 1 National surveys for gender and academic rank are for faculty in 720 RHEIs
2 National surveys for age and academic degrees are based on faculty in 1867 RHEIs
3 CAP responses show 5.7% of those with doctorates have post-doctoral awards
4 National surveys for academic degrees shows 2.7% of faculty have sub-degree qualifications.

Comparison of the sample with figures available from national statistics shows a number of differences. The sample population contains a lower proportion of women and of the less senior academic ranks; its average age is slightly older and its academic qualifications – in terms of level of degrees – is higher. At least in part these discrepancies arise directly from the principles applied to selection of the CAP sample. The national figures for average age and degrees are for all 1,867 RHEIs, including the large number of faculty (398,933) in the smaller institutions that do not provide 4-year degree courses; a very large proportion of the faculty in these institutions hold bachelors' degrees as their highest qualification. The national figures for gender and academic rank relate to 4-year institutions but, unlike the sample, include the many smaller

and less research intensive institutions that are excluded from the CAP survey because they do not provide programmes in five or more academic disciplines.

Section 2. Results of the CAP Survey

Age and Qualifications

The academic profession in China is young, with an average age of less than 40 years. The average age of faculty responding to the survey is 38.7 years. This reflects the rapid growth of the profession, and consequently of recruitment to the profession, in recent years.

In total, almost three-quarters of faculty in the CAP sample hold an advanced degree, the proportion with bachelors' degrees only having fallen to 24.7%. The largest individual group are those with masters' degrees (41.5%); almost 1 in 3 hold doctorates (30.6%), of whom 5.7% also hold post-doctoral awards.

The somewhat greater average age of the CAP sample in comparison with the figure from the national statistics (est 36.3 years) partly reflects these high proportions. Attaining this level of advanced degrees at a time of rapid system growth may well in part be derived from the mix of academic disciplines in the sample (see below) but it also clearly indicates a professional commitment to advanced study.

Academic Rank

A substantial majority of respondents are in positions with senior academic rank, with associate professors constituting the largest individual group. Almost 1 in 4 of faculty are full professors (23.5%) and 1 in 3 associate professors (33.9%). Given the age distribution, this implies that appointment and promotion to the professoriate can occur at comparatively young ages.

Table 3. Academic Disciplines of Respondents in the CAP Survey

Disciplinary Area	Proportion	Disciplinary Area	Proportion
Physical Sciences	23%	**Law**	4.5%
Engineering	21.4%	**Medical Sciences**	3.2%
Humanities & Arts	14 %	**Life Sciences**	3.2%
Business & Administration	12.9%	**Social & Behavioural Sciences**	2.7%
Education	10.8%	**Agriculture**	1.2%

Note: The survey also showed respondents in personal, transport and security services (0.2%), other (2.3%), and not applicable (0.4%)

Academic Disciplines

The range of subject areas in which respondents locate their academic work is summarised in Table 3. The survey identified 12 disciplinary areas. Of these, five account for four-fifths of all respondents: "physical sciences" (including mathematics and computer science) (23%), "engineering" (including manufacturing, construction and architecture) (21.4%), "humanities and arts" (14%), "business and administration" (including economics) (12.9%) and education (10.8%). On the basis of the selection principles adopted, these five disciplines are likely to figure prominently in a large majority of institutions selected to participate in the CAP survey. Far smaller numbers are present in other areas: "law" (4.5%), "medical sciences" (including health and related sciences and social services) (3.2%), "life sciences" (3.2%), "social and behavioural sciences" (2.7%) and "agriculture" (1.2%).

The numbers identified in the area of social and behavioural sciences are small; but if the aggregation followed a common practice of including law and education in the social sciences, the total would amount to almost 1 in 5. The further inclusion of business and administrative studies would bring the total to almost 1 in 3. In contrast the small proportions of medical and life sciences are noteworthy, but again, if grouped with the physical sciences and engineering, they constitute half of all the respondents. The widely established practice of expecting completion of doctorates in these laboratory and engineering disciplines before appointment to established academic positions will clearly influence the high proportion of higher degrees shown in the response to the survey.

Supplementary Survey Responses

The standard CAP survey was augmented in China to provide data on a number of issues related to the social structure of the academic profession. The extension involved two additional surveys by questionnaire and two special research studies.

A survey by questionnaire of PhD students in key universities was directed at seeking information on the young generation of the academic profession in China. A sample of 600 students in two universities was surveyed. The students were selected by random sampling and provided responses from 11 academic disciplines. The response rate was high (89%). The respondents had an average age of 28 years, slightly over 1 in 3 was female (35%) and the majority were single (67%).

A second survey by questionnaire addressed the effects of the severely

increased professional demands on the health of the academic profession in a key university. A sample of one thousand full and associate professors in Huazhong University of Science and Technology (HUST) was selected from the 37 schools and departments of the university. The response rate was 66%.

A sample of junior faculty, also drawn from HUST, has been involved in a series of extensive and intensive study. The sample comprised 12 members of faculty all aged less than 36 years. They represented three disciplinary groups; five of them were women. The study entailed a combination of interviews, observation, detailed study, and further interviews in order to discover problems facing young faculty.

The fourth supplementary programme consisted of a linked series of theoretical studies on the culture of the academic profession conducted jointly between HUST and the University of Hong Kong. This has involved joint seminars in Hong Kong and in HUST. The work of six graduate students taking part in the programme has led to dissertations and been discussed at the seminars. Two of them are PhD students who addressed the logic of development in the academic profession and the growth of its international competitiveness respectively; the remaining four are masters' students whose work has included study of new recruits and gender issues. When completed the results of all the four programmes will be reported as part of the final report of the China CAP project.

Section 3. Change and Progress in the Academic Profession in China

The CAP survey has revealed significant changes in the work, rewards and expectations for the academic profession. China did not participate in the previous international study in 1992, so essentially perception of comparative change relates to 1978 when the major national reform programme commenced. On this basis, many faculty indicate positive developments in accord with the purposes of expansion of provision for higher education and rising academic standards. This section is concerned with changes in conditions of employment, remuneration, and the extent and depth of academic experience; other developments that particularly affect the future of the academic profession and indicate unsatisfied demands are identified in the subsequent section.

Enhancement of Academic Degrees

The substantial growth of provision for higher education and of the academic profession became evident in the 1990s. Previously, a high proportion of those teaching in HEIs in China did not hold advanced degrees. Through the 1990s there was a steady but slow increase in the number of faculty who acquired masters' and doctors' degrees. These increases accelerated and, in the new century, have become rapid transformations of the profession (Figure 1). Responses to the CAP survey show essentially a doubling of the proportions holding masters' and doctoral degrees since 2000. Moreover there

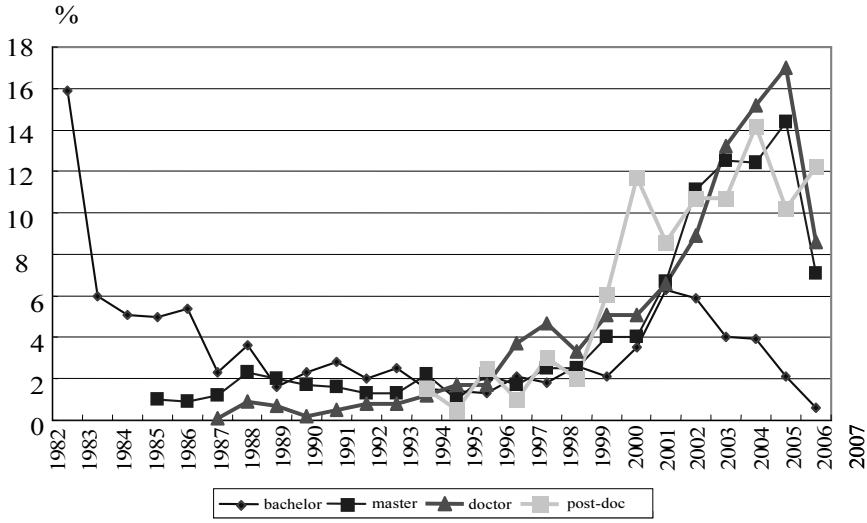

Figure 1. Enhancement of Degrees by the Academic Profession in China

are similarly significant increase in those obtaining post-doctoral awards and experience. Undoubtedly the figures are influenced by the substantial emphasis on laboratory sciences and engineering in the larger RHEIs selected for the survey. But at the same time they indicate the increasing emphases on the growth of graduate schools and research in these large RHEIs.

Earnings

To sustain the rapid expansion of the academic profession it is necessary that it is seen as providing an attractive career. In part this is aided by the perception that advanced study is both intellectually enjoyable and also necessary in terms of knowledge, achievement and reward. Historically, advanced study has been seen as primarily designed for, and a precursor to,

provision of the recruits and replacements for the academic profession. In recent years this view has needed modification as employers across the economy have identified advantages accruing from recruitment of graduates with advanced degrees. These greater employment opportunities, often combining attractive work and environment with high pay, have presented problems for recruitment to the academic profession in some disciplines and in some countries. In China the achievement of rapid growth in the academic profession has been aided by a greater growth in the number of graduating students; but this has been accompanied by an even greater growth in the national economy. It is therefore of particular interest to see to what extent the rewards in terms of earnings of faculty compare with those elsewhere in the economy.

Statistics published in 2003 and 2006 are now available to show how they have changed in recent years. A national survey in 2003 involved 72 national and 27 local regional HEIs; it received responses from 12,688 faculty and staff. The average earnings in the year 2002 were $4,498 (US dollars). The CAP survey, by using data for earnings in 2006 in the 68 RHEIs gives a value of average academic faculty earnings of $6,318, roughly corresponding to a nominal annual rate of increase of 10%.

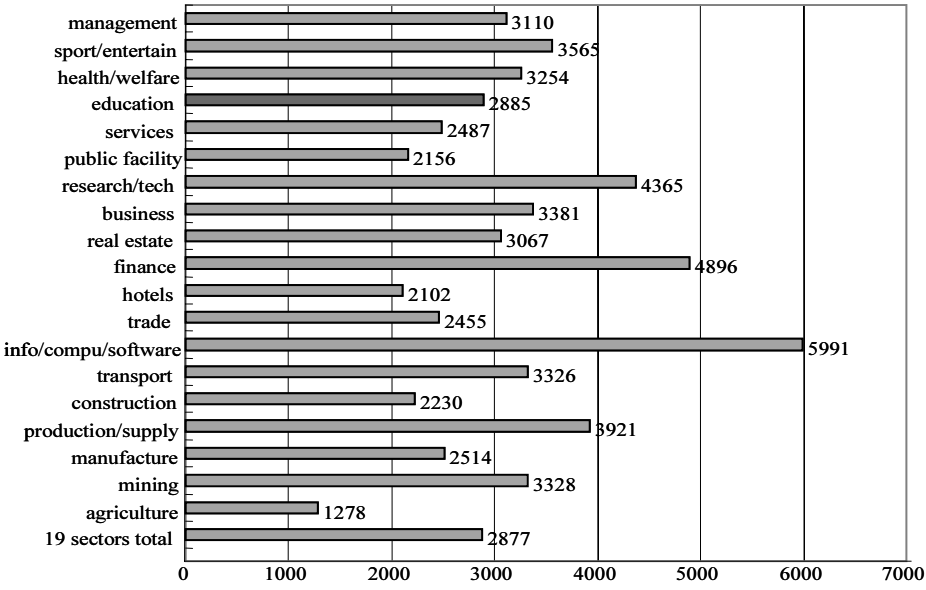

Figure 2. National Statistics for Average Earnings 2006 (US$)

The levels of earnings need to be seen in the context of levels in employment across the wider Chinese economy. Data available in the general

national statistics for 19 economic sectors in 2006 provide a more reliable comparison (Figure 2). Figures for individual employment sectors range from $5,991 for those employed in IT, computer services and software to $1,278 for those working in agriculture. The financial sector ($4,896) and research and technical services ($4,365) are relatively high paid sectors; education ($2,885) lies close to the average. It is therefore striking that faculty in the CAP survey report average earnings higher than any sector identified in the national statistics.

Working Conditions

One expectation in the academic world is that periods of rapid growth in student numbers and institutional expansion do not coincide with good working conditions. Despite the long average working week of 53 hours reported by faculty, the CAP survey confutes this expectation. The responses indicate that generally working conditions are at least adequate (Figure 3). In terms of physical facilities (classrooms, laboratories, office space) provision is seen as better than average; and similarly, facilities and equipment (libraries, computing, telecommunications, equipment) are also regarded as above average. Notably, provision of teaching technology is widely regarded as good. There are exceptions: provision of support in the form of secretarial and research support staff is seen as falling below average expectation though the amount of

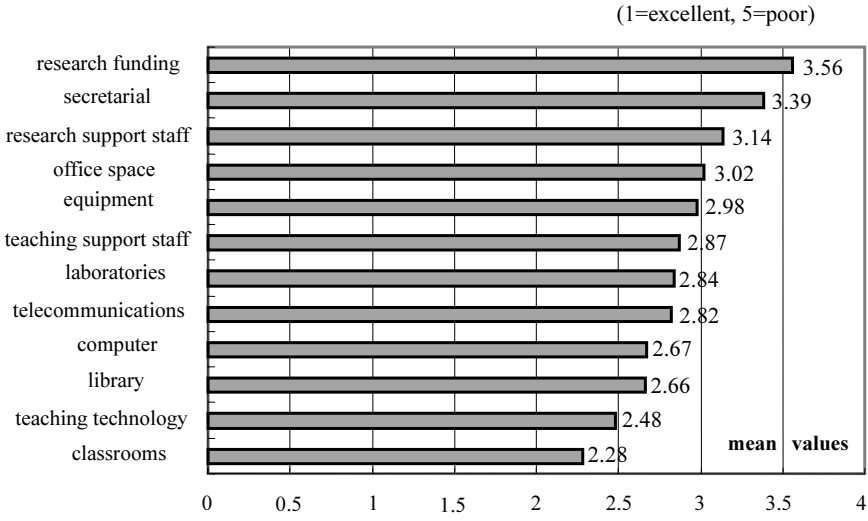

Figure 3. Evaluation of Working Conditions by Faculty in China (2007)

teaching support staff is seen to be better. The least satisfactory level of provision is perceived to be in research funding for which the lowest average approval rating (3.56, 1=excellent, 5= poor) is recorded.

The overall position is that of a reasonable level of satisfaction with the current situation corresponding to a substantial measure of improvement in working conditions. In answer to the question "Since you started your career, have the overall working conditions in higher education and research institutes improved?" over 6 in 10 faculty indicated they were in agreement by being either very much improved (25.2%) or improved (35.7%) with a further 27.9% agreeing to a moderate improvement.

Section 4. The State of the Profession

Responses to the survey show that overall, faculty are well satisfied with the state of the academic profession in HEIs in China. This does not cover every aspect of work – research funding is a notable exception – but it does apply to many of the professional aspects. Thus close to 6 in 10 faculty indicate that their satisfaction with their current job is high (53.5%) or very high (4.2%), with a further 34.3% expressing moderate satisfaction. Moreover, a large majority (78.8%) reject the proposition that if given the opportunity they would not now become academics (strongly reject 40%, reject 19.9%, moderately reject 18.9%).

These views are clearly echoed in the relatively small numbers who have thought, acted or decided to leave the academic profession. The population of respondents who have considered making a major professional change is no more than 28% (*cf.* UK, 77%). Of these only 1 in 5 contemplated leaving the academic profession; the others considered moves within the profession, either to another academic post in China (1 in 3) or overseas (1 in 8), or to a managerial post in their existing institution (1 in 3). In the event, less than 11% of faculty actually took concrete action with only 1 in 10 of them leaving the academic profession. The large majority of those who actually made a major change stayed within the academic world: 8% moved to an academic post overseas, 41% moved to another academic post in China, and 40.5% moved to a managerial position in their existing university. The situation is clearly one of stability to the extent of immobility: the figures indicate that among the survey population, inter-university mobility amounts to no more than 5% of all faculty.

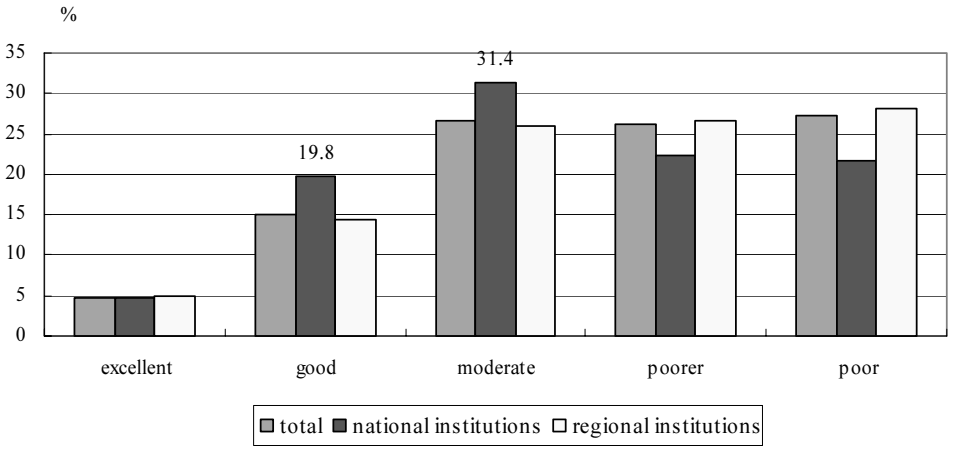

Figure 4. Evaluation of Research Funding by Faculty in China (2007)

The evident satisfaction with the profession does not extend to provision for research. As has already been noted, both research support and research funding is seen as less than satisfactory. Slightly over 1 in 3 (36%) received scholarship or other financial support in their doctoral training; and no more than 1 in 5 regard research funding as either good (15%) or excellent (5%).Clear differences appear in the responses of faculty in the national and the regional institutions. In the national universities 1 in 4 regard research funding as good (19.8%) or excellent (5%) and a further 1 in 3 (31.4%) identify it as moderately good, in total amounting to 56.2%, well over half; in the regional institutions the comparable figures total well under half (45.5%).

Most financial support for research is provided from institutional resources (39%) with other public bodies providing a similar total amount (government, 28%, public agencies, 13%). Proportionately, industry (15%) provides more than is commonly found in the large foreign systems. Unsurprisingly there is increased pressure on faculty to raise external research funds: well over half of respondents agree (27%) or strongly agree (31%) that the pressure to raise external funding has increased and a further 27% indicate moderate agreement that this is so.

The effects of internationalisation and globalisation on teaching and research are not prominent in professional life. Less than 1 in 3 faculty teach courses overseas or in a language other than that normally employed in their institution. Indeed, 96.3% employ their first language in teaching and 94.2% in research. There is comparatively little international research collaboration:

83.8% of faculty indicate they have no involvement in such collaborations and no more than 4.3% of research funding comes from international sources.

To obtain an overall view of the status of the academic profession in China, an additional question was included in the questionnaire. Faculty were asked "What is your evaluation of the overall performance of the academic profession?" The responses provide an overwhelmingly positive image. Over 70% state that their evaluation is either very good (6.3%) or good (64.5%); with a further 27% indicating their estimation as moderately good; only 2 in 100 feel it is either bad (1.9%) or very bad (0.3%). Clearly while there are aspects in which there is evidently room for improvement, the academic profession is seen to satisfy the aspirations of faculty across the system.

Conclusions

The purpose of the CAP survey is to obtain an assessment of the current situation and circumstances of the academic profession. The immediate factual description given directly by the statistics of the responses provides an image of a vigorous profession enjoying adequate conditions for achieving satisfying academic results. Further analysis will add perspective through identification of attitudes to management issues, productivities, balance between research and teaching, mobility and career development, and increasing demands addressed to the profession.

More general issues remain to be explored. Despite the short time span, China, now with 22% of the age group participating has a mass higher education system. Within it, the pressures from massification differ widely, as do the resources available for response. The relative roles of national and regional institutions and of the various categories of key institutions, with respect both to students and faculty, provide aspects of particular sensitivity: conflict between quantity and quality present crucial problems.

The continuing growth of the higher education system in China provides a special challenge. As with any expanding enterprise, the development offers professional opportunity but its achievement is dependent on the availability of resources. A critical resource is the availability of new recruits to the academic profession. Currently new graduates are attracted to the profession by a combination of intellectual, social and economic aspiration. The ability to contribute to widening educational opportunity and to advance learning, to achieve high earnings and social status in stable employment, and to enjoy academic life – and its summer and winter holidays – constitutes a powerful

prospectus. The image of the profession reflects the high level of satisfaction expressed by current faculty in their responses to the survey. It is hoped that our supplemental survey of current graduate students will confirm this image as that of the next generation of the Chinese academic profession.

Acknowledgements

The work of the China CAP group has been dependent on many individuals and bodies. We are much indebted to their support. In particular it is important to identify the following for their contributions: Human Resource Bureau of the State Ministry of Education; Ford Foundation, Beijing Office; Professor Jurgen Enders; the CAP Workshops in Paris, London, Hiroshima (twice), Kassel, Hong Kong; and for the China team in Wuhan and Hong Kong. The author must express her acknowledgement of the contributions made by all the team members of the China Case Study.

Analyses of the Educational Backgrounds and Career Paths of Faculty in Higher Education Institutions in Beijing Municipality, China

Yan Fengqiao* and Chen Yuan**

Section 1: Research Questions

The academic profession can be specifically identified as the members of faculty in higher education institutions (HEIs) (Light, 1977, p.11). China's higher education system ranks as first in the world by measure of enrolment.[1] Correspondingly, it has one of the biggest faculty profiles. In 2005, there were 1,072,691 full-time faculty members in all kinds of HEIs including regular HEIs, adult HEIs and private HEIs, among which 965,893 full-time faculty members, or 90.04% worked in regular HEIs (Ministry of Education, China, 2005, p.45). However, little empirical research has been done with regard to the academic profession. The importance of research on this topic is not only due to the size but also due to a special Chinese academic ecology, which shapes the academic profession. The modern university originated from European universities in the medieval period (Arimoto, 2007, p.5). When the European university prototype spread out all over the world, it became embedded in specific societies with idiosyncratic characters. This is why we see many diverse higher education systems nowadays (Clark, 1983; Arimoto, 2007, p.8). By the same token, it is assumed that the academic profession acquires idiosyncratic

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[1] The study focuses on mainland of China. It does not take Hong Kong, Macao and Taiwan into account.

characteristics in the embedded higher education system (Altbach & Lewis, 1996, p.5; Enders, 2006, p.16).

What are the idiosyncratic characteristics of the Chinese academic profession that this paper is exploring? To get answers to this question, it is necessary at the outset to make a comparison between Chinese firms and western firms. Scholars have termed Chinese firms as *danwei*, the characteristics of which are formed in a state-controlled system and differ from rational and autonomous organizations in market systems. Not only is *danwei* an economic unit, it is also a political and social unit (Lu & Perry, 1997, p.5). From a political perspective, *danwei* is penetrated by the ruling party. From a social perspective, *danwei* is a small and self-sufficient society in which few exchanges are necessary between *danweis*. In *danwei*, the relationship between employers and employees is not a market type but a dependent type (Walder, 1996, p.12). Like Chinese firms, Chinese HEIs also undertake some political and social functions, and they differ from western universities in some ways (Yan, 2004). In addition to the above broad generalization, the Chinese academic profession is specifically characterized with monotonous educational backgrounds or inbreeding, stagnation or low mobility, permanent employment or the so-called "iron rice bowl", and so forth. China's permanent employment has superficial similarity to but is quite different in nature from the tenure system that has ensured academic freedom in Western universities. Furthermore, the stronger loyalty to discipline than to institution which has been identified in Western institutions has not been verified in Chinese settings. In contrast, the strong ties that faculty have with institutions weaken disciplinary collaboration inter-institutionally. In 1997, China's National Education Commission (now the Ministry of Education) organized a national survey of university faculty. The survey showed that faculty who have studied and now work in the same institution and the same discipline account for 33%, faculty who studied and work in the same institution but in different disciplines account for 5%, and faculty who studied and work in different institutions but in the same discipline account for 62%. The phenomenon of a monotonous background is more appealing for key universities in which their faculty recruitment is constrained to their own graduates to a great extent. This leads to generations of scholars with similar educational backgrounds working under the same roof (Ma, 2001; Zhang, 2004, p.32).

Why are we concerned with academic organization when we study the academic profession? The openness or closeness of academic systems has significant impacts on academic productivity. In particular, academic openness

is supposed to have positive impacts on academic productivity, while academic closeness is supposed to have negative impacts. Academic inbreeding is one kind of academic closeness, and it is specified as a scenario where faculty continue to teach in the same university or college from which they graduated. International experience tells that apprenticeship in the small chair system can easily lead to academic inbreeding and nepotism. Owing to this drawback, the small chair system has been replaced by the large chair system, which is supposed to be conducive to academic productivity and creativity. Since the 19th century, Harvard, Yale and Princeton have controlled their inbreeding ratio below 30% by formal or informal norms (Arimoto, 2007, p.16). In addition, regulatory frameworks have evolved or have been laid down in many university systems so as to prevent inbreeding, have faculty promoted up or out, have recruitment policy based on public competition, and foster an academic labour market. Some German and the American universities even forbid promotion to full professorship from internal applicants. British universities abolished faculty permanent employment and replaced it with renewable contracts for new entrants (Altbach & Lewis, 1996, p.8). Japanese universities changed their faculty status from "civil servant" to "institutional employee". In sum, almost all HE systems are exploring productive organizational arrangements where academic professionals can work efficiently and effectively.

This research is concerned with the magnitudes of academic inbreeding and stagnation in Chinese HEIs. By analyzing educational backgrounds and career paths of faculty in the HEIs of the Beijing Municipality, this paper seeks to explore the idiosyncratic characteristics of the Chinese academic profession. Because the academic profession, as an integrated concept, is being challenged owing to its big variations, it has to be considered in sub-categories according to discipline, institutional type, and rank (Enders, 2006, pp.9-10). In the following sections, attention will be paid to the whole category as well as to its sub-categories. Three types of discipline are classified as natural sciences, social sciences and humanities; three or four tiers of HEIs are classified as key universities ("985" and "211"),[2] ordinary universities and vocational colleges, and four ranks are classified as professors, associate professors, lecturers and assistant professors.

[2] Two projects that Chinese government stipulated intend to select the top two dozen and top one hundred for investment and capacity building.

Section 2: Educational Backgrounds of Faculty

The combination of academic degrees held by faculty (*xueyuan guanxi*) is an operational concept in this study, and it refers to a relatively steady relationship among the faculty's learning or the institutional composition of the highest degrees held by all faculty members (Ma, 2001; Wu & Xiong, 2000). Other scholars deem that it is necessary to examine disciplines in addition to the institutional composition (Zhang & Zhao, 2003). The common concern for all definitions and considerations is academic inbreeding, and a measure of this can be derived from faculty's educational backgrounds. Members of faculty's educational backgrounds are considered to be diverse if they work in a university or college other than where they studied, or to be monotonous if they remain in the same one. If the latter is a common occurence, it means that students have less exposure to different and fresh knowledge and ways of thinking, which is rhetorically referred to as academic inbreeding.

Table 1. Dispersion of Valid Responses

Key universities	Ordinary universities	Colleges
Peking University (225)	Beijing Union University (176)	Beijing Electronic Science and Technology Vocational College (59)
Beijing Institute of Technology (239)		
Beijing University of Technology (517)	Capital Medical University (90)	Peking University Founder Technology College (78)
Beijing University of Chemical Technology (161)		
China University of Petroleum (177)	Beijing Information Science and Technology University (122)	Beijing Vocational College of Finance and Commerce (59)
University of Science and Technology Beijing (226)		
Beijing Foreign Studies University (33)	Beijing Agricultural College (207)	Beijing Polytechnic College (116)
University of International Business and Economics (70)		
Capital Normal University (115)	Beijing Wuzi University (132)	University for Science and Technology Beijing (167)
China University of Political Science and Law (72)		
Communication University of China (84)	The National Academy of Chinese Theatre Arts (95)	

Note: The figures in brackets indicate the number of valid responses.

In order to study the issue, we have designed a questionnaire with questions regarding the educational institutions, disciplines and the year of admission as

well as that of graduation for each degree *etc*. A stratified sampling approach has been employed in the survey. In total, 3,220 valid responses have been collected from 22 universities and colleges, among which 1,919 (59.6%) are from 11 key universities, 822 (25.5%) are from 6 ordinary universities and 479 (14.9%) are from 5 vocational colleges.[3] Table 1 shows a list of surveyed institutions and numbers of questionnaires returned from each institution.

Table 2. National Profiles of the Academic Profession in Regular HEIs by Academic Fields and Ranks in 2005

Discipline	Fields	Total	Professor	Associate professor	Lecturer	Assistant professor	No rank
Natural sciences	**Science**	122,985	15,937	41,456	36,399	22,482	6,711
	Engineering	260,059	28,734	76,731	82,368	56,153	16,073
	Agriculture	27,815	3,845	8,914	8,786	4,755	1,515
	Medicine	68,164	10,565	21,063	20,491	12,683	3,362
	Sub-total	479,023	59,081	148,164	148,044	96,073	27,661
	(%)	(49.6)	(61.2)	(53.3)	(47.5)	(44.7)	(42.9)
Social sciences	**Economics**	58,607	5,511	16,897	20,591	11,783	3,825
	Law	40,383	3,551	11,174	13,924	8,833	2,901
	Education	82,917	4,489	23,193	28,619	20,428	6,188
	Management	56,893	5,420	15,670	19,004	12,375	4,424
	Sub-total	238,800	18,971	66,934	82,138	53,419	17,338
	(%)	(24.7)	(19.6)	(24.1)	(26.3)	(24.9)	(26.9)
Humanities	**Philosophy**	31,011	3,307	10,478	10,612	5,026	1,588
	Literature	205,155	13,277	48,862	67,389	58,393	17,234
	History	11,850	1,916	3,762	3,775	1,803	594
	Sub-total	248,016	18,500	63,102	81,776	65,222	19,416
	(%)	(25.7)	(19.2)	(22.6)	(26.2)	(30.4)	(30.2)
Total		965,839	96,552	278,200	311,958	214,714	64,415
(%)		(100)	(100)	(100)	(100)	(100)	(100)
(%)		(100)	(10.0)	(28.8)	(32.3)	(22.2)	(6.7)

Source: Ministry of Education, China, China Educational Statistical Yearbook 2005, Beijing: Renmin Educational Publishing House.
Note: On the bottom row, the figures represent the percentage of each rank.

Before discussing the analysis of the data in the sample, it is necessary to describe the statistical data for the academic profession as a whole in the country. Table 2 is a matrix of the academic profession by academic fields and ranks.

[3] The sampled academic profiles seem to be superior to national academic profiles if we compare sampled statistics with national statistics. It means that faculty from key universities are over-represented in the sample.

By studying the distribution of the academic profession by academic fields, we can see that faculty from natural sciences represent 49.6 %, faculty from social sciences represent 24.7%, and faculty from humanities represent 25.7%. By studying the distribution of the academic profession by academic ranks, we can see that full professors represent 10.0%, associate professors 28.8%, lecturers 32.3%, assistant professors 22.2%, and faculty with no rank 6.7%. By comparing the sample data and national data in the following discussion, it appears that the sample data over-represent senior ranks.

1. Academic Degrees held by Faculty

Given the assumption of the quality of academic degrees, they provide a primary indicator of faculty qualification. The degree combination has been calculated based on data obtained from questionnaires (Table 3). On average, the percentage of faculty with doctorates is 38% but with a big variation across the three tiers of institutions.[4] Doctoral degrees or the highest professional degrees are prerequisites for many European and North American HEIs (Light, 1977, p.14). Since China established the academic degree system in 1980, the educational background of faculty has been upgraded significantly. However, it still lags far behind faculty profiles in some developed countries. For example, the proportion of faculty with a doctorate was 74%, 57%, 62% and 70% in Korea, Japan, the United States and England respectively in 1991 with significant variation between research institutions and non-research ones (Lee, 1996, p.103; Arimoto, 1996, p.157; Haas, 1996, p.345; Fulton, 1996, p.411).

Table 3 indicates that there is a marked difference in faculty degree profiles among the different tiers of institutions. For key universities the results form an inverted triangle with 53.1% of faculty having doctors' degrees, 33.3% masters' and 13.6% bachelors'. A parabolic curve is shown for ordinary universities as 57.3% of faculty have masters', 20.8% and 21.9% bachelors' and doctors' degrees respectively. The form for vocational colleges is pyramidal as less than 1% of faculty has a doctoral degree, and the ratio of bachelors' to masters' is nearly 3:2.

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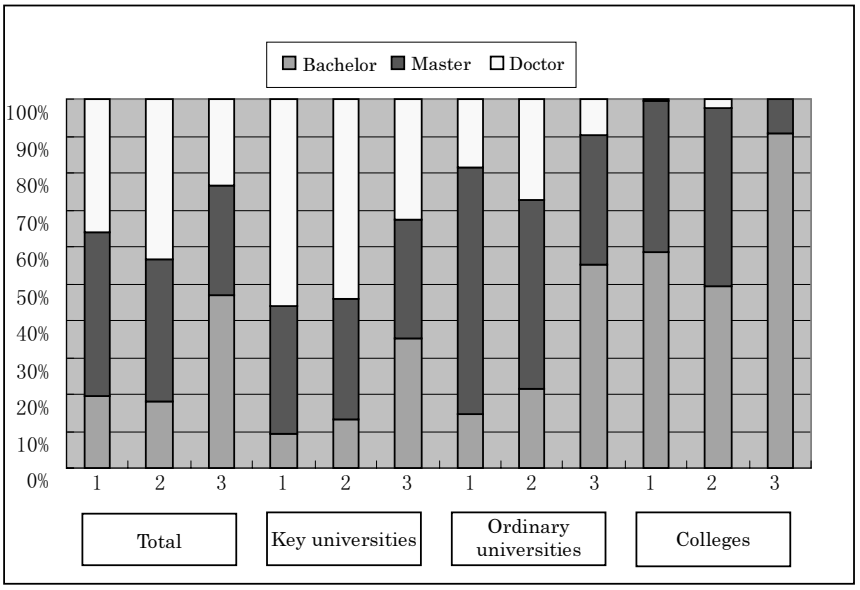
[4] The national profiles of the academic profession are inferior to the sampled profiles in terms of academic degrees. Full-time faculty with doctoral degrees, masters' degrees, bachelors' degrees, associate degrees and below in regular HEIs were 9.2%, 27.9%, 59.9% and 3.0% respectively in 2005 (Ministry of Education, China, 2005).

Table 3. Degree Combinations

(%)

	Total	Key universities	Ordinary universities	Vocational colleges
Bachelors	21.3	13.6	20.8	59.5
Masters	40.4	33.3	57.3	39.7
Doctors	38.3	53.1	21.9	0.8

Note: All together 1,930 valid responses are available, with 1,796 from key universities, 764 from ordinary universities and 370 from vocational colleges.



Notes: 1) 1, 2, 3 represent three subgroups of ages 20 to 35, 36 to 50 and over 50 years respectively.
2) All together 2,872 valid responses are available, with 1,762 from key universities, 746 from ordinary universities and 364 from vocational colleges.
3) The ratio between group 1, 2 and 3 is 47:45:8 in general,[5] 43:48:9 in key universities, 47:46:7 in ordinary universities and 67:24:9 in vocational colleges.

Figure 1. Degree Dispersion among Different Age Groups

[5] The age structure of the sampled academic profession is close to that of the national academic profession. The ratio between groups 1, 2 and 3 for the national data in 2005 was 48:41:11 (Ministry of Education, China, 2005).

In order to carry out a more thorough study, we divided the faculty into three subgroups according to ages: from 20 to 35, from 36 to 50 and over 50 years. Figure 1 depicts the percentages of degrees held by these three subgroups.

Several features are revealed by Figure 1. (1) There is an upward trend that the younger the faculty, the higher the proportion of advanced degrees (*i.e.* masters and doctors combined) held. It is true in general and for any given tier of institutions as well, though the trend is especially obvious for groups 1 and 2. (2) The change in proportion of masters to doctors with age is different for different tiers of institutions. In key universities, the proportion of doctors is higher than that of masters for each of the three age groups, while that of masters remains stable; and the younger the faculty are, the higher is the proportion of doctors. In ordinary universities, the proportion of masters is higher than that of doctors, that of doctors peaks with group 2 (36-50 years), and that of masters peaks with group 1 (20-35 years). In vocational colleges, the proportion of doctors is extremely low, and that of masters peaks with group 1 (20-35 years). (3) The inverted triangle in key universities and the parabola in ordinary universities are more obvious with group 1 and 2, while the pyramidal curve is more obvious with group 3. These distributions reveal an evolving trend that more younger than senior faculty tend to hold advanced degrees.

Faculty in HEIs can upgrade their degrees through on-the-job study. This is particularly true for an expanding higher education system. Among faculty, 16.7% are masters' candidates, and 14.2% are doctoral candidates. In order to take on-the-job study into account, we collected data indicating the beginning year of each degree. Given that variable, the candidates can be regarded as potential holders of certain degrees, hence the change in degree combination over the next few years may be revealed.

From the data in Table 4, it is clear that the degree combination will undergo the following changes. (1) In general, the proportions of doctors rises, while those of masters and bachelors declines; the proportion of masters declines roughly by as much as the rise of doctors. (2) In vocational colleges, the proportion of bachelors drops substantially while that of masters rises substantially and that of doctors rises by a small margin. (3) The proportion of bachelors in key and ordinary universities remains stable, and that of doctors rises roughly by as much as the decrease of masters. These changes indicate that some faculty in HEIs are tending to upgrade their degrees in the short run.

Table 4. Degree Combination (including degree candidates)

(%)

	Total	Key universities	Ordinary universities	Vocational colleges
Bachelors	20.8	14.7	20.4	51.3
Masters	36.9	28.2	52.3	46.6
Doctors	42.3	57.1	27.3	2.1

Note: All together 3,000 valid responses are available, with 1,834 from key universities, 782 from ordinary universities, and 382 from vocational colleges.

2. Educational Backgrounds

A Cross-Institutional Perspective

While analyzing faculty's educational backgrounds, it is important to examine whether members of faculty are teaching where they studied. Figure 2 delineates alternative pathways that faculty may choose for their destinations at the point of graduation. For example, bachelor's degree holders have three choices. They may go on to graduate studies in the same or another institution or get a job. Similar choices exist for postgraduates. Faculty who receive their bachelors', masters' and doctoral degrees from three different institutions, have diverse educational backgrounds; otherwise, their educational background is monotonous. Figure 2 shows seven pathways: (1) a bachelor's degree; (2) a bachelors' and a masters' degree both from institution A; (3) a bachelor's degree from A and a master's degree from B; (4) a bachelor's, a master's and a doctoral degree from A; (5) a bachelor's and a master's degree from A and a doctoral degree from B; (6) a bachelor's degree from A, and a master's and a doctoral degree from B; (7) a bachelor's degree from A, a master's from B and a doctorate from C.

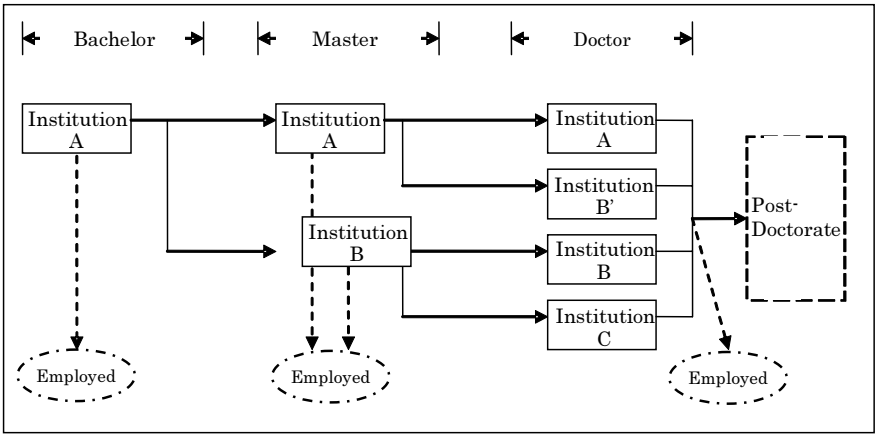


Figure 2. Educational Experience and Dispersion

Table 5. Degree Dispersion among Institutions

(%)

		Total	Key universities	Ordinary universities	Vocational colleges
Bachelors	Type 1	100	100	100	100
	Total percentage	21.1	14.7	18.4	49.4
Masters	Type 2	44.9	53.1	39.4	32.1
	Type 3	55.1	46.9	60.6	67.9
	Total percentage	32.8	26.6	45.7	38.9
Doctors	Type 4	28.8	30.9	17.4	n.a
	Type 5	19.4	20.2	14.9	n.a
	Type 6	23.6	23.4	24.8	n.a
	Type 7	28.2	25.6	42.9	n.a
	Total percentage	32.8	46.3	19.6	1.5
System default		13.3	12.4	16.3	10.2

Notes: 1) All together 3,220 valid samples are available, with 1,919 from key universities, 822 from ordinary universities and 401 from vocational colleges.
2) System default refers to the percentage of those respondents who did not indicate personal movement among institutions even though they have the corresponding degrees.

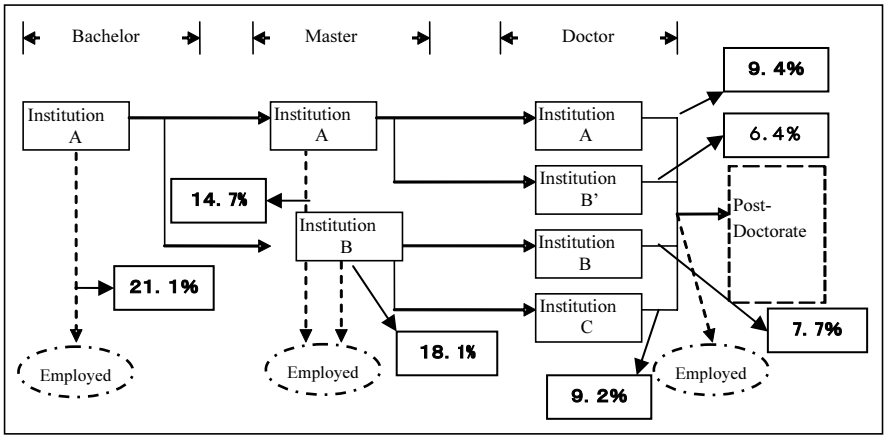


Figure 3. Distribution of Educational Experience and Dispersion

In order to examine the issue, the questionnaire asked questions relevant to eliciting information about the granting institutions of each degree that every respondent holds. We obtain statistics regarding the seven pathways as shown in Table 5.

Combination of the data from Table 5 with those in Figure 2, yields the results shown in Figure 3. It depicts clearly what institutions faculty choose for their education.

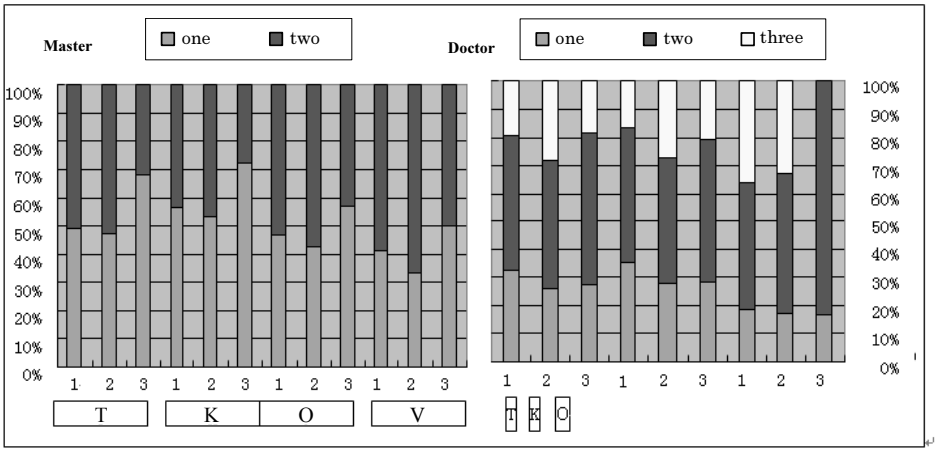
Among faculty with a master's degree as the highest (including existing candidates), the proportion of type 3 is higher than that of type 2. Among those with a doctorate as the highest degree, type 4 and type 7 account for roughly the same percentage, though together the proportion of types 5 and 6 combined is higher than that of 4 and 7 combined. The proportion of type 2 is higher than that of type 3 in key universities, and the opposite is true in ordinary universities and vocational colleges. Among faculty with a doctorate as the highest degree, type 4 is dominant in key universities while types 5, 6 and 7 are more commonly seen in ordinary universities (Figures for doctors in vocational colleges are omitted as the proportion is extremely low.)

There are several reasons for the above patterns. First, faculty tend to aim upward academically, so that graduates from key universities prefer studying abroad and those from ordinary ones prefer studying in key universities. Second, generally speaking, key universities have the power to grant all academic degrees: ordinary universities are usually restricted to masters' and bachelors' degrees, while vocational colleges are only able to award associate degrees. Third, graduates from key universities prefer to stay where they were educated for advanced courses because there are limited opportunities for moving upwards. According to the rules, most institutions organize their own admission examinations for masters' and doctoral studies. Fourth, specialized institutions used to dominate the system, and this led to low student mobility across institutions. Last, combined undergraduate-master and master-doctor uninterrupted study programs also contribute to a high proportion of types 2, 4 and 6.

Table 5 also shows that faculty members who received all their degrees within the same institution account for 45.2% of the total, and the figure reaches 61.9% in vocational colleges largely due to the high proportion of faculty with only a bachelor's degree.

Excluding faculty with only a bachelor's degree, those who received all their post-bachelors' degrees within one institution still account for 28.4% in key universities, a proportion which is higher than that in ordinary universities and vocational colleges.

We can continue to examine how faculty's degrees in each age group are dispersed across institutions as shown in Figure 4.



Notes: 1) T - total institutions; K - Key universities; O - Ordinary universities; V - Vocational colleges.

2) 1, 2, 3 represent three subgroups aged from 20 to 35, 36 to 50 and over 50 years respectively.

3) For the masters group, all together 989 valid samples are available, with 458 from key universities, 367 from ordinary universities and 164 from vocational colleges. The overall ratio of the three groups is 52.7:40.6:6.7, while it is 43.6:45.4:10.9 for key universities, 55.6:40.6:3.8 for ordinary ones, and 71.3:27.4:1.2 for vocational colleges.

4) For the doctors group, all together 1,204 valid samples are available, with 1,005 from key universities and 191 from ordinary universities. The ratio of the three groups is 45:50:5 overall, while it is 45:50:5 for key universities and 43:54:3 for ordinary ones.

Figure 4. Dispersion of the Degrees of Each Age Group of Faculty

When the factor of age is taken into consideration, faculty with a master's degree show the following two features in terms of dispersion of degrees. (1) Vertically, there are more young faculty with inter-institutional study experience than senior ones in all three tiers of institutions. But the proportion of faculty with that experience in age group 1 remains lower than in age group 2 partly because some people in age group 1 have not completed their highest degrees. (2) Horizontally, the order of vocational colleges, ordinary universities and key universities matches the order of percentages of inter-institutional study experience ranged from high to low. In other words, faculty members in key universities tend to have monotonous educational backgrounds. The proportion of inter-institutional study experience is higher for faculty with doctoral degrees than for faculty with masters' degrees. This is a natural phenomenon.

A Multiple-disciplinary Perspective

Another perspective from which to study faculty's educational backgrounds is through examining their multiple-disciplinary or cross-disciplinary experience.

Modern knowledge is represented by disciplinary knowledge (Arimoto, 2007, p.4; Clark, 1987). Correspondingly, the modern academic profession can be categorized into scientists, social scientists and humanists. It is meaningless to talk about the academic profession without talking about its disciplines. Multiple-disciplinary frequency for degree holders is shown in Table 6.

Table 6. Multiple-disciplinary Frequency

(%)

		Total	Humanities	Social sciences	Natural sciences
Bachelors	percentage	20.7	30.7	19.0	17.5
Masters	none	79.4	82.5	70.0	84.1
	once	20.6	17.5	30.0	15.9
	percentage	35.3	41.9	45.6	28.9
Doctors	none	75.8	79.5	60.2	79.0
	once	22.1	17.3	34.9	20.0
	twice	2.1	3.1	5.0	1.1
	percentage	44.0	27.4	35.4	53.6

Note: All together 2,732 valid samples are available, with 463 from Key universities, 680 from ordinary universities and 1,589 from colleges.

In general, the proportion of faculty with multiple-disciplinary experience is much lower than that of those with only single disciplinary experience. The proportion of the former is 18% and of the latter 82%. When bachelors are excluded from the calculation, the proportion of faculty with single-disciplinary experience still exceeds 60%.

Masters and doctors with single-disciplinary experience still account for over 70% and the figure is higher in the case of masters than doctors.

As the relationship between disciplines varies, people tend to choose the closely-related ones even when changing disciplines. For convenience, disciplines are roughly classified into the three categories of humanities, social sciences and natural sciences. In this study, humanities include philosophy, literature, history *etc.*; social sciences include economics, sociology, politics, law, education, management, military studies *etc.*; natural sciences include sciences, engineering, agronomy, medicine *etc.*

Table 6 shows that the degree structures for faculty from different disciplines fall into different patterns. The proportion of doctors in natural sciences is much higher than in humanities and social sciences; the proportion of bachelors in humanities is higher than in social sciences and natural sciences; and the proportion of masters in social sciences is higher than in humanities and

natural sciences.

Faculty from different disciplines also demonstrate different patterns in terms of degree combination and multiple-disciplinary experience. Social sciences see a higher proportion of faculty with multiple-disciplinary experience than do natural sciences and humanities: in the social sciences the proportion of doctors with multiple-disciplinary experience is 40%, twice the corresponding figure for the other two.

Accepting Graduates as Faculty

A number of institutions accept their graduates as faculty, which is partly responsible for the monotonous educational background of faculty. Table 7 shows the proportion of respondents who work where they received their degrees. The figures roughly represent cases where graduates are accepted as faculty. On the whole, 25.7% of respondents work where they studied. Key universities and natural sciences are ranked at the top.

Extending the scope of statistical analysis into faculty who work where they used to study with or without interruption, the actual proportion becomes higher than the figures shown in Table 7. The proportion increases from 25.7% to 30.8% and to 41.2% for key universities and to 36.4% for natural sciences.

We can forecast the trend by comparing the cases of senior and young faculty. Table 8 shows the proportions, in different age groups, in different tiers of institutions and in different disciplines.

Table 7. Proportion of Faculty Who Work Where They Received Their Degrees

(%)

Total	25.7		
Tier	**Key university**	**Ordinary university**	**Vocational colleges**
	36.3	13.4	—
Discipline	**Humanities**	**Social sciences**	**Natural sciences**
	23.7	16.0	30.3

Notes: 1) All together 3,142 valid samples are available for study of institutional tier, with 1,919 from key universities, 822 from ordinary universities and 401 from vocational colleges.
2) All together 3,004 valid samples are available for study of discipline, with 528 from key universities, 757 from ordinary universities and 1,719 from vocational colleges.

Table 8 indicates that: (1) the proportion of faculty who work where they studied in key universities is high on the whole, with each age group exceeding 30%, and falls slightly with increasing age; (2) ordinary universities see much fewer cases than key universities, but the proportion also falls with age; (3) natural sciences also see a falling proportion with age; (4) the opposite trend is

shown by humanities and social sciences with proportions that increase with age.

Table 8. Proportion of Inbreeding in Different Age Groups, in Different Tiers of Institutions and in Different Disciplines

(%)

Age Range	Total	Key universities	Ordinary universities	Humanities	Social sciences	Natural sciences
25-35	25.0	38.3	14.4	17.4	13.4	31.3
36-50	27.3	35.9	13.4	30.5	18.2	31.6
>51	24.1	33.7	8.6	35.8	20.3	21.8

Notes: 1) All together 3,107 valid samples are available, with 1,878 from key universities, 799 from ordinary universities; 514 from humanities, 737 from social sciences and 1,690 from natural sciences.

2) Vocational colleges are excluded as the number of valid samples available is insufficient.

3. Brief Summary

Some conclusions can be summarized from the above statistical analyses.

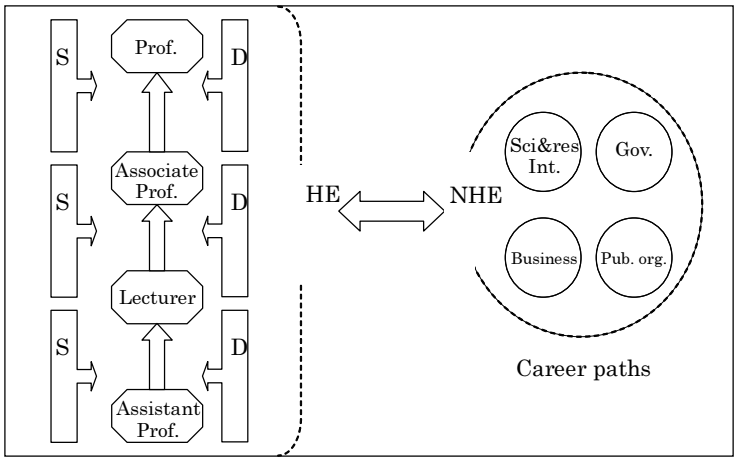
1) Doctoral degrees have been obtained by 38.3% of faculty. The degree combination among the different tiers of institutions has different patterns. If we order the degrees from doctor to master and bachelor, we find an inverted triangle for key universities, a parabolic curve for ordinary universities and a pyramid for vocational colleges.
2) The trend is clear that younger faculty tend to hold more advanced degrees than senior faculty.
3) The educational backgrounds of faculty in the HEIs of Beijing are monotonous in terms of the high proportion of faculty who receive all their degrees in one institution (45.2%). After introducing an age variable, it is seen to be even more monotonous for faculty aged from 20 to 35 years compared with those aged from 36 to 50 years in all tiers of institutions. The differing opportunities for older and younger faculty to obtain higher degrees can explain above difference to some extent.
4) Multiple-disciplinary experience is shown by 18% of faculty, which is correlated to discipline types. The statistics show that the proportion is higher for social sciences than for natural sciences.
5) The proportion of faculty who work where they studied is overall 25.7%. The proportion is relatively higher for key universities and natural sciences than their counterparts. After comparing the cases of senior and young faculty, we see an accelerating trend.

Section 3: An Analysis of the Career Paths of Faculty

In Section 2, we have analyzed the educational backgrounds of faculty in HEIs in an attempt to depict their pre-job development patterns. What are their career paths like after they become faculty? What is the scenario of work mobility?

The career paths under discussion refer to how faculty move and achieve promotion. In the questionnaire, promotion is designed to serve as a time point for examining the change of professions and affiliations for the sake of feasibility and convenience. There is a four-level hierarchy of ranks including assistant professor, lecturer, associate professor and professor. There are a few options for career paths. Faculty may alternatively get promoted within or outside their own discipline, and in the same or a different institution. Some faculty have careers that go beyond HEIs. Figure 5 presents several possible career paths.

Faculty career paths depend on their interests and choice as well as on academic rules. Low mobility in China is caused by insufficient competition and low transparency in recruitment and promotion. The academic labor market has yet to become prominent.



Note: S – get promotion in the same institution; D – get promotion in a different institution; HE – higher education system; NHE – non higher education system.

Figure 5. Career Paths

Table 9. Changes of Full-time Faculty in Regular HEIs

Factors of Increase							
Total	New recruits from graduates			Recruited from other inst.		Non-faculty changed into faculty	
	Subtotal	Doctoral & Master	Bachelor	Subtotal	Of which: from regular HEIs	Subtotal	Of which: with change of status in their own inst.
149,495 (100)	78,286 (52.4)	44,335	32,431	43,888 (29.4)	26,180	27,321 (18.2)	15,209

Factors of Decrease			
Total	Retired	Transferred to non faculty	Others
44,436 (100)	11,775 (26.5)	10,180 (22.9)	22,481 (50.6)

Source: Ministry of Education, China, *China Educational Statistical Yearbook 2005*, Beijing: Renmin Educational Publishing House.
Note: The figures in brackets represent the percentage of subtotal to total.

Table 9 gives a national picture of faculty mobility. Of the additional faculty appointments, 52.4% are recruits of new graduates, 29.4% are transferred from other institutions, and the rest, 18.2%, are transferred from non-faculty status. Of the faculty leaving, 26.5% are retired, 22.9% are transferred to non-faculty status, and the rest, 50.6%, are unspecified. No reasonable judgments can be made without international and historical references.

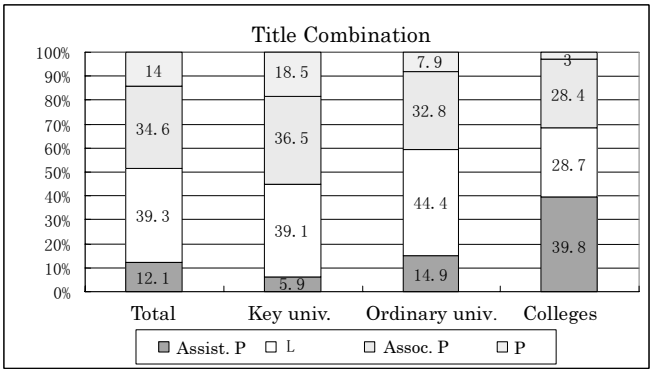
1. An Empirical Analysis of Career Paths

In order to study the career trajectories of faculty, we raised the following aspects in the questionnaires: (1) academic ranks and where they are earned; (2) disciplines involved when earning each rank; (3) job shifts; (4) time spent outside HEIs such as in government agencies or business firms. We have the following findings after analyzing the responses.

Rank Combination

Figure 6 shows the rank combination of respondents. On the whole, there is a high proportion of lecturers and associate professors and a low proportion of assistant professors and professors. The rank combination varies from one tier of institutions to another. Comparatively speaking, key universities have a low proportion of assistant professors and a high proportion of associate professors and professors; ordinary universities have high proportions of assistant professors and lecturers and low proportions of associate professors and

professors; vocational colleges further extend the proportions in ordinary universities.



Note: All together 2,950 valid samples are available, with 1,836 from key universities, 780 from ordinary universities and 334 from vocational colleges.

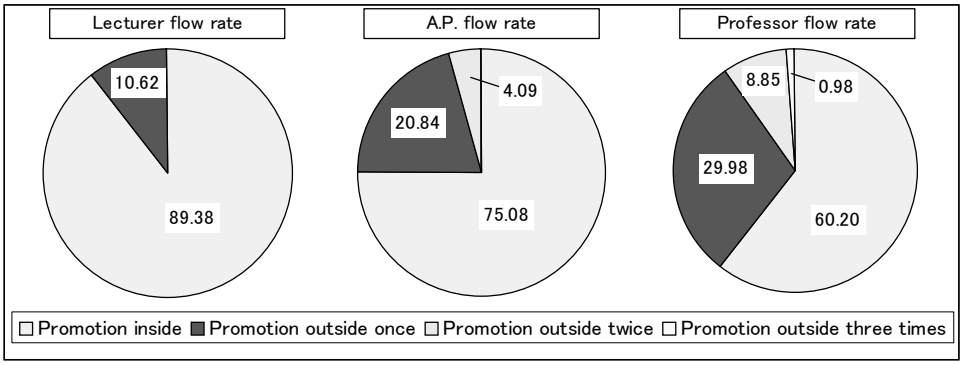
Figure 6. Title Combinations (%)

Career Trajectories

Inter-institutional Mobility

Figure 7 shows the inter-institutional flow of faculty of different ranks upon promotion. In most cases, there is a high proportion of promotion in the same institution and a low proportion of inter-institutional promotion. Promotion within the same institution exceeds 60% taking all ranks into consideration. The higher the rank, the more frequent is the flow between institutions: for lecturers, 11%, associate professors, 25% and for professors nearly 40%. So it is obvious that promotion and age are both catalysts for mobility. International academic studies have shown that about 50% of faculty has held appointments at only one institution, and another 25 percent at two institutions (Altbach & Lewis, 1996, p.11). In comparison with its international counterparts, the Chinese academic profession is more tranquil.

Figure 7 shows that there is a higher proportion of those who have obtained outside promotion once than of those doing so twice or more. Less than 30% of faculty has worked in two institutions, and less than 9% in more than two institutions. These figures are also smaller than those for international academic mobility (Altbach & Lewis, 1996, p.11). The low frequency of faculty inter-institution flow is affected by many factors, including individual preferences, qualifications, *hukou* (household registration system), the economic, social and cultural development of the location, differences in academic quality among institutions, children's schooling and the affiliation of spouses.



Note: Valid samples are from 1,130 lecturers, 941 associate professors and 411 professors.

Figure 7. Inter-institutional Flow upon Promotion (%)

The above analyses have focused on all rank groups as a whole. What features do different age groups within each rank group bear in terms of inter-institutional flow? In order to examine this issue, age was added as a variable. Table 10 shows the statistical results.

Table 10. Promotion and Inter-institutional Flow for Each Age Group

(%)

Age Range (years)		**20-35**	**36-50**	**>50**
Lecturers	**Inside promotion**	89.4	90.0	81.8
	Outside promotion	10.6	10.0	18.2
	Ratio	65.6	31.4	3.0
Associate professors	**Inside promotion**	79.1	72.7	81.0
	Outside promotion once	17.3	23.0	16.0
	Outside promotion twice	3.6	4.3	3.0
	Ratio	23.4	66.1	10.5
Professors	**Inside promotion**	66.7	56.9	65.5
	Outside promotion once	27.8	31.7	27.4
	Outside promotion twice	5.6	9.2	7.1
	Outside promotion three times	0.0	1.9	0.0
	Ratio	8.9	63.6	27.5

Notes: 1) All together 2,612 valid samples are available, with 1,167 from lecturers, 1,027 from associate professors and 418 from professors.
2) Ratio in the table refers to the percentage of valid samples from each age and title group to respondents within each title group.

Table 10 shows that faculty in age group 3 (over 50 years) has the highest proportion of promotions in a different institution in the case of lecturers. For

associate professors, 27.3% of faculty in age group 2 has been promoted in a different institution, a higher proportion than those of the other two age groups. It is also the case with professors that 42.8% of faculty in age group 2 has been promoted in a different institution, 10% percent higher than the proportion of age group 1, and 8% percent higher than of age group 3. The general trend is that older faculty have more mobility than their younger counterparts. This finding is consistent with the international finding (Altbach & Lewis, 1996, p.11).

Table 11. Promotion and Flow Direction

(%)

	Total	985 university	"211 project" but non-985 universities	Ordinary university	Vocational colleges
Within	50.8	47.1	36.5	71.5	76.5
Upward	31.7	45.9	43.8	10.8	——
Downward	11.6	2.4	12.7	10.8	23.5
Upward before downward	2.7	3.5	3.5	1.5	——
Downward before upward	3.2	1.2	3.5	5.4	——

Notes： 1) Among the sample list, Peking University and Beijing Institute of Technology are in the 985 project. All key universities listed in Table 1 are 211 project but non-985 university except Peking University, Beijing Institute of Technology and Capital Normal University. Capital Normal University is considered as an ordinary university only here in Table 11.

2) When an institution where a member of faculty used to work is not covered by Table 1, it is classified according to national lists.

3) All together 526 valid samples are available, with 85 from "985" universities, 260 from "211 project but non-985 universities", 130 from ordinary universities and 51 from vocational colleges.

By another standard, China's universities can be divided into four tiers according to their standings, namely universities listed for the "985 project", those listed for the "211 project", ordinary universities and vocational colleges: of these, the first two tiers constitute the key universities in the previous analyses. Because a number of faculty have working experience in overseas universities, we consider overseas universities as a fifth tier and assume that they excel domestic universities. Members of faculty getting promoted may move within the same tier, but they may move upward or downward in the hierarchy. We have analyzed the direction of flow as shown in Table 11. The distribution shows that 50% of the flow occurs within the same tier, 31.7% upward, 11.6% downward, with the residual 5.9% accounting for any other cases (*e.g.* more than

one promotion across institutions). In terms of their current affiliation, the majority of faculty in "985" universities and those non-985 universities of the "211 project" obtained their current rank within the same tier or by moving upward. The proportions for the two cases are the same, but more faculty in "211 project but non-985 universities" obtained their current rank by moving upward. In ordinary universities 70% of faculty obtained their current rank by staying within the same tier, and the proportion of upward movement and that of downward are even, with both being low. Faculty in vocational colleges either stay within the same tier or move downward with a rough ratio of 3:1.

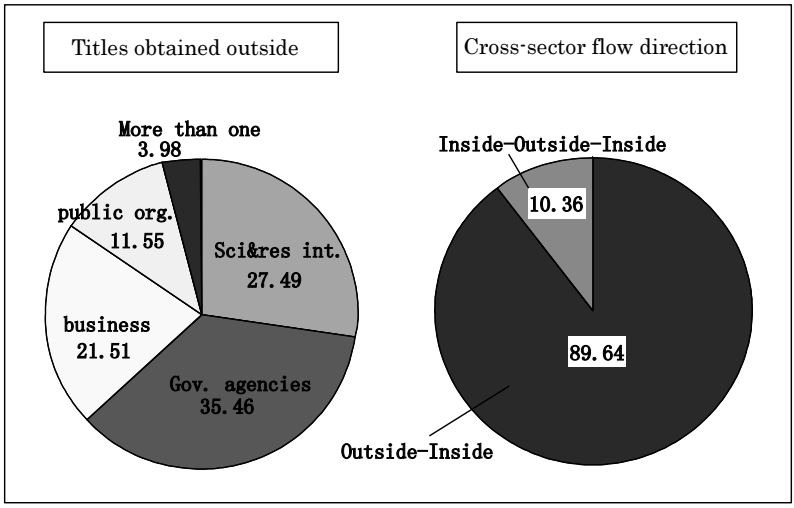
Cross-sector Flow

Faculty change their positions within and outside the higher education system. Some faculty have working experience in other sectors, such as government agencies, scientific research institutes, business and/or public organizations. We will examine their cross-sector flow below by focusing on working time, ranks obtained outside the educational system, and direction of cross-sector flow.

a) Working time spent outside the educational system
Among the 3,220 respondents, 26.2% have working experience outside the educational system, with the time spent varying from 2 months to 40 years. This figure is much below that in many countries, for example 51% in Japan and more than 50% in England in 1991 (Arimoto, 1996, p.158; Fulton, 1996, p.413). Of these, 12.4% have worked for one year or less, 26.8% for one to three years (including three years here and hereafter), 18.3% for three to five years, 16.9% for five to eight years, 10.0% for eight to ten years, 7.6% for ten to fifteen years, 4.4% for fifteen to twenty years, and less than 3.6% for over twenty years. The numbers indicate that among faculty with working experience outside the educational system, more than half have done so for five years or less.

b) Ranks obtained outside the educational system
Among those faculty members with working experience outside the academic system, 30% have obtained equivalent ranks. (The percentage of outside promotion is shown on the left in Figure 8.) Among those who obtained academic ranks outside the educational system, 35.5% received them in government agencies, 27.5% in scientific and research institutes, 21.5% in business, 11.6% in public organizations including

hospitals, publishing houses and art galleries. The high shift between HEIs and government agencies is an interesting phenomenon and deserves in-depth study later on.



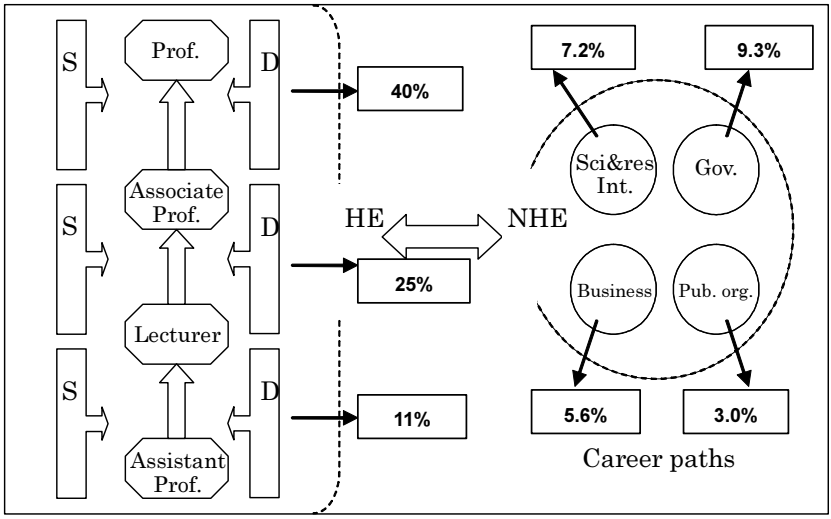
Note: 251 faculty members obtained titles outside the educational system.

Figure 8. Promotion and Cross-sector Flow (%)

c) Direction of flow

According to the different career paths, there are two directional flows, one from outside into the educational system, the other going out of the educational system before re-entry. The right-hand diagram in Figure 8 shows that 89% of faculty fall into the first category while only 10% belong to the second.

Putting above analyses together, Figure 9 gives a comprehensive picture of career paths. In summary, 11% of assistant professors are promoted to lecturers outside their current institutions; for lecturers and associate professors the proportions are 25% and 40% respectively. At least, 9.3% of faculty have working experience in government, 7.2% in scientific research institutes, 5.6% in business, and 3.0% in public organizations.

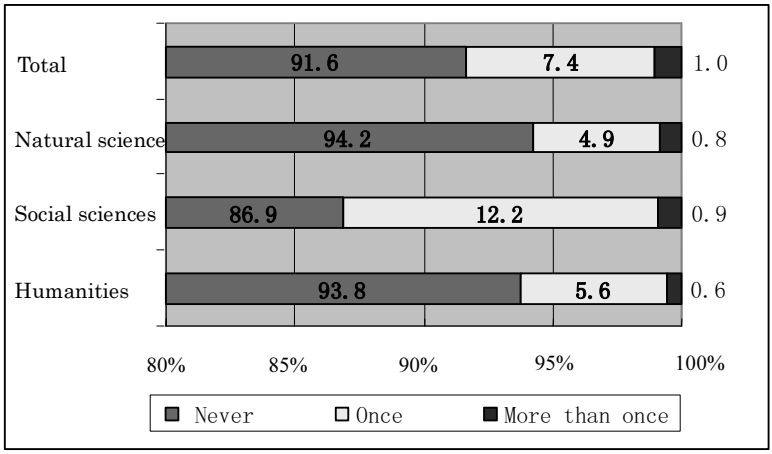


Note: S – get promotion in the same institution; D – get promotion in a different institution; HE – higher education system; NHE – non higher education system.

Figure 9. Career Path Distribution

Cross-disciplinary Flow

Faculty may change their disciplines as their academic interests change. Figure 10 shows that among all respondents there are less than 10% of faculty showing cross-disciplinary experience upon promotion.



Note: All together 2,254 valid samples are available, with 337 from humanities, 565 from social sciences and 1,418 from natural sciences.

Figure 10. Promotion and Cross-disciplinary Flow

Figure 10 also reveals the different patterns of cross-disciplinary flow among faculty in natural sciences, social sciences and humanities. It is obvious that there is a higher proportion of cross-disciplinary flow among the social sciences than in the other two.

Are there any differences among faculty in different age groups in terms of cross-disciplinary flow? Table 12 gives the results after age is introduced as a variable.

Table 12 shows that there is a significant difference even though faculty who never crossed disciplines are in a majority in each of the three age groups and the three disciplines. In humanities, less than 5% in age groups 1 and 2 crossed disciplines compared to more than 17% in age group 3; in social sciences, over 17% in age group 2 compared to around 6% in age groups 1 and 3 changed disciplines; and in natural sciences, the overall proportion of less than 6% for all age groups varies from 8% in age group 2, and 7.6% in age group 3 to only 2% in age group 1. These differences reflect the observation that the proportion of faculty crossing disciplines in age group 1 is lower than those for faculty in age groups 2 and 3.

Table 12. Promotion and Cross-disciplinary Flow of All Age Groups

(%)

Age range (years)		**20-35**	**36-50**	**>50**
Humanities	**Never crossed**	96.4	95.1	82.4
	Once	3.0	4.9	14.7
	More than once	0.6	0.0	2.9
	Ratio	54.0	34.0	12.0
Social sciences	**Never crossed**	94.3	82.7	92.9
	Once	5.7	15.9	7.1
	More than once	0.0	1.4	0.0
	Ratio	44.3	46.7	9.0
Natural sciences	**Never crossed**	98.0	92.0	92.5
	Once	2.0	7.2	6.3
	More than once	0.0	0.8	1.3
	Ratio	44.3	46.7	9.0

Notes: 1) All together 2,078 valid samples are available, with 341 from humanities, 449 from social sciences and 1,238 from natural sciences.
2) Ratio in the table refers to the percentage of valid samples from each age and title group to respondents within each title group.

2. Brief summary

The statistical analyses in Section 3 can be summarized in seven conclusions.

1) Among the sample of respondents, professors account for 14%, associate professors 35% and assistant professors and lecturers 51%. Their rank combination varies from one tier of institutions to another. Key universities accommodate a bigger share of associate professors and professors. In contrast, ordinary universities and vocational colleges accommodate bigger shares of assistant professors and lecturers.
2) The academic profession in China tends to be stagnant. More than 60% of faculty gets promoted in the same institution. The higher the academic rank, the higher the proportion of inter-institution promotion.
3) After introducing age as a variable, faculty in age group 1 (20-35 years) tend to get promoted in the same institution, which can be attributed partially to the opportunities for promotion related to age.
4) Comparing the directions of inter-institution promotion, 50% of such promotions are within the same tiers of institutions, 31.7% are upward, 11.6% downward, and 5.9% cases that cannot be simply categorized (*e.g.* more than one promotion across institutions). In "985" universities and "211 project but non-985 universities", the proportion of ranks obtained by moving upwards equals that from moving within the same tier; the proportion of ranks obtained by moving downward in vocational colleges is higher than that in the other tiers.
5) From examining the cross-sector flow of faculty, 26.2% have working experience outside the educational system, but the majority have worked there for only a short period of time. Government agencies are the most popular non-educational workplaces in which faculty get working experience, followed by scientific and research institutes, business, and public organizations. The majority of cross-sector flow is one-way, from outside into the educational system.
6) Analysis of the cross-disciplinary flow of faculty shows the majority does not cross disciplines. There is a higher proportion of faculty in social sciences who have changed disciplines than in natural sciences and humanities.
7) International comparisons show that the Chinese academic profession is less mobile in employment than its international counterparts.

Section 4: Policy Implications

There are few systematic researches on the Chinese academic profession. This paper is a preliminary and empirical study of China's academic profession

resulting from sampling regular HEIs in the Beijing Municipality. The sample for this study over-represents academic faculty from top-tier institutions and senior ranks. It focuses on the educational backgrounds and career development of faculty. Specific data have been obtained to establish the *status quo*, some of which can be evaluated by international comparison. This allows us to draw some generalizations and policy implications from the above analyses. The academic profession in China's universities tends to have a monotonous educational background and be stagnant. This partly results from the *danwei* system, where little exchange is needed between social units including HEIs. As China reforms its university management system, the problems are being addressed gradually. The following suggestions are put forward in view of the monotonous educational background and stagnation.

1) To expand access to diverse educational opportunities. Those who want to pursue higher degrees should be encouraged to do so in other institutions than those in which they have been studying. Those who already have higher degrees should be provided with opportunities to visit other institutions either at home or abroad.
2) To designate an institutional framework or norm to limit recruitment of graduates in their *alma mater*. International experiences strongly support a policy of preventing academic inbreeding. Optimistically, some institutions have tried to establish rules to prevent inbreeding.
3) To recruit faculty publicly and to adopt a transparent promotion policy so as to promote inter-institution and cross-sector flows. Competition should be encouraged for recruitment and promotion.
4) To encourage cross-disciplinary exchanges and to promote the development of cross-disciplinary academic work. Cross-disciplinary academic work can extend beyond the current organizational framework. Therefore, new organizational arrangements should be created to support such endeavors.

In conclusion, a set of academic norms and quality criteria, public recruitment of faculty and competitive promotion mechanisms are conducive to addressing the problems of stagnation and monotonous academic and professional backgrounds. It remains an arduous task, however. Effective measures should be taken in accordance with the different tiers of institutions and disciplinary features.

Acknowledgement

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The Changing Academic Profession in an Era of University Reform in Japan

Tsukasa Daizen* and Atsunori Yamanoi **

After 1990's, many education reform bills and acts have been enacted in Japan, to deal with the social and economic problems that are common throughout the world, such as the construction of knowledge-based society and globalization of the economy, and domestic problems such as the collapse of the bubble economy, decrease of the population of eighteen-year olds, and construction of a society of gender equality (Central Council for Education, 2005).

The principal purpose of this article is to clarify the present conditions and the changes in the past 15 years of the consciousness and action of the Japanese academic profession by comparing the results of a survey of university teachers carried out in 2007 with one previously carried out in 1992. In the following discussion, we describe the results of the Changing Academic Profession Survey 2007 and of the Carnegie Academic Profession Survey 1992.[1] A second purpose is to clarify whether there is a meaningful difference in the consciousness and activity of a college professor according to the type of university.

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[1] A number of articles have analysed the results of the Japanese data of the Carnegie Academic Profession Survey 1992, see for example: Arimoto, A. (1996), Arimoto, A. & Ehara, T. (eds.) (1996), Daizen, T. (1996).

The data presented are based on the Changing Academic Profession Survey 2007.[2] The Japanese version of this survey consisted of a questionnaire of fifteen pages with sixty-six questions. Some 6,200 questionnaires were mailed to nineteen universities (four research universities and fifteen non-research universities). The number of faculty members responding to the survey was 1,408 (311 from the research universities and 1,094 from the non-research universities), corresponding to a 22.7 % response rate.

Table 1a. Distribution to universities of CAP survey questionnaires, Japan 2007

University	The number of questionnaire distribution	Number of the effective reply	Effective reply rate
National・research 1	280	53	18.9%
National・research 2	309	89	28.8%
National・research 3	465	104	22.4%
Private・research 1	450	65	14.4%
Subtotal	**1504**	**311**	**20.7%**
National・non-research 1	586	107	18.3%
National・non-research 2	855	179	20.9%
National・non-research 3	728	195	26.8%
National・non-research 4	280	54	19.3%
Private・non-research 1	167	46	27.5%
Private・non-research 2	1059	336	31.7%
Private・non-research 3	93	11	11.8%
Private・non-research 4	69	17	24.6%
Private・non-research 5	144	29	20.1%
Private・non-research 6	79	30	38.0%
Private・non-research 7	186	32	17.2%
Private・non-research 8	86	17	19.8%
Private・non-research 9	162	7	4.3%
Private・non-research 10	133	29	21.8%
Private・non-research 11	69	8	11.6%
Subtotal	**4696**	**1097**	**23.4%**
Total	**6200**	**1408**	**22.7%**

[2] Recipients of the questionnaire were chosen by a two-stage sampling procedure. Initially, universities were sampled, and then faculty were sampled from within those institutions. Prior to sampling, higher education institutions were divided into research universities (*kenkyu-daigaku*) and all other universities. The criteria used to identify research universities were taken from the typology developed by Ikuo Amano (1984). Thirty institutions were designated as research universities and 475 as “other” institutions. Then, in order to select 5% of the permanent faculty, five research universities and 14 non-research universities were selected.

Table 1b. Survey Schedule

March–July 2007	Construction of questionnaire
July 2007	Distribution of questionnaire
August 2007	First letter asking for response
Octorber 2007	Second letter asking for response
November 2007	Start of data entry

Demographic Profile

The Japanese Educational System

Figure 1 shows the structural organization of the present system of school education in Japan, and indicates the normal ages for admission or progression to each level of the educational system (MESSC, 2000, p.14-16).

The formal schooling system in Japan includes five levels. Schooling usually begins at the age of six years, when children move from kindergarten into primary school. Kindergartens admit children aged 3, 4 or 5 years and provide them with one- to three-year courses.

Primary and lower secondary education are compulsory. Children must attend 9 years of compulsory education from age 6 to age 15 years. Upper secondary education includes a further three or four years of education and is provided by the upper secondary schools, the miscellaneous schools, the specialized schools and the colleges of technology. In principle, to enter any school beyond the compulsory school level, a student is required to pass an entrance examination.

The tertiary level of education includes another two or four years of education provided by universities, junior colleges, specialized training colleges and colleges of technology.[3] Finally, after graduating from university, students move to the two to five years of graduate education (two-year master of arts program and a subsequent three-year doctoral program).

[3] Formal descriptions of the roles assigned to the different categories of tertiary institutions are given in an Addendum at the end of this article.

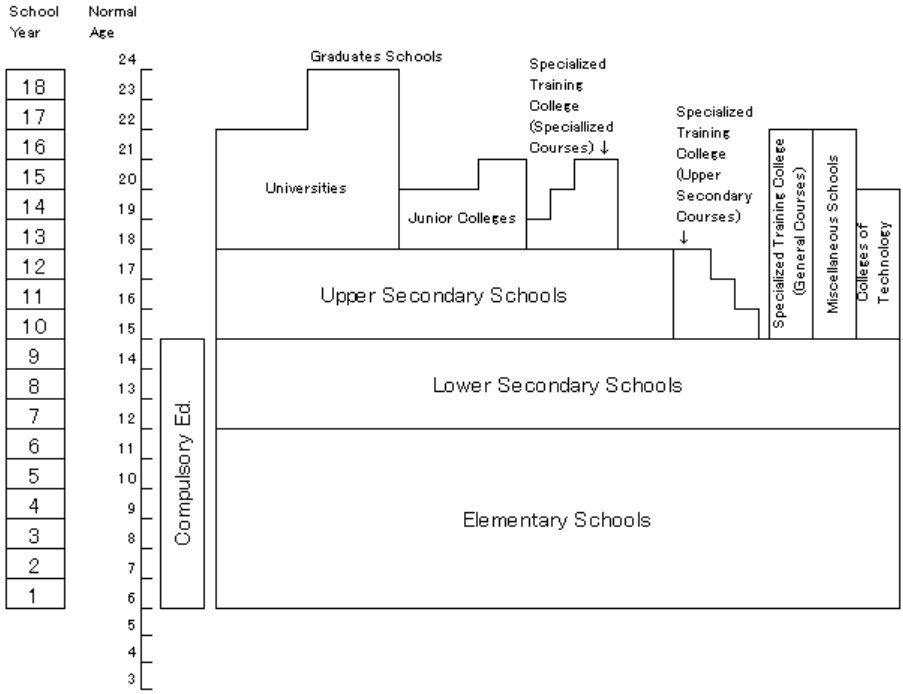

Figure 1. Organization of the formal educational system of Japan

Institutional Expansion

The three basic traits of the Japanese higher education system, especially of its universities, have been expansion, diversification, and stratification.

The Japanese higher education system began to expand in the 1960s (Table 2) and to shift away from the "mass" to the "universal" stage of development. In 1963, 15% of the cohort of eighteen-year olds were enrolled in a college or university. Today, the figure is 53.7%; and 47.2% of the current age cohort attend a university. Total current enrolment of eighteen-year olds in some form of post-secondary education is 76.3%.

Diversification of higher education has led to the creation of various new forms of post-secondary education in Japan. These include institutions such as the short-cycle *tanki-daigaku* (junior college), the *kotosenmon gakko* (college of technology), and the *senshu gakko* (specialized training college). However, amid this diversity, the *daigaku* (university) remains the center of learning, teaching, and research in specialized academic disciplines. There were 245 four-year university institutions in 1960, a decade after the post-war reforms were implemented. The number exceeded 300 in 1965, grew to nearly 400 in 1970, and had reached 450 by the early 1980s (Table 3). As of 2007, there were

756 four-year institutions. Within fifty years, the number of universities had expanded by a factor of 3.

Table 2. Enrolment in tertiary education in Japan (1955-2007)

Year	Population of 18-year olds	Number of enrolled students					Proportion of Age Cohort				
		University	Junior College	Technical College	Specialized Training Colleges	Total	University	Junior College	Technical College	Specialized Training Colleges	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(2)/(1)	(3)/(1)	(4)/(1)	(5)/(1)	(6)/(1)
1955	1,727,969	136,467	37,544	-	-	174,011	7.9	2.2	-	0.0	10.1
1960	2,022,207	166,761	42,318	-	-	209,079	8.2	2.1	-	0.0	10.3
1965	1,961,621	249,917	80,563	2,781	-	333,261	12.7	4.1	-	0.0	17.0
1970	1,953,836	333,037	126,659	8,391	-	468,087	17.0	6.5	-	0.0	24.0
1975	1,564,854	423,942	174,930	10,015	-	608,887	27.1	11.2	-	0.0	38.9
1980	1,583,146	412,437	178,215	9,539	190,570	790,761	26.1	11.3	0.6	12.0	49.9
1985	1,559,314	411,993	173,503	9,814	209,835	805,145	26.4	11.1	0.6	13.5	51.6
1990	2,007,035	492,340	235,195	10,439	339,125	1,077,099	24.5	11.7	0.5	16.9	53.7
1991	2,046,334	521,899	249,552	10,824	354,864	1,136,939	25.5	12.2	0.5	17.3	55.6
1992	2,050,902	541,604	254,676	10,986	364,687	1,171,953	26.4	12.4	0.5	17.8	57.1
1993	1,982,755	554,973	254,953	11,127	360,516	1,181,569	28.0	12.9	0.6	18.2	59.6
1994	1,861,304	560,810	244,895	11,191	343,256	1,160,152	30.1	13.2	0.6	18.4	62.3
1995	1,774,535	568,576	232,741	11,300	335,347	1,147,964	32.0	13.1	0.6	18.9	64.7
1996	1,733,172	579,148	220,875	11,240	335,590	1,146,853	33.4	12.7	0.6	19.4	66.2
1997	1,680,798	586,688	207,546	11,175	327,461	1,132,870	34.9	12.3	0.7	19.5	67.4
1998	1,623,009	590,743	191,430	11,313	315,483	1,108,969	36.4	11.8	0.7	19.4	68.3
1999	1,546,190	589,559	168,973	11,269	308,815	1,078,616	38.1	10.9	0.7	20.0	69.8
2000	1,511,792	599,655	141,491	11,277	313,718	1,066,141	39.7	9.4	0.7	20.8	70.5
2001	1,512,840	603,953	130,246	11,306	314,714	1,060,219	39.9	8.6	0.7	20.8	70.1
2002	1,503,544	609,337	121,441	11,330	326,632	1,068,740	40.5	8.1	0.8	21.7	71.1
2003	1,465,713	604,785	113,029	11,225	338,264	1,067,303	41.3	7.7	0.8	23.1	72.8
2004	1,411,420	598,331	106,204	11,315	335,102	1,050,952	42.4	7.5	0.8	23.7	74.5
2005	1,366,467	603,760	99,431	11,194	326,593	1,040,978	44.2	7.3	0.8	23.9	76.2
2006	1,326,138	603,054	90,740	11,195	300,834	1,005,823	45.5	6.8	0.8	22.7	75.8
2007	1,299,762	613,619	84,596	11,436	282,045	991,696	47.2	6.5	0.9	21.7	76.3

Source: MEXT (1950-2007)

There are two main sectors of post-secondary educational institutions: public institutions (consisting of national and municipal sectors) and private institutions. As of 2007, there were 87 national, 89 municipal, and 580 private universities. Private-sector Japanese higher education has increased from 57.1% of the system in 1960 to more than 76.7% today. The predominance of private institutions is a significant characteristic of Japanese higher education, as the substantial support given to private institutions has led to great expansion in the system.

A kind of hierarchy of institutions has formed in the university system as a result of diversification and stratification. Generally speaking, the pecking order among institutions is based on a mixture of type, sector, and age. Older public institutions with a background in research are considered more prestigious than the newer, non-research, private institutions. The form of institution known as *kenkyu-daigaku* (research university) stands at the top of this hierarchy today.

Table 3. Universities and Junior Colleges in Japan, 1950-2007

	1950	1960	1970	1980	1990	2000	2007
Institutions							
Universities	201	245	382	446	507	649	756
National	70	72	75	93	96	99	87
Pubic	26	33	33	34	39	72	89
Private	105	140	274	319	372	478	580
National	34.8%	29.4%	19.6%	20.9%	18.9%	15.3%	11.5%
Public	12.9%	13.5%	8.6%	7.6%	7.7%	11.1%	11.8%
Private	52.2%	57.1%	71.7%	71.5%	73.4%	73.7%	76.7%
Junior colleges	149	280	479	517	593	572	434
Faculty (thousands)							
Universities	11	44	76	102	123	150	161
National		24	37	48	54	61	61
Pubic		5	5	6	7	11	12
Private		15	34	49	63	79	95
National	-	54.5%	48.7%	47.1%	43.9%	40.7%	36.5%
Pubic	-	11.4%	6.6%	5.9%	5.7%	7.3%	7.2%
Private	-	34.1%	44.7%	48.0%	51.2%	52.7%	56.9%
Junior colleges	2	6	15	16	20	13	11
Administrative Staff (thousands)							
Universities	-	58	100	143	160	174	188
Junior colleges	-	2	8	10	12	10	5
Students (thousands)							
Universities	225	626	1,406	1,835	2,133	2,740	2,828
National	80	194	310	407	519	624	627
Pubic	8	29	50	52	64	107	130
Private	136	404	105	1,377	1,551	2,009	2,072
Junior colleges	15	83	263	371	479	327	186

Source: MEXT (2007)
Note: Administrative staff includes clerical, technical and other non-academic staff.

Profile of the academic faculty in Japan

Gender

The extent to which higher education in Japan was still a male-dominated profession in the last decade of the twentieth century can be seen in Table 4a.

As of 1992, 92.3% of all faculty (123,838) were male (Table 4b). Of the respondents in the recent CAP survey, 9.0% were female. There are fewer female faculty in research universities and in the upper ranks across all institutions. In Japan, women's representation in universities has improved substantially since 1955, when only 5.0% of faculty were women (Table 4a),

When we compare the ratio of women faculty according to university types, the proportion in research universities was lowest (6.2%), and highest in private non-research universities (10.2%) (Table 4c). In all universities the proportion of woman faculty has increased in the past 15 years.

Table 4a. Trends in the proportion of female full-time faculty (%)

		Professor	Associate Professor	Lecturer	Assistant	Total
1951	University	1.6	4.2	5.6	11.8	5.0
	Junior college	8.3	22.4	15.1	52.6	17.0
1960	University	2.2	3.8	8.9	10.0	6.1
	Junior college	13.8	30.2	39.6	70.1	35.2
1970	University	2.5	5.7	10.9	15.0	8.5
	Junior college	16.1	35.6	46.7	79.8	39.6
1980	University	3.6	6.5	10.3	14.1	8.4
	Junior college	21.2	39.3	46.6	75.7	38.6
1990	University	5.0	8.0	11.8	14.5	9.2
	Junior college	25.2	37.9	46.3	77.6	38.2
2000	University	7.5	12.3	17.6	19.5	13.4
	Junior college	30.3	42.9	53.0	82.9	43.8
2007	University	11.1	18.2	26.4	26.4	18.2
	Junior college	35.2	49.4	59.4	82.4	48.4

Source: Kano (2007, p.170), MEXT, (1950-2007).

Table 4b. Gender distribution of university faculty (%)

	CAP Survey (2007)	Carnegie Study (1992)	Total Academic Population (2004)	(1992)
Female	9.0%	7.9%	13.9%	7.7%
Male	91.0%	92.1%	86.1%	92.3%

Table 4c. Gender distribution of university faculty by type of university (%)

	Female	Male	Total	
2007				
National･research	6.2%	93.8%	100.0%	***
National･non-research	9.3%	90.7%	100.0%	
Private･research	6.2%	93.8%	100.0%	
Private･non-research	10.2%	89.8%	100.0%	
1992				
National･research	1.5%	98.5%	100.0%	***
National･non-research	4.1%	95.9%	100.0%	
Private･research	2.6%	97.4%	100.0%	
Private･non-research	12.9%	87.1%	100.0%	

Note: In this and subsequent tables the number of asterisks indicates the level of statistical reliability as follows: *** $p<0.001$; ** $p<0.01$; * $p<0.05$.

Age

Japanese faculty members are unevenly distributed among the age cohorts (Table 5a.). The statistical mean birth year of all respondents was 1955, and the mean age was 51.7 years at the time of the CAP survey.

Table 5a. Age distribution of faculty (%)

	CAP Survey (2007)	Carnegie Study (1992)	Total Academic Population (2004)	Total Academic Population (1992)
34 and under	3.0%	2.6%	4.6%	5.5%
35～44	22.2%	22.2%	24.4%	28.6%
45～54	31.7%	38.4%	32.2%	32.5%
55～64	35.9%	28.8%	31.6%	25.9%
65 and over	7.2%	7.9%	7.5%	7.9%
Mean Age years	51.7	51.4	51.3	50.2

In terms of age, about 90% of the entire faculty are in the prime 35-64 year age group. The mean age of Japanese faculty of 51.7 years in 2007, is a little older than the 1992 figure of 51.4 years. However, empirical studies offer no indication that the mean age of Japanese faculty has risen significantly over the years.

The CAP survey in 2007 showed a significant statistical difference in the average age of university teachers according to the type of university (Table 5b). The average age of the faculty in private non-research universities is the highest; it is lower in national and private research universities. This pattern is similar to that of 1992.

Table 5b. Age distribution of faculty by type of university

	34 and under	35～44	45～54	55～64	65 and over	Mean Age years
2007						***
National･research	5.5%	29.1%	29.1%	34.6%	1.7%	49.6
National･non-research	1.8%	20.0%	36.6%	38.3%	3.4%	51.6
Private･research	6.2%	30.8%	36.9%	26.2%		48.0
Private･non-research	2.7%	20.3%	27.8%	35.2%	14.0%	53.2
1992						***
National･research	1.5%	22.5%	40.8%	34.3%	0.9%	50.9
National･non-research	3.5%	28.3%	39.3%	27.2%	1.7%	49.3
Private･research	5.3%	25.0%	30.3%	32.9%	6.6%	50.6
Private･non-research	2.3%	18.3%	37.6%	27.4%	14.4%	53.0

Academic Discipline

Faculty in Japan is distributed unevenly among the academic disciplines (Table 6a). Approximately 20% of faculty are appointed in each of the natural sciences, engineering, and the health sciences; and 10% in each of the humanities, the social sciences, and agriculture.

The proportions occupied by the humanities and engineering in 2007 have decreased from 1992, and those due to the social sciences and the health sciences have increased.

In 2007, the proportion of faculty in the natural sciences was highest in the national research universities. In contrast, the private non-research universities show the highest proportions of faculty in the humanities and engineering; and the private・research universities, the highest proportions of faculty in the social sciences and health and medical sciences. This distribution was largely similar to that found in 1992.

Table 6a. Distribution of faculty by academic discipline

	CAP Survey (2007)	Carnegie Study (1992)	Total Academic Population (2007)
Humanities	11.0%	14.8%	14.7%
Social sciences	11.2%	10.9%	13.6%
Natural sciences	19.5%	18.4%	9.1%
Engineering	20.2%	22.1%	16.7%
Agriculture	9.5%	6.7%	4.0%
Health/medical sciences	19.4%	13.6%	30.8%
Fine arts	0.9%	6.7%	2.9%
Education	6.2%	1.5%	5.4%
Others	2.2%	5.2%	2.8%
(N)	1,383	1,839	159,724

Table 6b. Distribution of faculty by academic discipline and type of university

	National・research		National・non-research		Private・research		Private・non-research	
		n.s.		*		n.s.		***
	2007	1992	2007	1992	2007	1992	2007	1992
Humanities	9.5%	7.8%	10.1%	11.6%	6.2%	21.1%	13.0%	18.9%
Social sciences	7.5%	6.3%	9.7%	15.1%	23.4%	21.1%	12.8%	9.3%
Natural sciences	33.6%	29.4%	17.9%	19.6%	28.1%	15.8%	13.7%	13.7%
Engineering	19.1%	28.2%	15.0%	12.9%	12.5%	17.1%	26.4%	25.7%
Agriculture	10.8%	9.9%	11.2%	12.3%	1.6%	0.0%	8.1%	2.7%
Health /medical sciences	14.1%	15.9%	24.6%	19.4%	26.6%	23.7%	15.9%	8.5%
Others	5.4%	2.4%	11.4%	9.0%	1.6%	1.3%	9.9%	21.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Academic Rank

Full-time faculty in Japanese institutions of higher education hold one of four academic ranks: *joshu* (assistant), *kousi* (assistant professor or lecturer), *jokyouju* (associate professor), and *kyouju* (full professor).

From 1970 the proportion of full professors increased from 31.4% to 40.7% in 2007. Excluding assistants, who were not included in the CAP survey, the proportion of full professors in Japan increased from 46.1% in 1970 to 53.2% (Table 7a). The composition of the samples in both the CAP and Carnegie surveys have remained effectively unchanged in terms of the ratios of full and associate professors and lecturers over the period 1992 to 2007 (Table 7b).

Table 7a. Distribution of academic rank among faculty

Year	Numbers					Percentage			
	Total	Professor	Associate Professor	Lecturer	Assistant	Professor	Associate Professor	Lecturer	Assistant
1970	73,275	23,917	17,312	10,642	23,404	31.4%	22.7%	14.0%	32.0%
1980	102,839	35,960	23,645	14,183	31,106	35.0%	23.0%	13.8%	30.3%
1990	123,838	44,392	28,738	16,300	34,108	36.1%	23.2%	13.2%	27.5%
1995	137,434	52,305	31,507	17,534	36,118	38.0%	22.9%	12.8%	26.3%
2000	150,533	59,120	34,872	19,112	37,459	39.3%	23.2%	12.7%	24.9%
2005	161,690	66,259	38,076	20,451	36,904	41.0%	23.5%	12.6%	22.8%
2006	164,473	67,514	38,855	20,731	37,373	41.0%	23.6%	12.6%	22.7%
2007	167,648	68,235	39,646	20,361	39,406	40.7%	23.6%	12.1%	23.5%

Source: MEXT (1950-2007)

Table 7b. Distribution of academic rank among faculty

	CAP Survey (2007)	Carnegie Study (1992)
Professor	55.1%	55.5%
Associate Professor	33.2%	34.5%
Lecturer	11.7%	10.0%

Highest Earned Degree

In Japan, the proportion of faculty with doctorates increased substantially over the years: from 10% in 1967, to 40% in 1983, and to 78% in 2007 (Table 8a).

A doctoral degree is now a prerequisite for employment of faculty in most four-year universities and colleges. Correspondingly, the proportion of those with a bachelor's degree as their highest earned degree has tended to zero. By

the time of the CAP survey, most faculty (96%) had received their highest degrees from a Japanese institution – 2% received degrees in the United States, and the rest in other countries.

Furthermore, while 78.5% of faculty now hold a PhD, there is wide variation among institutions, disciplines, and ranks. A strikingly substantial number of respondents with PhD degrees is found in the natural sciences, as compared to those in the humanities and social sciences. One reason is that there are more doctoral programs available in the natural sciences than in the humanities and social sciences. Thus, the supply of faculty with PhD degrees is higher in those fields where doctoral programs are more common.

With regard to type of institution, the proportion of doctorates in the national research universities (92.2%) is highest, but the increase in percentage of doctorates in the national non-research universities, by 16% since 1992, was the largest (Table 8b).

Table 8a. Academic credentials of faculty

	CAP Survey (2007)	Carnegie Study (1992)	
doctorates	78.5%	57.8%	***
masters' degrees	18.2%	25.1%	
bachelors' degrees	3.3%	17.1%	

Table 8b. Academic credentials of faculty by type of university

		doctorates	masters' degrees	bachelors' degrees	Total	
National - research	2007	92.2%	7.8%	0.0%	100.0%	n.s.
	1992	88.5%	9.8%	1.8%	100.0%	
National - non-research	2007	78.7%	18.7%	2.6%	100.0%	***
	1992	62.6%	27.9%	9.5%	100.0%	
Private - research	2007	81.5%	16.9%	1.5%	100.0%	n.s.
	1992	72.4%	23.7%	3.9%	100.0%	
Private - non-research	2007	72.0%	22.4%	5.6%	100.0%	***
	1992	41.6%	29.5%	28.9%	100.0%	

Professional Activity

Overall Workload

The professional work of faculty has traditionally been divided into four main areas: teaching, research, service, and administration. In most Japanese four-year universities, faculty members are largely autonomous in deciding how they allocate time in their professional work.

In 2007, faculty in four-year institutions, on average, work 55.2 hours *per* week during the academic year and 47.6 hours *per* week during vacation periods (Table 9a).

Table 9a. Time spent *per* week on professional activities
(periods when classes are in session)

	2007		1992	
	Mean time (hrs)	(%)	Mean time (hrs)	(%)
Teaching	21.8	39.5%	19.8	36.9%
Research	17.6	31.9%	21.6	40.4%
Service	4.6	8.3%	3.4	6.3%
Administration	7.9	14.2%	5.9	11.1%
Other	3.3	6.0%	2.8	5.3%
Total	55.2		53.5	

Table 9a. (continued) **Time spent *per* week on professional activities**
(periods when classes are not in session)

	2007		1992	
	Mean time (hrs)	(%)	Mean time (hrs)	(%)
Teaching	8.5	17.9%	8.0	15.4%
Research	25.3	53.1%	32.4	62.5%
Service	4.3	9.1%	3.8	7.4%
Administration	5.4	11.3%	4.0	7.7%
Other	4.1	8.6%	3.6	7.0%
Total	47.6		51.8	

When classes are in session, 21.8 hours *per* week are devoted to teaching (including class preparation and student advisement), about 17.6 hours to research, 4.6 hours to service, 7.9 hours to administration, and 3.3 hours to other

professional activities. Teaching and research are the major areas of professional effort, and together they account for 71.4% of the total working time.

Although during vacation periods there are 7.6 fewer working hours, the time spent on research activities increases by as much as 7.7 hours, which during this period accounts for 53.1% of the total 47.6 hours of work.

In comparison with the 1992 Carnegie study, the time spent on research has decreased and that on teaching and administration has increased in the 2007 CAP survey both during the time when classes are in session and in the vacations. In particular, reduction of the time devoted to research activities in the national non-research and private research universities is notable (Table 9b).

Table 9b. Time spent *per* week on professional activities by type of university

	2007		1992	
Teaching				
National･research	17.2	***	14.3	***
National･non-research	20.4		17.4	
Private･research	19.5		16.2	
Private･non-research	25.5		23.8	
research				
National･research	21.7	***	24.6	***
National･non-research	17.2		23.6	
Private･research	18.3		24.2	
Private･non-research	16.2		18.9	
Service				
National･research	3.3	**	3.5	n.s.
National･non-research	5.6		3.9	
Private･research	6.4		3.9	
Private･non-research	3.9		3.0	
Administration				
National･research	8.1	n.s.	7.4	***
National･non-research	8.4		6.1	
Private･research	6.5		6.8	
Private･non-research	7.4		5.2	
Other				
National･research	4.1	***	3.9	***
National･non-research	3.2		2.9	
Private･research	4.2		3.2	
Private･non-research	2.9		2.3	

Teaching

Quality of Students

In the CAP survey, 35.9% of faculty report that the quality of students currently enrolled in their departments is about the same as, or better than it was five years earlier (Table 10a). But, the proportion of faculty who think that the quality of students currently enrolled in their departments is about the same as, or better than it was five years ago was higher in 1992 than it is in 2007. It seems that faculty think that students' quality has deteriorated in these 15 years. The proportion of faculty who consider that students' quality has deteriorated in these 15 years has increased more in non-research universities than in research universities (Table 10b).

Table 10a. Quality of students compared with those enrolled five years ago

	Better Now	Fair	Better 5-years Ago	Do not know	Total	
	1	2	3	4		
2007	3.4%	32.5%	53.7%	10.4%	100.0%	***
1992	15.7%	39.9%	38.8%	5.6%	100.0%	

Table 10b. Quality of students compared with those enrolled five years ago by type of university

	Better Now	Fair	Better 5-years Ago	Do not know	Total	
	1	2	3	4		
2007						
National･research	1.3%	45.5%	41.2%	12.0%	100.0%	***
National･non-research	2.7%	33.2%	55.5%	8.5%	100.0%	
Private･research	3.4%	44.8%	39.7%	12.1%	100.0%	
Private･non-research	4.9%	24.9%	58.9%	11.3%	100.0%	
1992						
National･research	6.4%	42.6%	43.8%	7.3%	100.0%	***
National･non-research	2.8%	36.9%	54.6%	5.6%	100.0%	
Private･research	21.9%	56.2%	19.2%	2.7%	100.0%	
Private･non-research	26.3%	39.3%	29.1%	5.2%	100.0%	

Table 10c. Faculty attitudes toward students

		Agree 1	2	Neutral 3	4	Disagree 5	Total	Average	
Students are adequately prepared in written and oral communication skills.	2007	5.5%	21.4%	25.0%	35.7%	12.4%	100.0%	3.28	***
	1992	9.3%	20.9%	27.3%	28.5%	14.0%	100.0%	3.17	
Students are adequately prepared in mathematics and quantitative reasoning skills.	2007	3.2%	15.4%	28.4%	38.0%	14.9%	100.0%	3.46	***
	1992	5.0%	17.4%	33.2%	31.2%	13.2%	100.0%	3.30	
Students do just enough to get by academically.	2007	17.3%	36.6%	27.7%	14.6%	3.8%	100.0%	2.51	***
	1992	23.6%	36.9%	25.5%	8.6%	5.4%	100.0%	2.35	
Students are willing to cheat to get good grades.	2007	2.2%	10.0%	28.1%	27.5%	32.4%	100.0%	3.78	***
	1992	3.8%	13.8%	34.2%	17.8%	30.5%	100.0%	3.57	
Students are more studious than those I had five years ago.	2007	1.7%	7.0%	45.0%	26.1%	20.3%	100.0%	3.56	***
	1992	3.7%	9.4%	46.5%	20.6%	19.8%	100.0%	3.43	
Faculty should spend more time with students outside the classroom.	2007	16.4%	32.4%	38.3%	8.2%	4.7%	100.0%	2.52	***
	1992	23.6%	35.1%	32.8%	4.2%	4.3%	100.0%	2.31	

Teaching Load

All Japanese professors are involved, at least to some extent, in teaching (Table 11a). About three-fourths of faculty teach both undergraduate and graduate courses, while one-fifth teach only undergraduate students; less than 2% of faculty teach only graduate or professional students.

Table 11a. Teaching responsibilities at respondent's institution

	CAP Survey (2007)	Carnegie Study (1992)	
Entirely undergraduate	21.1%	37.3%	***
Some undergraduate, some graduate or professional	75.6%	60.1%	
Entirely graduate or professional	1.9%	2.0%	
Not teaching this year	1.4%	0.6%	
Total	100.0%	100.0%	

The CAP survey showed significant differences between the categories of universities in the levels of teaching provided by faculty (Table 11b). While a large majority of those in the national universities, both research and non-research, teach both undergraduate and graduate courses, in the private universities about one-third teach exclusively undergraduate courses. Even so, by comparison with the responses to the Carnegie study, the proportions of faculty exclusively teaching undergraduate courses has substantially decreased.

Table 11b. Teaching responsibilities at respondent's institution by type of university

	Entirely undergraduate	Some undergraduate, some graduate or professional	Entirely graduate or professional	Not teaching this year	Total	
2007						
National· research	5.9%	87.4%	5.0%	1.7%	100.0%	***
National· non-research	8.9%	89.1%	1.2%	0.8%	100.0%	
Private· research	31.1%	60.7%	6.6%	1.6%	100.0%	
Private· non-research	38.2%	59.4%	0.6%	1.9%	100.0%	
1992						
National· research	7.5%	82.5%	8.1%	1.8%	100.0%	***
National· non-research	26.6%	72.5%	0.6%	0.4%	100.0%	
Private· research	31.5%	67.1%	1.4%	0.0%	100.0%	
Private· non-research	55.3%	43.8%	0.6%	0.3%	100.0%	

Research

Relative Importance of Academic Discipline, Institution and Department

Many Japanese faculty recognize their departments and their major fields of study as the principal factors in their academic life. A large majority indicates a higher degree of commitment to their academic disciplines (93.1%), in comparison with their departments (68.9%) or institutions (62.5%) (Table 12). Compared with the responses in 1992, the greater importance attached to the discipline has substantially increased by 2007. In these regards there are no substantial variations between the two sectors or types of institutions.

Table 12. Relative importance of discipline, institution, and department

		Very Important	Fairly Important	Others	Total	
Academic discipline	2007	52.3%	40.8%	6.9%	100.0%	***
	1992	68.9%	27.7%	3.4%	100.0%	
Institution	2007	14.2%	48.3%	37.5%	100.0%	***
	1992	31.2%	48.4%	20.4%	100.0%	
Department	2007	19.2%	49.7%	31.1%	100.0%	***
	1992	39.0%	46.1%	14.9%	100.0%	

Preference for Teaching or Research

In 2007, only a few faculty report that their interest lies primarily either in teaching (5.5%) or in research (14.4%) (Table 13a). Of those expressing an interest in both, 57.3% report a greater interest in research and 22.8% of faculty report a greater interest in teaching.

Table 13a. Preference for teaching or research

	CAP Survey (2007)	Carnegie Study (1992)
Primarily teaching	5.5%	3.5%
In both, but leaning toward teaching	22.8%	24.0%
In both, but leaning toward research	57.3%	55.3%
Primarily research	14.4%	17.2%
Total	100.0%	100.0%

Table 13b. Preference for teaching or research by type of university

		Primarily teaching	In both, but leaning toward teaching	In both, but leaning toward research	Primarily research	Total	
National-research	2007	1.7%	8.7%	68.6%	21.1%	100.0%	**
	1992	0.9%	7.4%	55.8%	35.9%	100.0%	
National-non research	2007	4.6%	21.6%	50.7%	15.1%	100.0%	*
	1992	1.9%	17.8%	63.1%	17.2%	100.0%	
Private-research	2007	1.5%	20.0%	58.5%	20.0%	100.0%	n.s.
	1992	0.0%	15.3%	65.3%	19.4%	100.0%	
Private-non-research	2007	8.5%	30.6%	50.7%	10.1%	100.0%	n.s.
	1992	5.7%	34.7%	49.5%	10.0%	100.0%	

While overall a substantial majority (71.7%) indicates that research is either their primary interest or that they lean towards research in their preferences, this emphasis is most clearly shown in the national universities (Table 13b). In national research universities almost 90% of respondents indicate a preference or primary interest in research; and even in the national non-research universities the corresponding figure remains at 73.8%. In the private universities substantial majorities also indicate a preference for research, although in both the research and non-research universities the proportions are lower than in the corresponding national universities. In comparison with the results from the 1992 Carnegie study, the responses do show a trend towards teaching, perhaps corresponding to the greater proportion of time it now occupies. Nevertheless, the great emphasis on research, which placed Japan second highest among the countries in the Carnegie study, remains clearly evident.

Faculty Attitudes toward Research

In excess of 80% of faculty agree that “A strong record of successful research activity is important in faculty evaluation at this institution” (Table 14).

And, about 50% of faculty also agree with “In my department, it is difficult for a person to achieve tenure if he or she does not publish” and “I frequently feel under pressure to do more research than I actually would like to do”. The degree of agreement with all three statements has increased from 1992 to 2007.

Table 14. Faculty attitudes toward research

		Agree		Neutral		Disagree	Total	
		1	2	3	4	5		
A strong record of successful research activity is important in faculty evaluation at this institution.	2007	49.6%	33.4%	11.7%	1.9%	3.4%	100.0%	n.s.
	1992	49.0%	30.8%	13.5%	3.2%	3.6%	100.0%	
In my department it is difficult for a person to achieve tenure if he or she does not publish.	2007	34.0%	18.5%	23.6%	4.6%	19.3%	100.0%	**
	1992	30.0%	17.6%	23.1%	4.1%	25.2%	100.0%	
At this institution publications used for promotion decisions are just “counted,” not qualitatively evaluated.	2007	17.1%	26.6%	29.9%	14.8%	11.6%	100.0%	***
	1992	20.0%	25.7%	27.8%	10.5%	16.1%	100.0%	
I frequently feel under pressure to do more research than I actually would like to do.	2007	15.0%	32.0%	33.5%	11.0%	8.5%	100.0%	***
	1992	14.1%	22.8%	30.7%	10.4%	22.0%	100.0%	
In this country, there are no political or ideological restrictions on what a scholar may publish.	2007	13.0%	23.1%	39.5%	19.0%	5.4%	100.0%	***
	1992	32.2%	22.8%	26.3%	11.1%	7.5%	100.0%	
Research funding in my field is easier to get now than it was five years ago.	2007	3.9%	11.6%	44.3%	21.2%	19.0%	100.0%	***
	1992	11.1%	15.6%	48.6%	9.0%	15.6%	100.0%	
In my academic position at this institution , regular research activity is expected.	2007	26.4%	37.6%	26.4%	5.6%	3.9%	100.0%	***
	1992	34.5%	29.8%	27.5%	3.9%	4.4%	100.0%	
A scholar’s international connections are important in faculty evaluation at this institution.	2007	30.2%	36.4%	23.8%	5.2%	4.4%	100.0%	n.s.
	1992	31.4%	33.1%	25.4%	4.2%	5.9%	100.0%	

Productivity

In academic circles, research has, for the most part, been identified as the prime academic pursuit for faculty. It is then useful to know the extent to which faculty are involved in research and to what extent they make scholarly contributions through their research.

How much do Japanese faculty members contribute through their research? On average over a three-year period, in 2007, a Japanese faculty member writes 1.9 academic books, edits 0.7 books, publishes 9.8 papers in academic journals, publishes 1.5 monographs, and presents papers 6.7 times at academic conferences (Table 15a).

Table 15a. Research activities and publications in the previous three years

		0	1	2	3	4+	Mean	
Scholarly book authored	2007	30.4%	23.7%	16.9%	11.7%	14.3%	1.9	***
	1992	55.5%	19.9%	11.0%	6.3%	7.3%	1.1	
Scholarly book edited	2007	68.2%	17.7%	8.9%	2.3%	2.9%	0.7	***
	1992	80.6%	11.0%	4.0%	2.5%	1.7%	0.4	
Article published in a book or journal	2007	3.4%	8.1%	11.3%	12.1%	65.1%	9.8	***
	1992	13.6%	7.5%	11.1%	13.9%	53.9%	7.5	
Research report or monograph	2007	37.3%	23.8%	14.2%	11.2%	8.5%	1.5	**
	1992	58.3%	13.3%	9.1%	7.6%	8.7%	1.2	
Paper presented at a conference	2007	21.0%	10.5%	10.0%	11.6%	39.0%	6.7	n.s.
	1992	23.0%	10.6%	9.7%	8.7%	48.0%	7.1	
Professional article written for magazine	2007	57.6%	12.8%	12.5%	6.1%	10.8%	1.5	**
	1992	61.3%	10.6%	8.2%	5.8%	14.1%	2.0	
Patent secured	2007	79.1%	7.7%	6.7%	3.2%	3.3%	0.5	***
	1992	93.6%	3.1%	1.5%	0.9%	0.9%	0.2	
Computer program written for public use	2007	95.4%	2.8%	0.8%	0.8%	0.2%	0.1	n.s.
	1992	96.7%	1.6%	0.8%	0.4%	0.5%	0.1	
Artistic work performed or exhibited	2007	77.6%	3.5%	6.1%	3.7%	8.9%	1.6	n.s.
	1992	83.1%	2.7%	2.6%	2.9%	8.7%	1.4	
Video or film produced	2007	92.4%	5.2%	1.2%	0.6%	0.6%	0.1	n.s.
	1992	91.3%	4.4%	2.3%	1.0%	1.0%	0.2	

Table 15b. Research activities and publications by university type

		National-research	National-non-research	Private-research	Private-non-research	
Scholarly book authored	2007	2.26	1.89	3.09	1.68	**
	1992	1.55	1.14	1.65	0.80	***
Scholarly book edited	2007	0.82	0.52	1.18	0.65	n.s.
	1992	0.56	0.29	1.01	0.39	**
Article published in a book or journal	2007	15.46	9.43	11.29	7.22	***
	1992	13.79	8.03	10.83	4.34	***
Research report or monograph	2007	2.09	1.42	1.77	1.30	**
	1992	2.30	1.39	1.35	0.69	***
Paper presented at a conference	2007	9.91	5.20	6.26	6.60	***
	1992	13.10	7.22	8.88	4.49	***
Professional article written for magazine	2007	1.93	1.50	2.13	1.08	*
	1992	2.34	2.18	2.48	1.70	n.s.
Patent secured	2007	0.77	0.42	0.61	0.45	*
	1992	0.36	0.18	0.05	0.13	n.s.
Computer program written for public use	2007	0.08	0.05	1.22	0.10	***
	1992	0.08	0.11	0.09	0.13	n.s.
Artistic work performed or exhibited	2007	1.47	1.61	0.96	1.66	n.s.
	1992	0.74	1.24	0.25	1.91	*
Video or film produced	2007	0.07	0.16	0.13	0.13	n.s.
	1992	0.17	0.17	0.11	0.22	n.s.

Depending on the activity, the figures vary extensively. Over the three-year period, faculty at the national research universities published 15.5 articles in academic journals, while those at non-research universities achieved 7.2 articles. At academic conferences, the former presented papers on 9.9 occasions, while the latter did so on 6.6 occasions (Table 15b). As might be expected, faculty at a research university are more productive in all areas except artistic work, and generally a full professor is more productive than an associate professor or lecturer (Table 15c). In most respects – with a notable exception for conference presentations – the responses show greater productivity in 2007 than in 1992.

Table 15c. Research activities and publications by academic rank and university type

		Professor	Associate Professor	Lecturer		Research University	Others		Total
Scholarly book authored	2007	2.0	1.6	2.4	n.s.	1.8	2.0	n.s.	1.9
	1992	1.1	1.0	0.9	n.s.	1.6	0.9	***	1.1
Scholarly book edited	2007	1.0	0.3	0.6	***	0.7	0.7	n.s.	0.7
	1992	0.6	0.2	0.1	***	0.6	0.4	**	0.4
Article published in a book or journal	2007	10.5	9.6	7.2	*	9.6	10.0	n.s.	9.8
	1992	8.1	6.7	6.0	**	13.3	5.8	***	7.5
Research report or monograph	2007	1.7	1.5	1.0	*	1.5	1.5	n.s.	1.5
	1992	1.3	1.1	0.9	n.s.	2.1	1.0	***	1.2
Paper presented at a conference	2007	7.8	6.2	3.6	**	6.9	6.6	n.s.	6.7
	1992	7.1	6.9	6.7	n.s.	12.8	5.5	***	7.1
Professional article written for magazine	2007	1.6	1.4	1.1	n.s.	1.6	1.7	*	1.5
	1992	2.0	1.6	1.4	**	2.4	1.9	n.s.	2.0
Patent secured	2007	0.7	0.5	0.2	*	0.5	0.5	n.s.	0.5
	1992	0.2	0.2	0.0	n.s.	0.3	0.2	n.s.	0.2
Computer program written for public use	2007	0.1	0.2	0.1	n.s.	0.1	0.2	n.s.	0.1
	1992	0.1	0.2	0.1	n.s.	0.1	0.1	n.s.	0.1
Artistic work performed or exhibited	2007	1.7	0.9	2.9	*	1.2	1.8	n.s.	1.6
	1992	1.4	1.5	1.0	n.s.	0.7	1.7	**	1.4
Video or film produced	2007	0.2	0.1	0.1	n.s.	0.1	0.1	n.s.	0.1
	1992	0.2	0.2	0.0	n.s.	0.2	0.2	n.s.	0.2

Research Funding

Grant resources are allocated to faculty from government agencies and individual institutions: for the national universities a large part of the institutional funds is derived from government sources. Almost all faculty, 94.8%, have received grants for individual or collaborative research projects in the previous three years, a substantial increase since 1992. About 40% of the respondents have had grants totaling less than $25,000, while 22.0% have received $100,000 or more (Table 16a).

Table 16a. Research funding in the previous three years

	2007	1992	
RECEIVED RESEARCH FUNDS			***
Yes	94.8%	72.7%	
No	5.2%	27.3%	
AMOUNT OF RESEARCH FUNDS			***
Nothing	5.2%	27.3%	
Less than $ 5,000	4.3%	16.5%	
$ 5,000 to $ 24,999	33.4%	26.3%	
$ 25,000 to $ 49,999	19.7%	11.5%	
$ 50,000 to $ 99,999	15.2%	9.4%	
$100,000 to $249,999	13.4%	6.2%	
$250,000 to $499,999	5.3%	1.6%	
$500,000 or more	3.3%	1.1%	
SOURCE OF RESEARCH FUNDS			
Your own institution	85.1%	31.9%	***
Government entities	63.8%	41.8%	***
Business firms or industry	38.4%	19.6%	***
Private not-for-profit foundations/agencies	29.4%	18.8%	***
Others	21.8%	3.2%	***

The extent of research support varies widely with academic discipline. A high proportion of research funds of $100,000 or more goes to faculty in the natural sciences (including engineering, agriculture and medical and health science) (Table 16b). The breakdown among disciplines receiving research moneys is as follows: 3.4% in the humanities, 5.4% in the social sciences, 24.9% in engineering, 31.2% in the natural sciences, 34.4% in agriculture, 32.3% in medicine and dentistry, and less than 1.0% in the fine arts and physical education.

The proportion of faculty in the national research universities who received research funds of $100,000 or more amounted to almost one-half at 46.9% and was more than twice as high as in the national non-research universities and four-times higher than in the private non-research universities (Table 16c).

Table 16b. Research funding by academic discipline

		Nothing	Less than $ 5,000	$ 5,000 to $ 24,999	$ 25,000 to $ 49,999	$ 50,000 to $ 99,999	$100,000 to $249,999	$250,000 to $499,999	$500,000 or more	Total	
Humanities	2007	10.1%	5.4%	62.4%	16.1%	2.7%	2.7%		0.7%	100.0%	***
	1992	48.2%	24.2%	20.0%	3.0%	2.1%	0.0%		0.4%	100.0%	
Social sciences	2007	6.0%	6.0%	61.3%	13.3%	8.0%	4.7%		0.7%	100.0%	***
	1992	31.6%	26.3%	24.6%	11.1%	5.3%	1.2%		0.0%	100.0%	
Natural sciences	2007	1.1%	3.0%	22.0%	20.7%	21.1%	16.5%	10.2%	4.5%	100.0%	***
	1992	15.3%	14.7%	34.5%	12.4%	11.7%	6.5%	2.3%	2.6%	100.0%	
Engineering	2007	4.0%	1.8%	22.8%	23.6%	22.8%	17.0%	4.3%	3.6%	100.0%	***
	1992	21.3%	9.2%	26.2%	14.1%	14.7%	11.0%	2.1%	1.0%	100.0%	
Agriculture	2007	1.6%	1.6%	22.7%	18.0%	21.9%	20.3%	9.4%	4.7%	100.0%	***
	1992	21.1%	9.2%	26.6%	22.0%	9.2%	9.2%	2.8%	0.0%	100.0%	
Health/medical sciences	2007	7.2%	7.2%	19.0%	19.0%	15.2%	16.6%	9.4%	5.3%	100.0%	***
	1992	14.5%	9.0%	28.1%	16.7%	15.8%	10.9%	2.3%	2.7%	100.0%	
Fine arts	2007	0.1%	2.0%	50.5%	30.2%	4.7%	1.2%			100.0%	***
	1992	34.8%	26.1%	39.1%	0.0%	0.0%	0.0%			100.0%	
Education	2007	16.7%	8.3%	75.0%	0.0%					100.0%	***
	1992	48.9%	39.4%	9.6%	2.1%					100.0%	
Others	2007	6.7%	6.7%	26.7%	33.3%	10.0%	16.3%		3.3%	100.0%	***
	1992	42.1%	15.8%	30.3%	7.9%	2.6%	1.3%		0.0%	100.0%	

Table 16c. Research funding by university type

		Nothing	Less than $ 5,000	$ 5,000 to $ 24,999	$ 25,000 to $ 49,999	$ 50,000 to $ 99,999	$100,000 to $249,999	$250,000 to $499,999	$500,000 or more	Total		Average
		1	2	3	4	5	6	7	8			
National-research	2007	3.3%	0.8%	10.7%	19.3%	18.9%	28.0%	18.2%	10.7%	100.0%	×××	5.3
	1992	9.6%	9.3%	22.0%	14.9%	17.4%	17.4%	5.3%	4.0%	100.0%		4.2
National-non research	2007	4.6%	3.6%	36.3%	22.5%	14.8%	12.7%	3.5%	2.1%	100.0%	×××	4.0
	1992	28.0%	15.7%	30.7%	12.3%	8.4%	3.9%	0.8%	0.2%	100.0%		2.7
Private-research	2007	1.6%	6.3%	25.0%	15.6%	18.8%	18.8%	9.4%	4.7%	100.0%	×	4.6
	1992	14.3%	11.4%	28.6%	17.1%	17.1%	8.6%	1.4%	1.4%	100.0%		3.5
Private-non research	2007	7.0%	6.1%	41.5%	17.9%	13.7%	9.4%	3.2%	1.1%	100.0%	×××	3.7
	1992	35.3%	20.4%	25.1%	9.2%	6.1%	2.8%	0.5%	0.5%	100.0%		2.4

Administration

Institutional Governance

With a long tradition of academic autonomy and governance, Japanese faculty still view the governance at their institutions as somewhat decentralized (Table 17). They believe the power of the top administrators is exercised in decisions on such major administrative affairs as budget priorities, establishing international linkages and selection of key administrators. Members of faculty are seen to participate in those institutional decisions such as determining the overall teaching load of faculty, choosing new faculty, faculty promotion and tenure, admission standards for undergraduate students, and approval of new academic programs.

Table 17. Faculty perceptions of institutional governance (2007)

	Government or external stakeholders	Institutional managers	Academic Unit managers	Faculty committees/ boards	Individual faculty	Students	Total	Mean
	1	2	3	4	5	6		
Selecting key administrators	1.0%	39.2%	16.1%	33.5%	8.1%	0.1%	100.0%	3.09
Choosing new faculty	0.1%	5.6%	7.6%	76.8%	6.8%	0.0%	100.0%	3.82
Making faculty promotion and tenure decisions	0.1%	15.5%	8.1%	73.5%	2.7%	0.1%	100.0%	3.64
Determining budget priorities	0.2%	43.8%	20.0%	33.6%	2.4%	0.1%	100.0%	2.95
Determining the overall teaching load of faculty	0.1%	11.4%	18.6%	42.5%	26.3%	0.0%	100.0%	3.84
Setting admission standards for undergraduate students	0.2%	17.1%	14.0%	62.9%	5.8%	0.0%	100.0%	3.57
Approving new academic programs	1.1%	10.1%	17.3%	59.3%	0.2%	0.1%	100.0%	3.54
Evaluating teaching	1.8%	21.5%	38.1%	28.5%	9.7%	5.4%	100.0%	3.39
Setting internal research priorities	0.0%	34.6%	25.3%	22.4%	18.6%	0.0%	100.0%	3.27
Evaluating research	3.0%	25.1%	31.7%	20.0%	14.1%	0.1%	100.0%	3.23
Establishing International linkages	0.6%	44.6%	17.4%	22.5%	14.9%	0.0%	100.0%	3.06

This implies that faculty in Japanese institutions of higher education do not have a great deal of authority in the decision-making process at institutional level. Only at the departmental level do they have influence on the process. The extent of faculty influence at each level is shown in Table 18. Comparison with the responses in 1992 indicates a small trend over time of diminishing institutional influence but increasing influence at Faculty and departmental levels.

Table 18. Degree of faculty influence on governance at each institutional level

		Very influential	Somewhat influential	A little influential	Not at all influential	Not applicable	
Department or similar level	2007	10.9%	41.5%	28.5%	13.6%	5.5%	*
	1992	7.5%	44.5%	28.9%	14.1%	5.0%	
Faculty, school or similar level	2007	4.9%	23.2%	38.2%	29.2%	4.4%	n.s.
	1992	4.0%	24.9%	38.4%	27.0%	5.7%	
Institutional level	2007	1.9%	10.1%	28.9%	53.1%	6.0%	***
	1992	2.5%	11.1%	24.6%	50.3%	11.5%	

The vast majority of faculty think that they are not well informed about what is going on at their institutions (Table 19). Japanese faculty have a tendency to characterize the governance at their institutions as autocratic. They attribute this administrative autocracy to poor communication between the faculty and administration and to the lack of faculty involvement. In their written comments at the end of the Carnegie survey, faculty expressed a strong desire for autonomy in institutional governance. The lack of autonomy was thought to hinder the capacity of each university to develop its unique characteristics and there is no indication that this has changed in 2007. Reasonable involvement of faculty members in university policymaking and their communication with top administrators were seen as critical in developing institutional governance in Japanese institutions of higher education. It should be noted, however, that also unchanged is the proportion of faculty, 33%, who accept that students should have a stronger voice in university governance, even to the extent of determining policies affecting students. This shows that there is still considerable opposition among faculty to student activism in Japanese colleges and universities.

Table 19. Faculty attitudes toward governance

		Agree 1	2	Neutral 3	4	Disagree 5	Total	Average	
Top-level administrators are providing competent leadership	2007	14.9%	40.5%	24.3%	11.6%	8.7%	100.0%	2.6	***
	1992	31.7%	28.4%	21.8%	7.9%	10.1%	100.0%	2.4	
I am kept informed about what is going on at this institution	2007	3.7%	26.6%	34.3%	22.9%	12.4%	100.0%	3.1	n.s.
	1992	6.7%	23.9%	33.8%	17.1%	18.4%	100.0%	3.2	
Lack of faculty involvement is a real problem	2007	13.2%	28.4%	38.1%	14.9%	5.4%	100.0%	2.7	***
	1992	14.7%	18.5%	37.1%	12.2%	17.5%	100.0%	3.0	
Students should have a stronger voice in determining policy that affects them	2007	7.2%	25.4%	39.8%	18.3%	9.4%	100.0%	3.0	n.s.
	1992	11.7%	22.4%	39.4%	12.1%	14.4%	100.0%	3.0	
The administration supports academic freedom	2007	15.7%	40.4%	33.4%	6.3%	4.2%	100.0%	2.4	***
	1992	37.9%	32.7%	22.8%	3.5%	3.2%	100.0%	2.0	

Faculty Evaluation

Formal schemes of academic staff appraisal have been introduced fairly recently into universities. In 2007, the proportion of faculty who reported that their teaching and research activities were evaluated were 85.2% and 76.4% respectively. This development has largely occurred since 1992 when the proportions were 22.3% and 40.4% respectively (Table 20).

Table 20. Faculty reporting that their teaching and research are regularly assessed by type of university

		National-research		National-non-research		Private-research		Private-non-research	
Teaching	2007	79.3%	***	85.6%	***	78.5%	***	88.3%	***
	1992	12.5%		13.0%		24.7%		31.3%	
Research	2007	76.0%	***	77.7%	***	64.6%	***	77.0%	***
	1992	29.9%		27.6%		33.8%		52.7%	

When asked who performs the evaluation, a clear pattern emerges from the responses (Table 21). For teaching, students perform the primary role – with 45.4% of faculty reporting that their teaching is now evaluated by students. Where research is concerned, "senior administrative staff" play the dominant role, with 36.7% of faculty considering that assessment of their research is subject to senior administrative staff.

Table 21. Source of regular evaluation of teaching and research

		Teaching		Resaerch	
Your peers in your department or unit	2007	19.8%	***	16.4%	n.s.
	1992	10.9%		14.5%	
The head of your department or unit	2007	29.3%	***	29.1%	***
	1992	8.8%		15.1%	
Members of other departments or units at this institution	2007	4.3%	***	3.3%	***
	1992	2.3%		6.5%	
Senior administrative staff at this institution	2007	32.7%	***	36.7%	***
	1992	8.4%		20.8%	
Your students	2007	45.4%	***	1.8%	n.s.
	1992	6.9%		2.4%	
External reviewers	2007	9.0%	***	14.1%	***
	1992	1.1%		6.5%	

Jobs and Careers

Income and Benefits

It is widely recognized in Japan that academic salaries are not competitive with those in other professional and managerial occupations. The median range of annual income for faculty lies between $70,000 and $84,000: about one-third of faculty falls into this category with about 34 % of faculty members earning more than $85,000, and a further 33% earning less than $55,000 (Table 22a).

Table 22a. Faculty income levels and sources

	2007	1992	
INCOME LEVEL			
Below $24,999	0.5%	0.8%	***
$25,000–$39,999	1.5%	2.7%	
$40,000–$54,999	8.5%	13.1%	
$55,000 –$69,999	22.2%	23.9%	
$70,000–$84,999	33.9%	28.4%	
$85,000–$100,000	13.2%	20.2%	
$100,000–$115,999	9.6%	6.2%	
$116,000 or more	10.7%	4.6%	
INCOME SOURCE			
Academic institution	94.1%	89.3%	
Other academic endeavors	3.9%	5.9%	
Nonacademic work	1.9%	4.8%	

The academic salary structure is uniform across all public colleges and universities, though it varies a great deal in private colleges and universities. In some selective elite private universities, where competition for faculty members is likely to be most keen, the average salary levels exceed those at public institutions (Table 22b). Significantly higher proportions of faculty in private universities than in national universities receive annual incomes in excess of $100,000. Moreover, while in all types of university the proportions with these relatively higher incomes has increased since 1992, the increases in the private universities significantly exceed those in the national universities.

The average yearly income of a Japanese 50-year old general worker in 2005 was about $50,000 and had changed little in the preceding ten years. The figures (Tables 22a, 22b) indicate that over the same period the proportion of faculty earning less than $55,000 has fallen, so that over the past 15 years the average annual income of the Japanese university teacher has increased relative to that of the average Japanese worker.

Table 22b. Faculty income levels by type of university

	Below $24,999	$25,000 – $39,999	$40,000 – $54,999	$55,000 – $69,999	$70,000 – $84,999	$85,000 – $100,000	$100,000 – $115,999	$116,000 or more	Total	
2007										
National・research	0.9%	0.9%	8.6%	25.4%	37.1%	16.8%	5.2%	5.2%	100.0%	***
National・non-research	0.2%	2.2%	11.0%	29.2%	39.1%	9.5%	3.7%	5.1%	100.0%	
Private・research	1.6%		6.5%	11.3%	35.9%	12.9%	8.1%	23.8%	100.0%	
Private・non-research	0.4%	1.3%	6.2%	15.4%	27.7%	15.1%	17.3%	16.8%	100.0%	
1992										
National・research	0.9%	1.5%	10.2%	25.4%	37.1%	24.9%	4.2%	4.0%	100.0%	***
National・non-research	0.9%	5.1%	21.0%	26.5%	25.3%	13.5%	2.3%	1.9%	100.0%	
Private・research	0.0%	2.7%	4.1%	21.6%	24.3%	23.0%	17.6%	6.8%	100.0%	
Private・non-research	0.8%	1.8%	10.1%	22.0%	26.3%	22.2%	8.4%	6.1%	100.0%	

Japanese academics receive about 94.1% of their income from their academic institution and 5.8% from outside their institution (Table 23). In the past 15 years, income from outside their institution has decreased; this effect is observed for all disciplines except health and medical sciences. It is in the private research universities that the highest proportion (13.3%) of faculty obtains external income; but the largest fall in proportion of faculty with external income since 1992 is also in the private universities

Table 23. Sources of professional income by type of university and academic discipline

	Academic institution		Other academic endeavors		Non-academic work	
2007						
National・research	94.9	***	4.0	*	1.1	***
National・non-research	94.2		4.1		1.8	
Private・research	86.8		7.0		6.3	
Private・non-research	94.7		3.4		1.9	
1992						
National・research	88.8	***	5.2	***	2.9	***
National・non-research	90.0		4.5		3.4	
Private・research	79.1		8.2		7.5	
Private・non-research	84.9		6.3		5.7	
2007						
Humanities	95.2	***	3.3	***	1.5	***
Social sciences	93.4		3.6		3.0	
Natural sciences	97.5		1.4		1.1	
Engineering	97.9		0.9		1.1	
Agriculture	98.6		0.9		0.5	
Health /medical science	84.1		11.8		4.2	
Others	95.4		2.9		1.8	
1992						
Humanities	88.0	***	7.3	***	2.5	***
Social sciences	85.0		6.2		5.3	
Natural sciences	91.1		3.1		3.4	
Engineering	90.3		3.6		4.6	
Agriculture	93.6		2.5		3.2	
Health /medical science	76.8		10.6		9.4	
Others	86.4		7.0		4.5	

Facilities

While few faculty regard facilities as excellent, overall responses show a large majority of faculty perceived them as fairly adequate, good or excellent (Table 24a). In particular the academic facilities for computing, libraries and office space appear to be seen as satisfactory. Conversely provision for laboratories and secretarial support are seen to be less satisfactory. However in comparison with provisions in 1992, facilities in 2007 are almost all improved.

When analysed in terms of type of university significant differences emerge Table 24b). Facilities provided in the research universities are regarded as far more satisfactory than in the non-research universities, and are seen as particularly good in the private research universities. Conversely least satisfaction with all the identified facilities is found in the national non-research universities. In accord with this, facilities for research equipment and instruments, computer facilities and libraries are rated as excellent or good by a majority of respondents from research universities, with only secretarial facilities showing a low rating. In comparison with 1992, all facilities in both types and sectors of universities show notable improvement but the relative improvements are seen to be substantially greater by faculty in the research universities.

Table 24a. Assessment of facilities

		Excellent	Good	Fair	Poor	Total	
Classrooms	2007	7.3%	25.8%	47.8%	19.1%	100.0%	***
	1992	2.0%	13.1%	45.3%	39.6%	100.0%	
Technology for teaching	2007	5.6%	26.5%	46.7%	21.2%	100.0%	***
	1992	1.2%	13.2%	46.0%	39.6%	100.0%	
Laboratories	2007	4.4%	21.0%	42.2%	32.4%	100.0%	***
	1992	1.0%	11.0%	36.9%	51.1%	100.0%	
Research equipment and instruments	2007	6.0%	24.4%	38.7%	30.9%	100.0%	***
	1992	1.8%	12.3%	38.3%	47.6%	100.0%	
Computer facilities	2007	6.9%	30.1%	49.4%	13.6%	100.0%	***
	1992	3.9%	21.0%	53.3%	21.8%	100.0%	
Library holdings	2007	7.0%	32.0%	40.2%	20.8%	100.0%	***
	1992	7.3%	24.0%	44.3%	24.3%	100.0%	
Faculty offices	2007	6.8%	28.6%	41.1%	23.5%	100.0%	***
	1992	2.0%	15.3%	43.2%	39.5%	100.0%	
Secretarial support	2007	2.1%	13.6%	36.4%	47.9%	100.0%	**
	1992	1.8%	10.0%	40.0%	48.2%	100.0%	

Table 24b. Assessment of facilities by type of university
(proportion responding "Excellent" or "Good")

		National-research		National-non-research		Private-research		Private-non-research		
Classrooms	2007	29.6%	***	32.1%	***	49.2%	**	33.8%	***	n.s.
	1992	10.3%		12.5%		29.7%		17.1%		***
Technology for teaching	2007	33.9%	***	27.4%	***	56.9%	***	33.0%	***	***
	1992	6.7%		8.7%		23.3%		19.9%		***
Laboratories	2007	32.2%	**	22.3%	***	43.4%	***	23.3%	***	***
	1992	8.1%		6.8%		13.2%		17.3%		***
Research equipment and instruments	2007	49.2%	***	20.8%	***	50.0%	***	28.9%	***	***
	1992	14.7%		7.1%		17.4%		17.9%		***
Computer facilities	2007	51.9%	n.s.	28.7%	**	58.5%	***	35.7%	***	***
	1992	24.1%		13.6%		30.4%		32.0%		***
Library holdings	2007	63.6%	**	27.9%	n.s.	78.1%	***	34.2%	***	***
	1992	30.7%		11.6%		69.4%		40.4%		***
Faculty offices	2007	44.7%	***	32.1%	***	49.2%	***	32.8%	***	**
	1992	14.8%		12.0%		21.6%		21.1%		***
Secretarial support	2007	20.1%	***	12.7%	n.s.	33.8%	***	14.6%	***	***
	1992	9.4%		4.7%		23.0%		15.9%		***

Academic Life

Despite responses indicating longer, harder and more challenging work, dissatisfaction with governance, and constraints on facilities, the proportions of faculty who regret their commitment to academic life are small (Table 25). Indeed a large majority of faculty is not merely satisfied with their decision to adopt an academic life but would encourage a "young person" to undertake an academic career in their discipline. Moreover, a lower proportion of faculty in 2007 is dissatisfied with academic life than in 1992. Even so, a substantial majority does record their agreement with the statement that "My job is a source of considerable personal strain".

Among the different types and sectors of universities, even fewer in the research universities regret their choice of career, though curiously in the private research universities is the highest proportion (12.5%) who would not advise a young person to begin an academic career. Perhaps significantly, marginally more faculty in the research universities report considerable personal strain in their jobs.

Table 25. Attitudes to academic careers and employment by type of university

		PERCENTAGE AGREEING									
		Total		National· research		National· non-research		Private· research		Private· non-research	
This is a poor time for any young person to begin an academic career in my field.	2007	8.3%	***	5.4%	***	10.3%	**	12.5%	**	7.1%	*
	1992	13.2%		10.7%		13.8%		8.6%		14.4%	
If I had it to do over again, I would not become an academic.	2007	12.5%	**	11.2%	n.s.	13.1%	n.s.	9.4%	*	12.9%	n.s.
	1992	16.0%		16.8%		19.5%		14.5%		14.2%	
My job is a source of considerable personal strain.	2007	57.4%	n.s	61.6%	n.s	57.8%	n.s	60.9%	n.s	54.8%	n.s
	1992	55.9%		65.6%		53.5%		63.9%		53.1%	

Conclusion

It is inevitable that a higher education system will respond to environmental and social change. In Japan, the reduction of the 18-year old population and the work force accompanying a decline in the birthrate, administrative and fiscal reform, and the internationalization and globalization of society and the economy have provided imperatives for change. Since 1991, a series of new higher education policies has been implemented with major consequences for the academic market place in Japan.

From an examination of the profile of Japanese faculty, three components especially show dramatic changes in the period from 1992 to 2007: the proportions of female faculty, of faculty with doctorates and of non-tenured faculty have all risen substantially during this period. These results can be seen as the direct effects of policies to hire more woman researchers, to provide substance for graduate school education and to invigorate research activity.

An increased emphasis on teaching can be seen. Time devoted to teaching has increased from 1992 to 2007; and, in most universities, faculty assign a slightly greater preference to teaching. The participation rate in university education increased abruptly up after 1992, at a time when the 18-year old age cohorts were declining. As a result, students' quality has further diversified and the educational expectations placed on faculty have grown.

At the same time, expansion of graduate schools and graduate courses has imposed additional demands for teaching. The proportion of faculty committed exclusively to teaching university undergraduate courses has decreased, and the proportion of faculty responsible for both a university undergraduate course and a graduate program has increased.

While commitment of faculty to teaching has increased, research remains

the predominant preference of faculty in both research and non-research universities. And though the time devoted to research activities has decreased, academic productivity, measured by the number of publications, has increased from 1992 to 2007. Increases in the number and size of research grants and the recognition by many faculty that "A strong record of successful research activity is important in faculty evaluation at this institution" can be considered as important factors.

From the responses on administrative matters, two points become clear. First, many faculty think that their influence on management activities at an institutional level has fallen. One result is that more faculty have come to think that "Lack of faculty involvement is a real problem". Second, educational and research activities began to be periodically evaluated in the universities after 1991. A notable innovation is the widespread involvement of students, as well as deans and heads of departments in evaluation of teaching. Evaluation of research activities is carried out by deans and heads of department.

Finally, with regard to jobs and careers, two points became clear. Despite the extensive reform of higher education that has been vigorously pursued from the beginning of the 1990s, and contrary to prediction, the proportions of faculty who agree that "If I had it to do over again, I would not become an academic" and "This is a poor time for any young person to begin an academic career in my field", have actually decreased during the past 15 years. It may well be that the effect of increases in relative earnings and the additional resources provided for both teaching and research have affected the consciousness of the majority of faculty to a greater extent than the "considerable personal strain" that they identify.

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Addendum

Tertiary Educational Institutions in Japan

Universities (*Daigaku*) are intended to conduct teaching and research in depth in specialized academic disciplines and provide students with advanced knowledge. Universities require for admission the completion of upper secondary school or its equivalent, and offer courses of at least four years leading to a bachelor's degree (*Gakushi*). Universities may set up a graduate school offering advanced studies in a variety of fields leading to masters' (*Shushi*) and doctors' (*Hakushi*) degrees. Graduate school courses normally last five years, consisting of two-year courses leading to a master's degree and subsequent three-year courses leading to a doctor's degree. (It is possible for those who are especially successful in their studies to get a master's degree in one year, and a doctor's degree in two further years.

Junior Colleges (*Tanki-daigaku*) aim at conducting teaching and research in specialized subjects and at developing in students such abilities as are required for vocational or practical life. Junior colleges require for admission the completion of upper secondary school or its equivalent, and offer two- or three-year programs in various fields of study, which lead to the title of associate (*Jun-gakushi*). Most courses offered in these colleges are in fields such as humanities, social sciences, teacher training and home economics. The great majority of the students in these colleges are women. Those who have

completed junior college may go on to university and their credits acquired at junior college may be counted as part of the credits leading to bachelors' degrees. Junior colleges are also allowed to offer advanced courses which may lead to bachelors' degrees.

Colleges of Technology (*Koto-senmon-gakko*), unlike universities or junior colleges, accept those who have completed lower secondary school, and offer five-year (five and a half years at colleges of maritime technology) consistent programs. They were established in 1962, intended to conduct teaching in specialized subjects in depth and to develop in students such abilities as are required for vocational life. Students who have completed studies at colleges of technology are granted the title of associate (*Jyun-gakushi*) and may apply for admission to the upper division of a university. Colleges of Technology are also allowed to offer two-year advanced courses, which follow the five-year program in order to provide a higher level of technical education.

Courses provided in Specialized Training Colleges may be classified into three categories: upper secondary, post-secondary and general courses. Each course gives at least 40 students systematic instruction, lasting not less than one year, for 800 class hours or more *per* year. Specialized training colleges offering upper secondary courses are called "upper secondary specialized training schools (*Koto-senshu-gakko*)" and those offering post-secondary courses are called "professional training colleges (*Senmon-gakko*)". The former require for admission the completion of compulsory education, while the latter accept those who have graduated from the upper secondary schools or upper secondary courses of specialized training colleges and award the title, "technical associate (*Senmonshi*)", to those who complete post-secondary courses that fulfill certain criteria, including a study period of at least two years. Students who have completed an upper secondary course lasting three years or more of specialized training colleges designated by the Minister are entitled to apply for a university place.

Latin America

Brazilian Academic Profession: some recent trends

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The 2006 census of Brazilian Higher Education shows a highly disperse and diversified system. There are 2,270 institutions, of which only 178 are considered Universities.[1] The public sector is small, with only 10.9% of all institutions, some under the Federal government (4.6%), others under state (provincial) governments (3.6%), and a few under local municipalities (2.6%). Federal and state institutions tend to be larger and better institutionalized than the private ones: they represent 51.7% of all Brazilian universities and account for most of the country's graduate education (81.3% of the enrollment at this level). Municipal institutions, however, are similar to the private ones at the lower end: they are small colleges, and the teaching staff are not very well qualified and do not have contracts for full-time employment.

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[1] To be recognized as universities, higher education institutions in Brazil need to fulfill some requirements that includes at least a third of their academic staff with at least a master's degree and full time contracts, besides the provision of some graduate education degree programs, and teaching in the health, technical and social sciences. There is no legal difference in the degrees provided by university and non-university institutions, but universities have more autonomy to open new course programs and to decide the number of vacancies they offer each year.

The private sector is huge: it includes 2,022 institutions and answers for 74.1% of all undergraduate enrollments. Most private institutions – 95.7% – are small, family-owned colleges scattered all throughout the country, and enroll 43% of all undergraduate students in the country. The remaining 4.3% are large institutions, enrolling 31.1% of the undergraduate students. Most private sector institutions (78.3%) are for-profit, and, as such have no tax benefits, and are not required to provide institutional scholarships or philanthropic services. The remaining 21.7% are formally classified as philanthropic institutions. Most private universities are old philanthropic institutions. Nevertheless, in the last decade gigantic universities have grown also in the for-profit sub-sector.

Table 1 provides some relevant figures for the Brazilian higher education system for 2006. There were 4.7 million undergraduate and 132,500 graduate students in masters' and doctorate programs. There were 316,900 teaching posts, a third of which were full-time.[2] In federal institutions, 83.4% of the academic staff have full-time contracts; in state institutions, 73.1%. The pattern for university and non-university institutions is the same in these sectors. In municipal institutions, however, only 19% of the academic positions are full-time.

Only 16% of the academic posts in private institutions are full-time, with differences among for-profit and not for-profit, university and non-university institutions. The figures are 11% in for-profit non-universities; 29.7% in for-profit universities; 12.7% in philanthropic non-universities; and 23.2% in philanthropic universities.

Table 1 also shows that 22.3% of all academic positions in Brazilian higher education are filled by professionals holding doctorates. Academics with such profiles are to be found mostly in the public sector, and in federal and state owned universities within it. In fact, while the public sector offers only 33.7% of all academic positions, 63.4% of all Brazilian academics holding a doctorate work in a public institution. In the private sector it is the opposite: it contributes 66.2% of all academic posts, but only 35.8% of the academics holding a PhD.

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[2] In the 2003 survey, 90% of the academics that declared holding full-time contracts also declared working with only one HE institution. This figure has been confirmed by the 2007 survey. Academics with full-time contracts also declare that the income derived by this academic position represents, on average, 80% of their total monthly income. In the public sector, a full-time contract requires a small teaching load of between 12 to 16 hours *per* week. In the private sector, full-time contracts usually require a teaching load of 20 to 30 hours *per* week.

Table 1. Brazilian Higher Education System: major figures, 2006

Owner-ship	*Type*	*Number of Institutions*	*Undergraduate Enrollments*	*Graduate Enrollments*	*Faculty employed*		
					Total	*PhD.*	*Full-time*
Federal	Universities	53	556,231	NA	52,881	26,243	44,077
	Non univ.	52	33,590	NA	5,197	879	4,503
	Total	105	589,821	66,602	58,078	27,122	48,580
State	Universities	34	436,662	NA	37,482	15,951	28,348
	Non Univ.	49	45,094	NA	3,525	476	1,665
	Total	83	481,756	40,417	41,007	16,427	30,013
Local	Universities	5	60,370	NA	3,841	699	1,073
	Non univ.	55	77,357	NA	4,073	517	428
	Total	60	137,727	682	7,914	1,216	1,501
All Public	Universities	92	1,053,263	NA	94,204	42,893	73,498
	Non Univ	156	156,041	NA	12,795	1,872	6,596
	Total	248	1,209,304	107,701	106,999	44,765	80,094
For Profit	Universities	24	437,165	NA	17,792	2,691	5,358
	Non Univ.	1,559	1,487,001	NA	100,947	8,442	11,156
	Total	1,583	1,924,166	NA	118,739	11,133	16,214
Philan-tropic	Universities	62	1,019,968	NA	56,485	10,877	13,136
	Non Univ.	377	523,208	NA	34,659	3,904	4,404
	Total	439	1,543,176	NA	91,144	14,718	17,540
All Private	Universities	86	1,457,133	NA	74,277	13,568	18,494
	Non Univ.	1,936	2,010,209	NA	13,5606	12,283	15,260
	Total	2,022	3,467,342	24,780	209,883	25,851	33,754
Total	Universities	178	2,510,396	NA	168,481	56,461	91,992
	Non Univ.	2092	2,166,250	NA	148,401	14,155	21,.856
	Total	2,270	4,676,646	132,481	316,882	70,616	113,848

Sources: For the number of institutions, undergraduate enrollments and faculty, Brazilian Ministry of Education, Higher Education Census of 2006. For graduate education, Ministry of Education, CAPES Foundation -http://www.capes.gov.br/sobre/estatisticas/

Notes: Graduate education includes students enrolled in Masters' of Science, Professional Masters' and Doctorate programs.
NA: Not available

Intra-sector institutional differences

The figures presented above are eloquent in showing the striking differences among institutions that coexist in Brazilian higher education. In fact, Brazilian higher education is not only diversified but also sharply stratified, both between

and within each sector. In the public sector, the major line of differentiation and hierarchy is the one created by the degree of institutionalization of graduate education. In the late 1960s, when the Brazilian government started to support graduate education,[3] only a few public institutions were well positioned to take advantage of the existing incentives. These institutions created a large number of graduate programs, and hired academics with PhDs to staff them. The influx of these scholars created a dynamic environment inside these institutions. With a great number of PhD holders, these institutions were also able to capture the investments the Brazilian government was mobilizing for science and technology in the 1970s. Nowadays, these institutions could be called the "Research public universities stratum": they provide a good working environment, which, in turn, allows them to secure the better-qualified academics and attract public financial support for research. A major feature of these institutions is the great proportion of PhD holders among their faculty. In some of them more than 90% of all academic staff hold a PhD. These institutions also are distinguished by the efforts committed to graduate education: in none of them less than 30% of their students are enrolled in graduate programs, and in some this proportion is above 50%. These institutions award most of the PhD degrees granted in the country and in them the academic staff tend to be very influential in matters of institutional governance.

The other public institutions can be placed in a separate category. Most of them hold university status but lack conditions for high-level academic work. They have not been able to establish a strong graduate layer and thus have difficulties in attracting and retaining holders of doctorates among their staff. Bureaucracy and teacher's unions have greater power than the academic staff, and central administration also tends to have more scope for initiatives. Graduate education is a smaller enterprise in these institutions and tends to be confined to the masters' level. Nonetheless, these institutions play a relevant role not only in undergraduate education, but also as a regional source of skills and knowledge. As such, they may be called "regional public institutions".

In the private sector there is also a small segment of institutions committed to graduate education. In the late 1960s some Catholic universities, and more particularly the Pontifical Catholic University of Rio de Janeiro, also took advantage of the government initiatives to support graduate education. Thus they committed efforts to build up a graduate layer, and, with the support of the Federal government, evolved in a pattern very much similar to the one found in

[3] For an overview of Brazilian graduate education see Balbachevsky, 2004.

the federal sector, with generous full-time contracts and support for academic research and graduate education. In the 1990s, when public subsidies dried up, some of these institutions evolved an active entrepreneurial orientation, establishing strong links with outside users and clients for their research and development capabilities. They built up a strong periphery of institutes linking the competences at the core of the university's Departments with users outside the academic world.[4] In the last decade some other private institutions (confessional and non-confessional ones) also experienced some movement toward a more entrepreneurial orientation – that is, to an awareness and wiliness for actively exploring alternative fund-raising activities, including services, graduate professional education and life-long learning programs (as opposed to a strategy of relying solely on funds raised by tuition fees paid by undergraduate students). In common, all these institutions have room for engaging a larger proportion of PhD holders in their staff. For these institutions, academic credentials are regarded as a source of differentiation, both in the undergraduate market by attracting students from wealthier families willing to pay for good educational standards, and in the services market by offering well-regarded professional training programs and job-oriented graduate education, as well as consultancy and advisory activities. These orientations and features set apart a small group of private institutions that could be called "Elite private institutions". They are small in number, but are well known and respected in the Brazilian higher education's landscape. From the point of view of upper-middle class families, they represent the only real alternative to the educational services provided by the public sector.

In the lowest stratum is congregated the great majority of Brazilian higher education institutions. They are mostly private institutions, or owned by small municipalities. Most are small colleges or isolated professional schools, but the group includes some large, teaching-only institutions that have managed to be accredited at some point as universities and can have 60,000 or more students. In common, they all are confined to a kind of commodity-like market of mass undergraduate education, where the price charged for education is the most relevant differential. Lower tuition fees are the goal, and saving in expenses in providing the undergraduate programs is the best strategy. They may be called "mass-oriented private institutions".

For these institutions, full-time (or even part-time) contracts and graduate

[4] See the case studies of the Catholic University Computer Science sector and the Getúlio Vargas Foundation Economics centers in Schwartzman *et al*. (forthcoming).

faculty are luxuries they hesitate to incur. When a choice is posed, they usually opt for hiring non-graduate trained instructors on contracts based on *per* hour payments. When they are forced by governmental regulations to hire graduate academics, they prefer masters' degree holders, as they have no room for a strategic use of the competences and prestige associated with the PhD degree.

Some of them, mostly universities, do display some research related indicators, since "research – or indicators of research" is a bureaucratic demand from government to all officially recognized universities. Thus all private universities in Brazil have a few research groups (or graduate, masters' or doctoral, programs), if only for the sake of producing the indicators demanded by the government. But the real difference between these institutions and the elite private stratum is to be found in the strategic place occupied by these research-related activities. In the "mass-oriented institutions", research groups tend to be few, small, chronically undernourished and with few connections to the institution's real life. They are not supposed to grow and to occupy a place of their own inside the institution. They exist only for the sake of the indicators they produce. In contrast, at "elite private institutions" research, consultancy and related activities play strategic roles, and the full-time academic staff are stimulated to develop projects and initiatives of different kinds.

Institutions at this lower stratum are not organized in academic departments and have small room for initiatives from the faculty. They are vertically organized, and the smallest organizational unit is the bachelor course program. Each program is supervised by a coordinator, usually a senior teacher, with long years at the institution. Their authority derives from the trust of the institution's owner, rather than academic reputation or leadership.

The 2007 survey on the academic profession in Brazil

The sample design used for the 2007 survey on the academic profession in Brazil, as part of the International Project on the Changing Academic Profession (CAP Project) incorporates the categories just sketched. The realm of Brazilian higher education institutions was classified in the four strata identified above: "research public universities", "regional public institutions", "elite private institutions" and "mass private institutions". The indicators used for classifying each institution were the proportion of PhD holders in an institution's faculty and the proportion of faculty employed on full-time contracts. Thus,

- **Research Public Universities** are public institutions where one finds a high proportion of PhD holders (50% or more) among faculty and also a high proportion of academics with full-time contracts (70% or more). It happens that all institutions in this stratum are recognized as universities.
- **Regional Public Institutions** are public institutions that have a high proportion of academics with full-time contracts and medium or low proportions of PhD holders among faculty.
- **Elite Private Institutions** are private institutions with a high proportion of PhD holders among faculty and at least a significant proportion of academics with full-time contracts.
- **Mass Private Institutions** are private or local owned institutions[5] with a low proportion of PhD holders among their faculty and a small number of full-time contracts.
- To these strata, we added a fifth, for scholars from **research institutes**, a small but relevant component of the Brazilian academic enterprise.

Across all the strata, institutions were sorted by size and the larger ones were weighted in order to avoid over-representation of small institutions in any one stratum. The institutional sample was randomly chosen inside each stratum. For each institution in our sample we had access to all academic staff in lists collected by the Brazilian Ministry of Education. From these lists we sampled 5,000 academics and for each of them, listed all e-mail addresses known, after consulting the institutions, the Brazilian Directory of Researchers (Plataforma Lattes), maintained by the Brazilian Council for Research (CNPq – Conselho Nacional de Pesquisa),[6] of the Ministry of Science and Technology and other

[5] Municipal higher education institutions are officially classified as public, but have no resemblance with other public institutions in Brazil. The most usual origin of such institutions is an agreement between local authorities and a private entrepreneur, where the municipality offers the buildings while the entrepreneur builds up the institution. As such, they do not have access to public funds or other forms of support, and their faculty do not have civil servant status; they are maintained by the tuition fees charged to the students. Through being small and not well-endowed in academic standards, they operate in the same mass oriented HE market as most of the institutions in the private sector.

[6] The Plataforma Lattes is an on-line directory of researchers' *curricula vitae* organized by the Brazilian Ministry of Science and Technology. Maintaining up-to-date *c.v.* in this Directory is mandatory for any researchers applying for public support at any level for their projects. It is also mandatory for any academic working in graduate programs, both at public and private sector, since the advisors' *c.v.* constitute part of the evidence analyzed in the graduate program's evaluation process.

private Internet-based sources like Orkut and MSN services. In spite of all efforts, 298 names of faculty were dropped from our list due to problems in locating their e-mail addresses or out-dated information. The remaining 4,702 academics were contacted by e-mail on at least three different occasions and at least once by letter. All doubts expressed by the respondents were addressed by the team of researchers by e-mail. The fieldwork started in October and was finalized by the end of December, 2007. At this time, 1,200 academics had answered all the content of the questionnaire presented to them. A further 300 academics responded only partially to the questionnaire and were excluded from the sample. The rate of response is 25.5%, a good rate by international standards. Much more important, the distribution of responses by stratum provided a well balanced sample, even if it slightly over-represents the public sector, as can be seen in Table 2.

Table 2. Brazilian Academic Profession 2007: sample and field research results by stratum

Stratum	Planned sample		Achieved sample	
	Total	Percentage	Total	Percentage
Research Institutes	50	5%	49	4.1%
Research Public Universities	150	15%	197	16.4%
Regional Public Institutions	200	20%	296	24.7%
Elite Private Institutions	150	15%	171	14.3%
Mass Private Institutions	450	45%	487	40.6%

The changing academic profession in Brazil: some preliminary findings

The data collected in 2007 conformed to the pattern of data from two previous researches on the Brazilian academic profession: a 1992 sample carried out under the Carnegie initiative, and a 2003 sample, supported by the Ford Foundation. All samples follow a similar design: the 1992 and 2003 surveys follow the guidelines proposed by the Carnegie foundation in 1989. They identify three strata: research universities, regional institutions and mass-oriented institutions. When the previous surveys were conducted, the number of elite private institutions was so small that they were included with public research universities in the research universities strata. The 2007 survey incorporated sector information in the sample design, since from late 1980s to now the number of private institutions displaying elite orientation has grown and

become more prominent in Brazilian higher education.

The academic profession in Brazil: a demographic profile

In this section we explore some relevant information on the main variables regarding the demographic profile of the Brazilian academic profession. Table 3 provides information about the different patterns of appointments according to types of institution regarding gender.

Table 3. Gender by institutional context, Brazil, 2007

		Institutional context					Total
		Research Public Universities	Regional Public Institutions	Elite Private Institutions	Mass Private Institutions	Research Institutes	
Gender	Male	58.9%	49.3%	61.4%	50.0%	73.5%	53.9%
	female	41.1%	50.7%	38.6%	50.0%	26.5%	46.1%
Total (100%)		(197)	(296)	(171)	(484)	(49)	(1,197)

Source: CAP Survey: Brazil
Notes: Chi-Square: 18.4, df: 4 Asymp. Sig. (2-sided): 0.001

Gender participation in the academic profession in Brazil is reasonably well balanced. In our sample, 54% of the respondents are men and 46% are women. Nevertheless, the proportion of men among faculty is higher in research universities (58.9%), elite private institutions (61.4%) and (73.5%) research institutes. Gender affects career patterns in elite private institutions and in research institutes. In these places, being a man significantly increases the probability of reaching higher ranks in a career (see Table 4, below). The career patterns in both private and public institutions are similar. In public institutions, a career starts as a teaching assistant, a position that only requires a bachelor's degree. The subsequent position, assistant professor, requires a master's degree, and with a doctorate an academic is automatically promoted to associate professor or *adjunto.* The highest rank is a full professorship. Access to a full professorship is usually subject to some negotiations inside the institution, as it is the only rank with a restricted number of positions. Careers in the private sector are similar, except that promotion is more difficult than in the public sector. Since 1990, the first two ranks, teaching assistant and assistant professor, have tended to collapse into one in many institutions (For an overview of the career patterns among Brazilian higher education see Balbachevsky, 2008).

Table 4. Brazil: rank, gender and career by types of institutions

Institutional context	Gender	Mean	Number	Std. deviation
Research Public Universities	Male	1.86	115	0.66
	Female	1.84	81	0.56
	Total	1.85	196	0.62
Regional Public Institutions	Male	1.84	146	0.75
	Female	1.83	149	0.83
	Total	1.84	295	0.79
Elite Private Institutions	Male	1.53	105	0.99
	Female	1.42	66	1.02
	Total	1.49	171	1.00
Mass Private Institutions	Male	1.89	240	1.06
	Female	1.90	241	1.03
	Total	1.89	481	1.04
Research Institutes	Male	2.42	36	0.55
	Female	1.77	13	0.93
	Total	2.24	49	0.72
Total	Male	1.85	642	0.91
	Female	1.81	550	0.93
	Total	1.83	1,192	0.92

Source: CAP Brazil, 2007

Notes: Rank scale: 0 = not in the career path; 1= teaching assistant, assistant, assistant professor; 2 = associate professor, *adjunto*; 3 = full professor.

On average, Brazilian academics are 45 years old (standard deviation, 9.5 years). This figure has not changed significantly from 1992 to the present. In the Carnegie survey of 1992, the average was 43.1 years (standard deviation, 9.1 years). Academics employed in more competitive environments are slightly older. Thus, the average ages in research universities, elite private institutions and research Institutes are 47 years, while those employed in regional institutions and the mass private sector are 42. Again, this is a tendency previously found in the 1992 survey.

Another relevant trait to be found among academics in Brazil is the impressive upward movement most of them have experienced in their lives. As can be seen in Table 5 most Brazilian academics are the first generation in their families to reach academic education. In fact, only 35.2% of our respondents have fathers with some higher education. For another 21.2%, the father's educational level reported is secondary school while a further 34.2% reported only primary education. Finally, 9.3% of our respondents are sons and

daughters from families whose fathers had no formal education at all. Again, the distribution of these responses is significantly influenced by the type of institution where the scholar works. In public regional institutions, the proportion of respondents reporting fathers with only primary education was significantly higher (41.4%) than that of those with fathers who had higher education (26.1%). In mass private institutions, the proportion of those reporting fathers with no formal education amounted to 12.3%. On the other hand, elite private institutions and research institutes show a more selective pattern of recruitment: in both types of institutions, the proportions of respondents from families whose fathers attended higher education increased significantly: to 53.2% among academics from elite private institutions and to 54.2% among academics from research institutes. At the same time, in both contexts, reports of academics' fathers with less than secondary education decreased.

Table 5. Father's highest educational level by institutional context

		Institutional context					Total
		Research Public Universities	Regional Public Institutions	Elite Private Institutions	Mass Private Institutions	Research Institutes	
Father's highest educational level	Without formal education	6.6% -1.5	10.5% 0.8	2.3% -3.4	12.3% 2.9	8.3% -0.2	9.3%
	Primary education	30.5% 1.2	41.4% 3.0	24.6% -2.9	37.4% 1.9	8.3% -3.9	34.2%
	Secondary education	25.4% 1.6	22.0% 0.4	19.9% 0.5	18.7% -1.8	29.2% 1.4	21.2%
	Higher education	37.6% 0.8	26.1% -3.8	53.2% 5.3	31.6% -2.2	54.2% 2.8	35.2%
Total (100%)		(197)	(295)	(171)	(487)	(48)	(1,198)

Source: CAP Brazil, 2007
Notes: Pearson Chi-Square: 70,76, 12 df, Asymp. Sig. (2-sided): 0.000.
The numbers bellow each cell are the standardized adjusted residuals.

In short, one can say that the elite and more competitive institutions tend to select their staff from among people coming from better-educated families. This is particularly true in the research institutes, where the academic staff tend to be older, predominantly male and from upper-middle class origins, in contrast to the younger, more balanced in gender and more modest social origins of the academic staff employed at other higher education institutions.

Working conditions and academic commitment

As was noted above, stable full-time contracts are the rule in the public sector – both in research oriented and public regional institutions. In elite private institutions, 50% of the staff reported full-time contracts, although they reported no stability, since this condition is not envisioned in the labor legislation regulating work contracts in the private sector. Faculty from mass private institutions have more precarious academic contracts, with 78% reporting only part-time or hourly paid, non-stable contracts. Among scholars from research universities, 82% reported that the university from which they responded was their only place of work. Among faculty employed by research institutes, 75% gave similar responses. Among academics from other public institutions, this figure drops to 69% and to 50% among academics from elite private institutions. Among academics employed in mass private institutions, only 34% reported having worked in just one institution.

Perhaps the most relevant change in the academic labor market in Brazil is the relative importance of the academic degree for access to an academic position. Brazil, like many other emerging countries around the world, has been plagued by shortcomings derived from a small pool of academically competent candidates from which to recruit faculty for its higher education institutions. The number of professionals holding doctoral degrees has been always low. Nevertheless, the last decade has witnessed relevant changes in this dimension.

Table 6. The academic cohort and graduate experience

Time in years elapsed between the first graduate degree and the first academic position. Negative values indicate that academic career began prior to achieving the first academic degree.

Academic cohort	Mean	Number	Std. Deviation
Before 1990s	-4.52	420	7.52
1990s	0.25	452	5.26
2000s	2.48	271	4.44
Total	-0.98	1143	6.66

ANOVA Table

	Sum of Squares	df	Mean Square	F	sig
Between groups	9185.713	2	4592.857	126.188	0.000
Within groups	41492.649	1140	36.397		
Total	50678.362	1142			

Source: CAP Brazil, 2007

These macro-tendencies have been captured by the successive surveys of the Brazilian academic profession. From 1992 until the present, the proportion of PhD holders increased in all types of institutions. In research-oriented and elite private institutions the proportion increased from 63% in 1992 to 90% in 2007; in regional public institutions, from 25% in 1992 to 65% in 2007; in mass private institutions, from 10% in 1992 to 32% in 2007. The data collected by the 2007 survey also show new dynamics inside the academic market in Brazil, as highlighted in table 6.

Splitting the 2007 sample into cohorts defined by the year when respondents started their first academic contracts, it is possible to see that those who started their careers before the 1990s achieved first graduate degrees,[7] on average, 4 years after their first academic appointment. By the 1990s, scholars had achieved their first academic appointments in the same year they finished their first graduate degrees. Finally, academics entering the academic market in the 2000s achieved their first post graduate degrees on average 2.5 years before their first academic appointment.

Table 7. Highest academic degree by type of institution

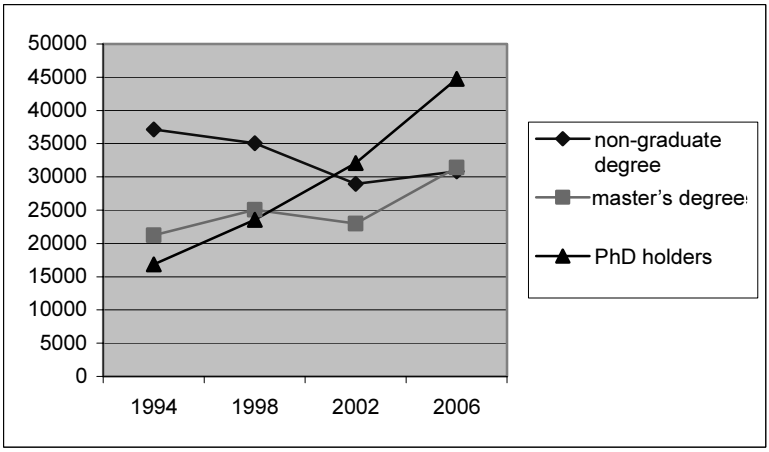
		Institutional context					Total
		Research Public Universities	Regional Public Institutions	Elite Private Institutions	Mass Private Institutions	Research Institutes	
highest academic degree	PhD	92.4% 11.0	63.5% 2.6	75.5% 4.4	29.6% -15.9	93.9% 5.3	9.3%
	Master's degree	7.6% -8.1	29.7% -1.1	22.2% -3.1	50.1% 10.9	6.1% -4.0	34.2%
	No graduate degree	0% -5.3	6.8% -2.5	5.3% -2.5	20.3% 9.0	0% -2.5	21.2%
Total (100%)		(197)	(296)	(171)	(487)	(49)	(1,200)

Source: CAP Brazil, 2007
Notes: Pearson Chi-Square: 307,7, d.f: 8, asymp. Sig. (2-sided): 0.000

The figures reported here show that the academic market in Brazil is

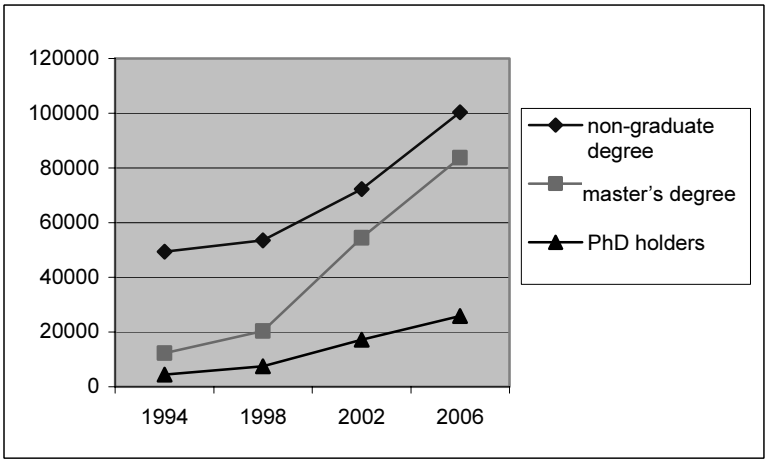
[7] This figure takes into account all graduate degrees as well as masters' and doctoral degrees. This includes a peculiar graduate degree recognized by the Brazilian legislation, known as "specialization". These are short term training programs lasting for one year or 350 class-hours, aiming to provide specialized professional training in selected fields and/or skills.

increasingly competitive regarding academic credentials. This tendency is observed in all sectors and all kind of institutions. Nevertheless, the academic market in Brazil has not lost its main trait, which is segmentation. As Table 7 shows, different types of institutions tend to appoint academic staff with diverse academic profiles. While access to academic positions in research oriented institutions – research universities and research institutes – nowadays requires a doctorate, undergraduate oriented institutions, such as public regional institutions and mass private institutions are less selective, opening places for faculty with lower academic profiles.



Source: Ministry of Education, INEP, Census of Brazilian Higher Education, 1994-2006

Figure 1. Number of public sector academic positions by degree in Brazil



Source: Ministry of Education, INEP, Census of Brazilian Higher Education, 1994-2006

Figure 2. Number of private sector academic positions by degree in Brazil

These observations are corroborated by the tendencies observed in the aggregate official data collected annually by the Brazilian Ministry of Education by means of the Brazil's Census of Higher Education. Relevant data are shown in Figures 1 and 2.

Figure 1 shows the relevant and sharp increase in the participation of PhD holders in the public sector as a whole since the early 1990s. While the proportion of masters also increased, the increment, in this case, is much less evident. Figure 2, on the other hand, shows that in the private sector as a whole, the more evident increase is in the number of academics holding masters' degrees, even though positions filled by PhD holders also experienced a significant increase.

Together, these tendencies create sharp contrasts inside the academic market in Brazil. In our sample, 42% of the scholars who achieved PhD degrees were unable to secure stable, full-time contracts. Without full-time contracts, PhD degree holders also tend to have diminished opportunities for access to public funds for research. Thus, while reporting strong interest and commitment to research, a significant number of Brazilian scholars with PhD degrees also reported having no access to external research funding (40%). Considering that most of these scholars attended tuition-free doctorate programs offered by the best research oriented public universities, with most of them supported by publicly funded fellowships, the above figure suggests a significant waste of scarce public money.

In contrast, 30% of academics with only masters' or lower degrees reported stable, full-time contracts in public institutions. While lacking basic academic resources to reach a fully fledged role as independent scholars, these respondents have access to good job conditions provided by the standard terms of contract offered in the public sector. They have small teaching loads, stability, and wide room for self-regulated working time. It comes as no surprise that most of the academic staff with masters' degrees or lower (60%), employed with full-time contracts at public institutions in our sample, also declare that they have other jobs outside their main academic appointments.

International dimension of the Brazilian academic life

Brazilian higher education is a highly closed market: of all the scholars in our sample, 98% are Brazilian-born citizens. Brazilian doctors (85%) have achieved their PhDs in Brazil: 80% in public research universities, 88% in public regional institutions, and 90% in mass private institutions. This is reflected in

the low percentage of Brazilian academics that, in the last three years, have given classes in languages other than Portuguese (6%).

However, contacts and interaction with the external world increased very significantly in the last two decades. In 1992, only 9.2% of the Brazilian sample reported any collaboration with foreign colleagues. In 2007, this figure was 22%. As might be expected, the volume of international collaboration increased more in research-oriented environments, as can be seen in Table 8.

In fact, among scholars in research public universities, the proportion of scholars reporting collaboration with colleagues abroad is 37.6% and, at the research institutes, it reaches 65.3%; in mass private institutions this figure drops to only 9%.

Table 8. International collaboration by institutional context

		Institutional context					Total
		Research Public Universities	Regional Public Institutions	Elite Private Institutions	Mass Private Institutions	Research Institutes	
International research collaboration (last 3 years)	yes	37.6% 5.8	22.0% 0.1	27.5% 1.9	9.0% -8.9	65.3% 7.5	53.9%
	no	62.4% -5.8	78.0% -0.1	72.5% -1.9	91.0% 8.9	34.7% -7.5	46.1%
Total (100%)		(197)	(296)	(171)	(487)	(49)	(1,200)

Source: Brazil CAP survey, 2007
Notes: Pearson Chi-Square 132.77, d.f.: 4, Asymp. Sig. (2-sided): 0.000

Table 9. Proportion of respondents who published work abroad, by type of institution

		Institutional context					Total
		Research Public Universities	Regional Public Institutions	Elite Private Institutions	Mass Private Institutions	Research Institutes	
Proportion of work published abroad	some	61.4% 10.3	27.7% -1.2	36.3% 1.8	12.1% -11.4	83.7% 8.3	30.4%
	none	38.6% -10.3	72.3% 1.2	63.7% -1.8	87.9% 11.4	16.3% -8.3	69.6%
Total (100%)		(197)	(296)	(171)	(487)	(49)	(1,200)

Source: Brazil CAP survey, 2007.
Notes: Pearson Chi-Square: 236.0 df. 4, Asymp. Sig. (2-sided): 0.000

Another relevant change in this dimension is related to the proportion of Brazilian scholars publishing their works abroad. In 1992, only 17% of Brazilian academics reported having published abroad in the three years prior to the survey. In 2007, this figure increased to 30%, as shown in Table 9.

These figures are consistent with the international data from the Science Citation Index, which registers sharp increases in the participation of Brazilian researchers in internationally indexed publications since the late 1990s. So, even with the Brazilian academic market being largely closed to international academic migration, and with Brazilian graduate education lagging behind in internationalization, the intensity of international exposure of the Brazilian academic community has increased remarkably in the last decade. Still, these data give no clues about the quality and impact of this increased participation or of the international networking of Brazilian academic community.

Conclusions

The last 15 years has witnessed important changes in the Brazilian academic market. Some relevant traits highlighted in this analysis are as follows.

- Regarding the relationship between graduate education and academic recruitment, it can be said that it has matured, in the sense that now graduate studies are, for many academics, perceived as a pre-requisite for being accepted as academic staff.
- Nevertheless, there is a remarkable incongruence between the stronger exigencies and the working conditions faced by academics. A relevant proportion of PhD holders reported poor conditions of employment and suffer restricted access to support for research.
- In spite of stronger links with the international academic community, the academic market is still closed and internally-oriented. It recruits mostly Brazilian academics and is mainly oriented toward Brazilian students.

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Mexican Academics at the Turn of the Twenty-First Century: who are they and how do they perceive their work, institutions and public policies (a preliminary analysis)

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In 1992 Mexican faculty were surveyed within the International Survey of the Academic Profession implemented by the Carnegie Foundation for the Advancement of Teaching (Gil-Antón, 1996). Together with the study on the Traits of Diversity (Gil-Antón *et al*., 1994), this survey constitutes an essential reference point in assessing the evolution of the academic profession in México.

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Since then, a series of studies on academics has been carried out that has shaped a specific area of research within higher education (García Salord, Grediaga Kuri, Landesmann Segall & Padilla González, 2003).

By the time the two identified surveys were carried out, Mexican higher education had been for almost two decades in a very intense period of growth and transformation. While in 1960 there were 50 higher education institutions (HEI) with approximately 10,000 faculty in total and only 300 (3%) full-time faculty working in them, by the early 1990's there were approximately 31,000 (27%) ft faculty employed, out of a total of around 114,000 positions located in 372 HEI.[11] More importantly, however, the rules by which the Federal Government funded higher education had changed from a benevolent to an evaluative perspective (Martínez Romo, 2006).

Fifteen years after the Carnegie survey, a new appraisal of the academic profession has been underway during the last three years under the international project of the Changing Academic Profession (CAP), initially promoted by William K. Cummings. Since the early 90's, higher education has been subject to intense external processes that have affected academics and the work they do: higher expectations of relevance, internationalization and a new management perspective are salient dimensions that have changed and whose influence in the academic profession need to be assessed. The following report describes an analysis of the preliminary data from the Mexican faculty surveyed, but before going into it we will make some comments on the context in which the academic profession in Mexico has developed.

Growth during the last 50 years has been overwhelming: between 1960 and 2006 faculty has increased from about 10,000 to 260,000, which implies an increment of a quarter of a million of new academic positions in the country as a whole. But maybe the most relevant aspect has been not so much growth, but rather a change in the perception held by governmental and institutional authorities regarding academics. In general, before 1990 there was practically no knowledge whatsoever about the academic profession, the central actor of university activity. The studies mentioned earlier were initial and showed that, beyond contract types and teaching load figures (information necessary for administrative service), faculty were social subjects: persons with career trajectories, disciplinary variation and different levels of job satisfaction. They

[11] In appreciating this small number of HEI it should be recognized that the notion of what constitutes a single institution has changed since that time. Notwithstanding such a situation, the number of HEI by the early 1990's was relatively small.

varied in the ways in which, by type of institution, they confront, each day more extensively, academic life as a profession and not merely as a complement to external professional activities. In addition to changes in the perspective of the authorities, those studies helped to shape a specific area of study in the context of the field of higher education. In other words, there was a transition from the notion of teachers/professors, to that of academics, and the way things are labeled is not trivial.

Looking back to the 17 years that separates us from the early 1990's, there is no doubt that at least one of the axes of the evaluation policies of the Mexican government towards HEI rested in programs targeted at academics, under the assumption, not entirely unrealistic but perhaps incomplete, that Mexican HEI would be as strong and creative as its academics. By the middle of the crisis of the 80's – between 1982 and 1990 purchasing power decreased by about 60% – the National Researchers System was created with the purpose, at least partially, of allowing faculty associated with research to recover their purchasing capacity, their standard of living. Already in the 90's, a wider program for income recovery had begun: there were no generalized salary increments common in the past, but rather additional payments based on output evaluation – merit pay – that were intended not only to remedy the income decrement but also modeled another type of an academic career. In this process the Program for the Improvement of the Professoriate (PROMEP, *Programa para el Mejoramiento del Profesorado)* was created, with the goals of strengthening the academic training of professors in service by means of graduate scholarships, an increase in the number of full-time appointments and, afterwards, by supporting the strengthening collegial spaces for faculty development.

In short, the tendency was for transition from a faculty body composed basically of part-time faculty, to one with a significant proportion of full-timers; from one with a licentiate degree at the most, to one with graduate studies, preferably a doctorate; and from one composed of isolated individuals, to one with an intense collegial life.

How much of the above was accomplished as planned? The evaluation of 17 years with these type of policies is a task in progress, but what we can assert without doubt is that during these years the working conditions for doing academic work have changed considerably when compared to those reported in the pioneer studies. It is therefore highly important to analyze the reconfiguration of the academic profession in the country. Does the feminization trend continue? Is the age of academics a serious problem that is creating a pension crisis that puts HEI in danger? Are new academics, pioneers

in their families, entering higher education, or has the numbers of heirs in the academic profession gone up? What have been the consequences of the merit-pay systems, which have become a crucial strategy for the transformation of academic relations in terms of preferences for university tasks, the perception of the purpose of higher education, the internationalization level of the faculty and their working conditions, as well as job satisfaction in general or that related to specific facets of the work performed by academics?

The following is a preliminary analysis of the results of the CAP Mexican Study. Although it is of paramount importance to compare our results with those of the past and with those of other countries, trying to identify expected and non-expected trends, in this report such comparisons will be few. For now we will concentrate on a brief description of the results of the current study, leaving for a future report comparisons of the type described.

Method[12]

Given the magnitude of the tasks needed in order to implement the CAP survey in Mexico it was decided from the outset that a collaborative network of scholars interested in the academic profession was needed. So, 97 colleagues from 36 HEI located in all regions of the country are currently participating in the Network of Researchers on Academics. The Network translated, adapted and piloted the international questionnaire to make it relevant to our national context. Additionally, the Network helped to define the criteria under which, and in the context of CAP recommendations, the faculty sample was obtained; and, finally, our colleagues obtained, with the help of the National Association of Universities and Higher Education Institutions (ANUIES), institutional faculty lists and applied the questionnaires of the survey. The Network leading group has been, on the other hand, in charge of inputting the data from the recovered questionnaires.

Following the practice used in higher education systems where there is no central and comprehensive list of academics, a two-stage sampling procedure was used to generate the faculty sample to be surveyed. The information used to this end was that of the 2005 Format 911,[13] which was complemented by

[12] Due to space limitations the methods section has been reduced to a minimum. Once the survey application is finished a detailed methodological note will be elaborated.

[13] Format 911 is a set of mandatory annually collected questionnaires that is jointly managed by the Secretariat of Public Education and the National Association of Universities and Higher Education Institutions.

information provided by the National Council of Science and Technology, as well as by a small number of institutions for which data were inconsistent in the 2005 Format 911.

In defining the scope of our study, an analysis of the 2005 Format 911 identified 2,029 HEI and 255,274 faculty positions associated with those institutions, of which there were 93,009 full- and part-time faculty working in them with at least a 20 hours *per* week contract (half-time). HEI were organized in seven strata and, given the purpose of the international project, teacher education and two-year institutions were singled-out and put aside, leaving 1,454 HEI aggregated in five strata, with 81,913 faculty members working in them. Finally, HEI with less than 20 faculty members meeting the criteria for being included in the scope of the study were not considered, and in this way 379 HEI and 79,389 FT and HT faculty members constituted the final institutional and faculty fields for the study (Table 1).[14]

Table 1. Institutional and faculty fields for the Mexican Survey of the Changing Academic Profession International Study, 2007

Type of institution	4-years and graduate HEI				4-years and graduate HEI with at least 20 FT/HT faculty			
	Institutions		Faculty		Institutions		Faculty	
	N	%	N	%	N	%	N	%
Research Centers	35	2.4	4246	5.2	34	8.8	4229	5.3
Federal Public Institutions	28	1.9	19196	23.4	14	3.7	19102	24.1
State Public Institutions	108	7.4	31273	38.2	53	14.0	31062	39.1
Technological Public Institutions	224	15.4	12955	15.8	136	35.9	12666	16.0
Private Institutions	1059	72.8	14243	17.4	142	37.5	12330	15.5
Total	1454		81913		379		79389	

In the context of the institutional and faculty system just described, and in proportion to the number of faculty working in each stratum, a sample of 101 HEI was drawn in the first stage of the two-stage sampling design. Faculty lists were then obtained directly from each sampled institution and a total faculty sample of 2,826 academics was generated, which was then asked, by Network members or trained interviewers, to answer a printed or electronic version of the study questionnaire.

Although by December 21st we had recovered 1,050 instruments, this report

[14] Of the faculty universe identified, approximately 79% and 21% were, respectively, full- and half-time.

presents the data from the 826 questionnaires that correspond to full-time faculty working in 49 HEI (Table 2). Because we still need to increase the total faculty response rate thus far obtained (36.7%), as well as the number of HEI represented in the sample (48.5%), the following analysis should be considered as only preliminary.[15] Additionally, and as can be observed, faculty from research centers, federal public institutions and technological public institutions are under-represented, while those who work in state public institutions are over-represented. Given the nature of this report no weighting has been used to balance such situations, which again contributes to its preliminary nature. Notwithstanding the above qualifications, the report represents a first cut of the information generated by the CAP International Study.

Table 2. Institutional and Faculty sample for the Mexican Survey of the Changing Academic Profession International Study, 2007

Type of institution	Field of 4-year and graduate HEI with at least 20 FT/HT faculty				Target sample of 4-year and graduate HEI with at least 20 FT/HT faculty				Response sample, at Dec. 2007, of 4-year and graduate HEI with at least 20 FT/HT faculty			
	Institutions		Faculty		Institutions		Faculty		Institutions		Faculty	
	N	%	N	%	N	%	N	%	N	%	N	%
Research Centers	34	8.8	4229	5.3	6	5.8	143	5.1	2	4.1	11	1.0
Federal Public Institutions	14	3.7	19102	24.1	14	13.8	710	25.1	5	10.2	191	18.2
State Public Institutions	53	14.0	31062	39.1	45	44.8	1101	38.9	28	57.1	582	55.4
Technological Public Institutions	136	35.9	12666	16.0	18	17.8	432	15.3	7	14.3	111	10.6
Private Institutions	142	37.5	12330	15.5	18	17.8	439	15.5	7	14.3	155	14.8
	379		79389		101		2826		49		1050	

The original questionnaire was generated collectively by members of the CAP International Study, following in several critical aspects the items used by the 1992 Carnegie survey and, very importantly, assuring that the instrument covered three main themes: relevance, internationalization and managerialism. More specifically, questionnaire items were organized in six sections: career and professional situation, general work situation and activities, teaching, research, management, and personal background and professional preparation. As said

[15] Questionnaire recovery is currently underway and we expect to end it in the last week of February, 2008. Our goal is to achieve an overall response rate of 60%.

earlier, the international instrument was adapted and piloted by members of the Network who, in addition to sharing intense Internet communication, met three times during a 10-month period. The final version of the questionnaire also contained several items jointly generated with colleagues from Canada and the United States.

Some Results and Preliminary Analysis

After fifteen years the question of who the full-time faculty are is still central. Table 3 presents some of the pertinent information currently available from the Mexican CAP Survey. As it can be observed, one-third of the faculty are women (33.5%), and the mean age of faculty is 48.1 years. In the 1992 Carnegie survey the corresponding figures were 30.7% and 40.1 years.[16] While only 22.1 and 9.0% of respondents reported that, respectively, their father and mother had some higher education experience at the level of a 4-year degree or higher, 70.2% reported that such was the case for their spouse or significant other companion, which speaks of tremendous social mobility dynamics for those entering the academic profession. Nationality at birth speaks of an academic body largely Mexican.

Table 3 also shows that the highest degree of almost 80% of ft faculty is some form of graduate work, with nearly 28% declaring a doctoral or post-doctoral award. At the same time, only a minority of ft faculty has experience outside the higher education sector, as only 22.3% of the survey respondents declare having at least one year of full-time experience in the public sector, and only 18.4% in the private sector, while 13.4% said the same with respect to doing independent work. In addition to reporting work experience mostly in the educational sector, respondents manifested little varied experience in higher education, as 76.3% reported that they have worked only in 1 or 2 HEI.

Another most relevant aspect for understanding the academic profession is related to the way faculty see their work and the activities that they engage in (Table 4). More specifically, while 57.5% of respondents declare that they prefer teaching over research, 42.5% reported an academic preference of research over teaching. However, preference for mainly teaching almost tripled preference for mainly research (17.6 *vs*. 6.0%). Thinking in terms of Boyer's notion of scholarship (1990), Table 4 speaks of Mexican faculty reporting a

[16] This and other 1992 Carnegie figures were generated on the basis of the original database provided by Manuel Gil-Antón.

notion of academic work that includes, collectively, the elements of all of its four types (teaching, discovery, integration and application). It is quite interesting, additionally, to observe that application is the form of scholarship most often accepted as part of academic work (87.8%), followed by teaching (70.2%), integration (67.8%) and finally by research (57.8%). As it is well known, Mexican higher education has historically been associated with the training of professionals: in this context, application could be the form of scholarship with which faculty are more familiar and most comfortable.

Table 3. Personal information of respondents to the 2007 Mexican Survey of the Changing Academic Profession International Study (N_t = 826 full-time)

Demographic Aspect	Value
Women (99.2)*	33.5%
Mean age (98.4)	48.1 years
Standard Deviation of age (98.4)	9.5 years
4-Yr University Educational Attainment of father (93.6)	22.1%
4-Yr University Educational Attainment of Mother (95.6)	9.0%
4-Yr University Educational Attainment of Spouse/SO (75.9)	70.2%
Mexican nationality at birth (98.3)	95.7%
Highest degree of faculty surveyed (96.4)	
Less than B.A., B.S.	0.5%
B.A., B.S.	20.7%
Specialty	4.5%
Masters	46.5%
Doctorate	25.0%
Post-doctorate	2.8%
At least 1 year of full-time experience in various labor sectors since attainment of first degree (100)	
Higher education institutions	89.2%
Research centers	12.6%
Public sector	22.3%
Not for-profit organizations	2.5%
Private sector	18.4%
Independent work	13.4%
Experience in 1-to-2 higher education institutions (100)	76.3%

* Numbers in parenthesis are the percentages of valid responses with respect to N_t = 826.

An interesting result in the context of previous findings is the extent to which academic work, although not necessarily at the same institution, has now become the major source of income for Mexican ft faculty. Almost three of every four faculty (72.4%) reported that their income from their academic activities represented the vast majority of their income (90% - 100% of it), while only 14.7% indicated that such income was about half or less of their income

(Table 4). In the 1992 Traits survey the corresponding figures were, respectively, 60.5 and 22.8%.[17]

Finally, Table 4 shows that 87.7% of the respondents to the survey reported a high or very high level of general job satisfaction, a figure close to the 83.9% reported by ft faculty working in a public state university towards the end of the 1990s (Galaz-Fontes, 2002). In agreement with this result, only 8.0% agreed or strongly agreed that they would not become an academic if they had to do it again.

Table 4. Perception of various aspects of academic work of respondents to the 2007 Mexican Survey of the Changing Academic Profession International Study (N_t = 826)

Faculty academic preference (percentages) (97.5)*	
Mainly in teaching	17.6%
In both, but leaning to teaching	39.9%
In both, but leaning to research	36.5%
Mainly in research	6.0%
Faculty agreeing or strongly agreeing that	
academic work is best defined as teaching and tutoring students (98.3)	70.2%
academic work is best defined as doing and reporting original research (97.9)	57.8%
academic work is best defined as including application of academic knowledge in real-life settings (98.2)	87.8%
academic work is best defined as including integrating main results and trends in one' field (97.3)	67.8%
teaching and research are hardly compatible (99.3)	10.9%
Faculty's appraisal of their academic income in relation to all of their income (98.4)	
All income (90% - 100%)	72.4%
More than half of your income (60% - 89%)	12.8%
About half of your income (40% - 59%)	7.0%
A minor complement of your income	5.5%
An insignificant part of your income (0% - 9%)	2.2%
Faculty job satisfaction	
Faculty reporting a high or very high job satisfaction in general (99.0)	87.7%
Faculty agreeing or strongly agreeing that if they had to do it again they wouldn't be an academic (98.3)	8.0%

* Numbers in parenthesis are the percentages of valid responses with respect to N_t = 826.

Moving away from preferences into more factual considerations, Table 5 shows that the vast majority of faculty see themselves as mainly devoted to teaching undergraduates, as 80.3% of the respondents consider such activity as the primary or secondary function in importance within their work. Whereas graduate teaching is only primary or secondary in importance for 20.9% of the

[17] This and other 1992 Traits figures were generated on the basis of the original database provided by Manuel Gil-Antón.

survey respondents, something that speaks of the structure of the Mexican higher education system. Research is a primary or secondary responsibility for 39.3%, while 26.3% reported the same for administration. Extension and external partnerships were only reported to be of primary or secondary importance in their work by 8.1 and 7.7% of the faculty.

Table 5. Information regarding various aspects of the work carried out by respondents to the 2007 Mexican Survey of the Changing Academic Profession International Study (N_t = 826)

Faculty stating that each function is their first or second in importance (100)*	
Undergraduate teaching	80.3%
Graduate teaching	20.9%
Research	39.3%
Extension	8.1%
External partnerships	7.7%
Administration	26.3%
Mean number of hours involved in different activities as reported by faculty (85.4)	
Teaching	13.1
Teaching-support activities	9.4
Research	8.9
Non-paid services	0.9
Paid services	0.9
Collegial activities	2.6
Administration	6.1
Professional development	2.4
Union activities	0.2
Other activities	1.7
Research issues	
Faculty reporting doing research (97.7)	66.2%
Faculty with international collaboration (63.4)	28.8%
Of those reporting international collaboration, faculty reporting work with colleagues from various countries (18.3)	
Spain	41.1%
United States	33.1%
Argentina	15.2%
France	10.6%
Canada	9.3%
United Kingdom	5.3%

* Numbers in parenthesis are the percentages of valid responses with respect to N_t = 826.

Table 5 also presents the way in which faculty respondents to the survey allocate their time in various types of activities. Faculty reported an average of 13.1 hours *per* week devoted to teaching, 9.4 hours to teaching-support activities, 8.9 hours to research, 6.1 hours to administrative activities, 2.6 and 2.4 hours to collegial activities and professional development and, finally, less than 2 hours *per* week in each case to service, union and other activities. In total, faculty

reported that they work, as a group, approximately 46.2 hours *per* week on average.

While 39.3% of the respondents reported that research was their primary or secondary function in importance, 66.2% of the faculty responding to the survey reported that they carry out research activities and, largely within that group, 28.8% indicated that they are involved in some sort of international collaboration. Of these, in turn, 41.1% reported that they collaborate with colleagues from Spain, 33.1% with colleagues from the United States, 15.2% with colleagues from Argentina, 10.6% with colleagues from France, 9.3% with colleagues from Canada and, finally, 5.3% with colleagues from the United Kingdom (Table 5).

Table 6. Information regarding the perception of the working conditions of respondents to the 2007 Mexican Survey of the Changing Academic Profession International Study

Faculty rating good or excellent each of the following facilities	
Classroom (98.2)	42.8%
Teaching technology (98.7)	41.6%
Laboratories (85.4)	35.4%
Research equipment and instruments (88.5)	28.2%
Computer facilities (98.7)	46.1%
Library holdings and services (98.7)	43.5%
Cubicles and faculty offices (98.8)	41.0%
Telecommunications (internet, networks, phones) (97.6)	46.2%
Faculty rating good or excellent each of the following support staff	
Secretarial support (96.1)	32.8%
Teaching support staff (91.7)	22.6%
Research support staff (84.9)	15.1%
Financial support: Faculty rating good or excellent each of the following financial support	
Teaching financial support (88.0)	17.8%
Research financial support (83.9)	10.3%
Faculty rating good or excellent institutional support for each of the following developments	
National academic mobility (85.8)	19.3%
International academic mobility (82.3)	16.9%
University-society linkages (82.8)	15.2%
Faculty stating that working conditions have improved somewhat or a lot in	
higher education institutions (96.0)	45.3%
research centers part of HEI (80.4)	44.7%
independent research centers (75.9)	44.5%

[1] Numbers in parenthesis are the percentages of valid responses with respect to $N_t = 826$.

Table 6 presents the way in which faculty that answered the CAP questionnaire perceive various working conditions. In relation to infrastructure between 40% and 50% of the respondents see the majority of aspects considered (cubicles and faculty offices, teaching technology, classrooms, library holdings

and services, computer facilities, and telecommunications) as good or excellent, while less than 40% consider laboratories and research equipment and instruments at that level.

In relation to various supports for academic work, the perception of respondents is generally low. Such is the case of support staff (32.8, 22.6 and 15.1% see, respectively, support from secretarial, teaching and research staff as good or excellent), financial support for either teaching or research (17.8 and 10.3%, respectively), and specific support for national and international mobility (19.3 and 16.9%), as well as for promoting university-society linkages (15.2%; see Table 6). Nevertheless, between 44.5% and 45.3% of faculty respondents to the survey considered that, compared to when they began their academic careers, working conditions have improved somewhat or a lot in HEI, research centers as parts of HEIs and in independent research centers (Table 6).

Table 7 presents data related to the faculty's perception of various research related issues. So, 59.6% of the respondents agreed or strongly agreed with the assertion that pressure for obtaining external funding has increased since they were first hired. Practically half (50.1%) of respondents think that high expectations to increase productivity are a threat to research quality, while only 39.2% reported the same opinion regarding high expectations of useful research. Finally, while 55.6% of the respondents agreed or strongly agreed that research funds should be allocated to the most prestigious researchers, 43.1% manifested the same level of agreement with the assertion that at their institution the best research is carried-out by SNI members.

Table 7. Opinion over various issues regarding research by respondents to the 2007 Mexican Survey of the Changing Academic Profession International Study

Faculty agreeing or strongly agreeing with the following statements related to funds and orientation of research	
Pressure to obtain external funds has increased since your first contract (62.1)*	59.6%
At this institution emphasis is made on commercial or applied research (71.5)	25.2%
Research funds should be allocated to the most prestigious researchers (80.1)	55.6%
Faculty agreeing or strongly agreeing with the following statements regarding research productivity	
High expectations to increase research productivity are a threat to the quality of research (77.7)	50.1%
High expectations of useful results and application are a threat to the quality of research (77.2)	39.2%
At this institution the best research is carried-out by faculty member of SNI (70.2)	43.1%

* Numbers in parenthesis are the percentages of valid responses with respect to $N_t = 826$.

A fundamental component of the context in which academics perform their work is its relationship with the administrative sector of their institutions.

Table 8 presents data on several aspects related to the way academics perceive this sector and its functioning. First, 55.8% of respondents identify their institution management style as top-down and at the same time only 38.0% report that communication between management and academics is good. Second, administrative processes are perceived as cumbersome by 44.7%, while 41.5 and 32.5% of respondents report a supportive attitude from administrative personnel for, respectively, teaching and research. Irrespective of the previous opinions, 74.5% of respondents express the view that the administration supports academic freedom (Table 8).

In relation to personal influence in the shaping of key academic policies, it is reported to be the highest the closer is the organizational unit to faculty members: 22.2%, 48.5% and 64.9% at the institutional, Faculty/school and departmental levels, respectively. Finally, 40.3% of respondents think that top-level administrators provide competent leadership. In short, it appears that there is a considerable gap between Mexican faculty and HEI administration and therefore, there is a considerable amount of improvement possible (see Table 8).

Table 8. Opinion on various administrative issues of respondents to the 2007 Mexican Survey of the Changing Academic Profession International Study (N_t = 826)

Faculty agreeing or strongly agreeing with various statements regarding institutional administration (%)	
At my institution there is a top-down management style (95.8)*	55.8
At my institution there is good communication between management and academics (98.4)	38.0
I am kept informed about what is going on at this institution (98.3)	32.8
At my institution there is a cumbersome administrative process (94.3)	44.7
At my institution there is a supportive attitude from administrative personnel towards teaching (96.6)	41.5
At my institution there is a supportive attitude from administrative personnel towards research (88.4)	32.5
The administration supports academic freedom in teaching (96.8)	74.5
You are somewhat/very influential in helping to shape key academic policies at the level of the department or similar unit (93.1)	64.9
You are somewhat/very influential in helping to shape key academic policies at the level of the faculty, school or similar unit (91.8)	48.5
You are somewhat/very influential in helping to shape key academic policies at the institutional level (90.4)	22.2
Top-level administrators are providing competent leadership (97.6)	40.3

* Numbers in parenthesis are the percentages of valid responses with respect to N_t = 826

As stated in the introduction, various higher education policies have generated several programs targeted at faculty. Three very important ones are merit-pay systems, the Program for Faculty Improvement (PROMEP)

(Urbano-Vidales, Aguilar-Sahagún, & Rubio-Oca, 2006) and the National Researchers System (SNI: *Sistema Nacional de Investigadores*). Table 9 presents the general opinion of the faculty surveyed regarding such programs.

Table 9. Opinion on four public policies targeted at academics of respondents to the 2007 Mexican Survey of the Changing Academic Profession International Study

Percentages of faculty participating in each of the following public-policy programs (N_t = 826).	
Institutional merit-pay system	46.9
PROMEP (Program for the Improvement of the Professoriate) profile	27.2
PROMEP academic body	37.8
SNI (National Researchers System)	14.6

Percentages of faculty agreeing or strongly agreeing on various statements regarding four public policies targeted at academics (N_t = 826).				
Statement	Institutional merit-pay systems	PROMEP profile	PROMEP academic body	SNI (National Researchers System)
It has positively impacted my professional development (66.5; 36.2; 40.1; 22.0)*	57.0	55.5	44.7	65.9
It has allow me to concentrate on my academic work as my main activity (67.1; 35.4; 38.3; 20.9)	56.0	45.5	36.4	59.5
It has allow me to improve my teaching (66.5; 35.0; 37.7; 20.1)	54.1	48.8	37.6	42.8
It has allow me to improve my research (59.9; 34.7; 38.5; 20.9)	44.6	49.8	47.8	64.2
In general, I am satisfied with this program (67.2; 35.4; 38.4; 21.5)	51.7	56.5	45.7	65.2

* Numbers in parenthesis are for each program, respectively, the percentages of valid responses with respect to N_t = 826.

In the first place, faculty members participate in the programs at issue to quite different extents: 14.6%, 27.2%, 37.8% and 46.9%, respectively, for SNI, PROMEP Profile, PROMEP Academic Body and institutional merit-pay systems. Second, the economic relevance that institutional merit-pay systems and SNI have is noteworthy, as 56.0% and 59.5% agree or strongly agreed, respectively, with the assertion that those programs have allowed faculty to focus on their academic work as their main activity. Third, each of the four programs is reported to have a positive impact on teaching (54.1% in the case of merit-pay systems) and research (64.2% in the case of SNI), but differentially. Fourth, global satisfaction is largest for SNI (65.2% agree or strongly agree with the corresponding assertion), second for PROMEP Profile (56.5%), third for institutional merit-pay systems (51.7%) and fourth for PROMEP Academic Body (45.7%). The SNI program, however, is the program in which fewest faculty

members participate. So, it appears that all of these programs do have a significant margin for improvement.

Concluding Remarks

Although preliminary, the following points can be made with a reasonable assurance. In relation to the profile of Mexican faculty there are four issues. First, Mexican ft faculty still has to improve regarding its proportion of women, currently at around 33.5%. Second, Mexican faculty is increasingly mature, with an average age of 48.1 years. It is a proper time to attend to retirement and other issues facing an increasingly aging academic body. Third, there is a growing proportion of faculty members with doctoral and post-doctoral awards. There is an important challenge in assuring that this training translates itself into better teaching, research and service. Fourth, in a context of higher expectations for relevance, it is a matter of concern that faculty report little work experience outside HEI.

In relation to how academics see their work three points can be made. First, Mexican faculty are mainly interested in teaching (57.5%), although there is an important proportion of academics that report research as their central preference (42.5%), and an even higher proportion that states that they do research (66.2%). It would be interesting to ask further about the notion of research that underlies such declarations. Second, Mexican faculty think that application of academic knowledge should be a central component of academic work (87.8%), even more so than think in the same way about teaching (70.2%) and research (57.8%). The professionally-oriented tradition in Mexican undergraduate higher education should be brought into the analysis of this interesting situation. Third, in sharp contrast to the situation prevailing in the early 1990s, Mexican ft faculty have increased their economic professionalization, as 72.4% of them report that their academic work provides them with 90-100% of their income. In general, the vast majority of Mexican academics (87.7%) reported a high or very high level of overall job satisfaction.

In relation to the actual academic work we can highlight three points. First, Mexican faculty is largely a teaching profession, although there are significant proportions of them that see research and administration as their first or second function in importance. Second, congruent with their perception of their work, the number of hours devoted to teaching is more than double the time reported in doing research activities. Finally, of all ft faculty, 28.8% reported international collaboration, with Spain and the United States being the countries

where Mexican faculty identify the most collaboration with colleagues. An internationalization strategy for Mexican higher education should consider such results.

In relation to the faculty's perception of their working conditions, the situation is in general regular (*e.g.*, 42.8% rate good or excellent classrooms), but low in those aspects having to do with research (*e.g.*, 28.2% rate good or excellent research equipment and instruments). Support aspects having to do with personnel and funds are seen as low (*e.g.*, 22.6% and 17.8% rate good or excellent, respectively, teaching support staff and teaching financial support), as well as for programs of academic mobility (*e.g.*, 19.3% rate good or excellent support for national academic mobility). Finally, less than half of the survey respondents think that working conditions have improved in HEI since they were first hired.

In relation to research, 59.6% of respondents reported more pressure to obtain external funds since they were first hired. Quality of research, on the other hand, is seen by half of the faculty as compromised by a concern to increase productivity (50.1%), but not so much by a concern for applicability (39.2%). Finally, less than half of the respondents think that the best research is carried out by faculty members of the National Researchers System (43.1%).

In relation to the way in which faculty perceive administration at their institution the picture is one of a divided world between the administration and the academy. Faculty indicate that academic freedom is supported by the administration (74.5%), but beyond that there is a perception of a top-down management style (55.8%) with low communication levels (38.0%) and a low supportive attitude from the administration towards teaching (41.5%) and research (32.5%). Regarding influence by individual faculty members, a relatively high level is reported at the departmental level (64.9%) but this rapidly diminishes at more remote organizational levels (48.5 and 22.2% respectively at Faculty and institutional levels).

Finally, items having to do with various programs derived from relatively recent important national policies speak of their differential impact and, therefore, of the need to more closely analyze their nature and dynamics, as their sole implementation is no warranty that they will have the expected results. It is expected that studies like the one we are reporting will contribute significantly to this task.

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The Academic Profession in Argentina: characteristics and trends in the context of a mass higher education system

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Introduction

The objective of this paper is to trace a panorama of the academic profession (AP) in Argentina, taking as a starting point available preliminary data obtained through the application to the Argentine case of the survey for "The Changing Academic Profession: an International Research Project" (CAP).

In order to understand these data it is necessary to place them contextually. To this end a rapid panorama is first drawn of the expansion of the Argentine higher education system in the last few decades, its impact on the emerging academic profession and the evolution of both up to the present time. In that framework we highlight some of the policies put into practice during the 1990s, which created new conditions for academic work. These policies very probably had bearing on the subject of our study, and may therefore contribute to the interpretation of the responses obtained.

Subsequently some methodological consideration is given to application of the instrument and the design of the sample in order to put forth some preliminary results on the basis of the information obtained to date. We present results of four aspects of the AP: 1) degrees obtained; 2) interests; 3) satisfaction and 4) reference. We believe that by means of these aspects it is possible to

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identify some characteristics of the work done by a wide range of Argentine academics, reflecting in some cases the impact of recent changes. Although it is premature to put forward definitive conclusions, this paper closes with the enumeration of some trends that would appear to be becoming manifest at the present time.

The Growth of the University System and the Academic Profession

The expansion of the Argentine higher education system

The Argentine higher education system manifests a highly complex historical evolution characterised by the absence of long-term agreed policies, as a consequence of periods of interventions and depletions of the university by the political power and other periods of splendour and growth.

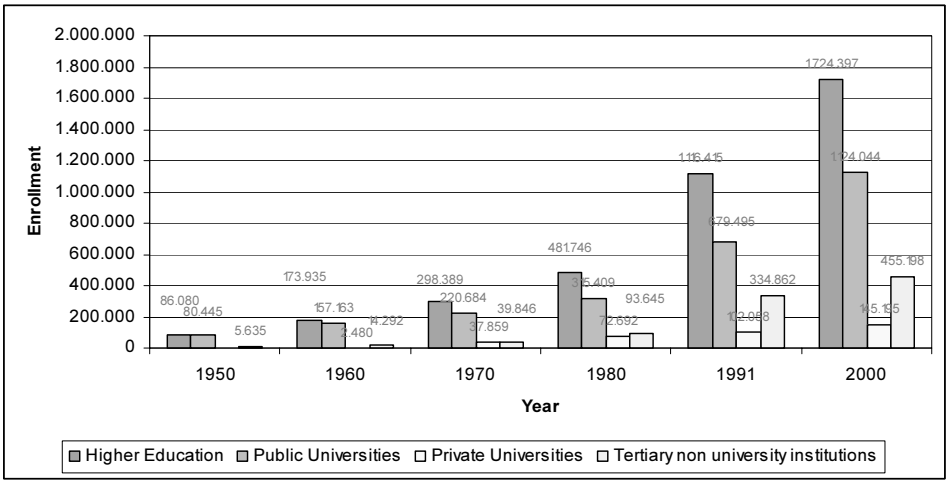
In this framework it can be asserted that higher education had relatively sustained development during the 20th century, with the University Reform of 1918 having an important effect, a time in which the concept of autonomy was set as the distinguishing seal. This expansion was produced almost exclusively by the growth of the university public sector, which concentrates today more than 85% of the university enrolment, far exceeding the Latin American average of less than 50% (Fernandez Lamarra, 2003).

As far as the non-university sector of higher education is concerned, this acquired characteristics which are both highly particular and clearly differentiated from the university sector. Dedicated to the training of teachers and technicians, these institutions account for less than one-third of the total higher education enrolment and appear as devalued options against the possibilities offered by the university, with access facilities both for admission requirements and the non-existence of fees.

The expansion in the Argentine university enrolment began around the middle of the century, with peaks that coincided with periods of political democracy and respect for autonomy and times of retrogression during the military governments. Between 1955 and 1966 it grew by 75%. Then in 1973 it increased by a further 66% due to the effect of the creation of new universities. After a reduction in enrolment during the military dictatorship (1976-1983) the democratic liberalization of 1984-1990 marked growth in university enrolment by 65%.

Today higher education students are distributed unevenly between the two sub-systems and between the private and public sectors. As can be seen in the following tables (Figure 1, Table 1) it is the public university system where the

greater number of students is concentrated. The features of open access and free admission are the principal factors which explain this situation.



Source: Fernandez Lamarra, 2003

Figure 1. Expansion of higher education enrolment

Table 1. Number of higher education students and institutions according to dependency

	Public		Private	
	Institution	**Students**	**Institution**	**Students**
University system	45	1,258,729	55	201,391
Non-university system	772	297,476	1,002	197,485
	817	1,556,205	1,057	398,876

Sources: MECyT, SPU, 1999-2003 Yearly Report on University Statistics. MECyT, DINIECE, Educational Statistical Yearly Report

The academic profession in Argentina: heterogeneity and unplanned expansion

Unlike other Latin American countries, scientific output concerning the academic profession is very recent in Argentina and still in its early stages. In part the absence of research concerning faculty is owed to the fact that it is not until the last decade that information concerning university professors began to be produced in a sustained manner, when interest appeared at the level of political decision-making for considering the coordination of the university system as a question for the political agenda.

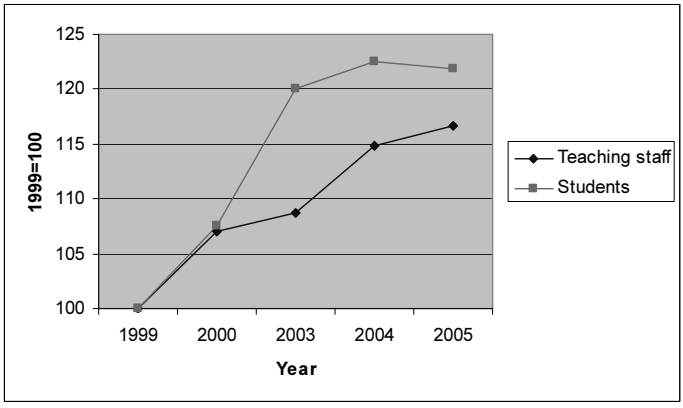
Nevertheless statistical information concerning university teachers in the

private university sector is still non-existent. Taking into account the scant representation of this sector in the system as a whole and also the scarcity of information, our research has taken as its object for analysis the body of public university teachers in the country as a whole and it is this group that is the subject characterised in this section.

Intra- and inter-institutional heterogeneity, successive institutional disruptions and political interventions in university life plus the unplanned expansion of the teaching body as a product of the expansion of the enrolment appear as the principal features of our academic profession, which belatedly began to take shape towards the middle of the 20th century.

The period 1955-1960 constituted a stage of highly significant qualitative growth that had a profound impact on what at that time could be denominated a clearly identifiable AP. It was a time notable for scientific and academic advances, whereby the AP clearly advanced towards a strong identity in terms of its disciplinary relevance becoming more than the merely institutional.

The growth of the teaching body in Argentine universities accompanied the explosion in enrolment and moreover remained constant even in times during the military dictatorship when the number of students was reduced. The decade 1982-1992 showed a doubling of the total teaching body although part-time faculty continued in the majority (Chiroleu, 2002). From that time, although its growth has remained steady, it has not kept pace with the growth in the number of students.

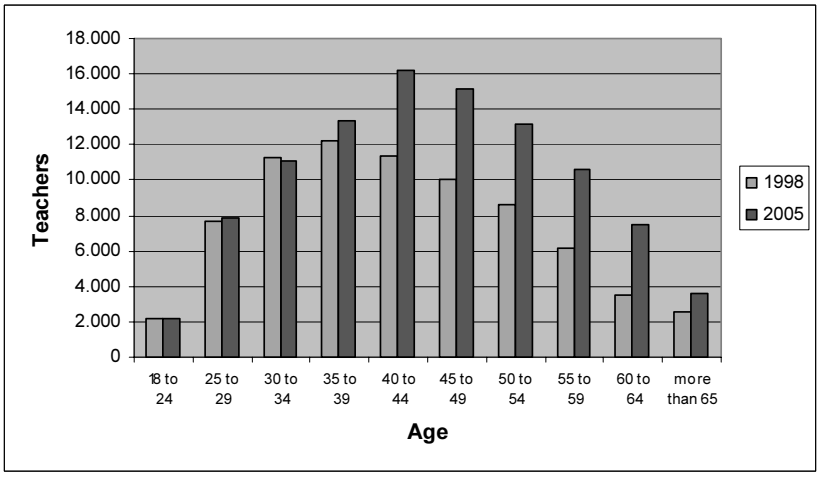


Source: Authors' own work based on data from SPU (1996-2005)

Figure 2. Evolution of teaching staff and enrolment growth 1999-2005

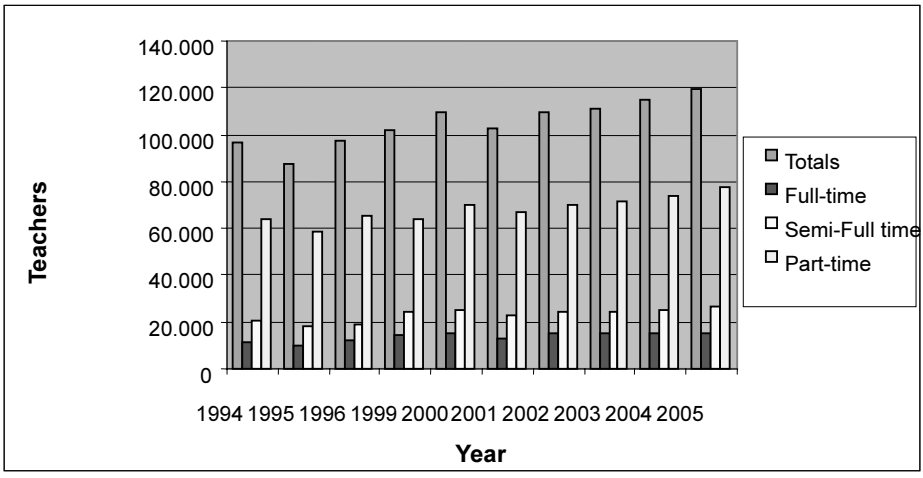
Today the majority of this teaching body is between 40 and 50 years of age. From information available it is possible to make the assertion that in the last

decade a group of academics, which presently fluctuates between 35 and 54 years, has become consolidated in university institutions, a situation that demonstrates an uncommon stability when compared with previous decades.



Source: Authors' own work based on data from SPU (1996-2005)

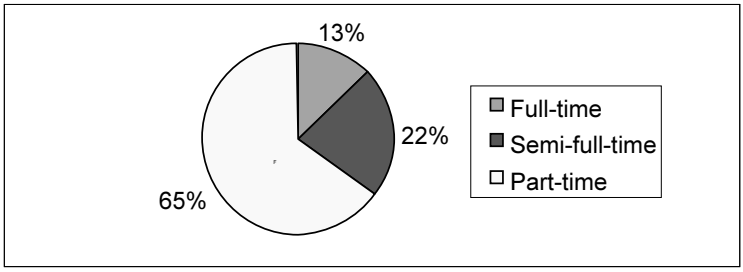
Figure 3. Age of the teaching body 1998-2005 (years)



Source: Authors' own work based on data from SPU (1996-2005)

Figure 4. Evolution of the teaching body 1994-2005 totals and according to 'dedication'

Another characteristic of this group is related to the majority presence of part-time teachers – or those with partial "dedication" to the academic activity – which leads to the supposition that the majority of university teachers do not consider this task as primary among their other occupations. Although this feature has been constant it is possible to note that in the last few years the growth in the number of part-time teachers (10 hours weekly) to attend to a growing student demand has evolved more rapidly than the increase in the total number of teachers.



Source: Authors' own work based on data from SPU-MECyT (2005)

Figure 5. Dedication of the teaching body to academic activity 2005

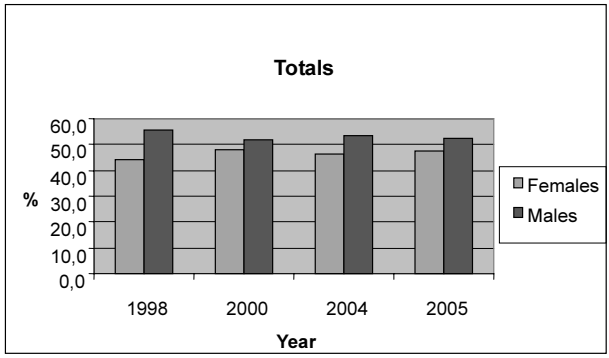
Today we can observe a university teaching body composed of a third who dedicate themselves exclusively (40 hours *per* week) or semi-exclusively (24 hours *per* week) to teaching and research and two-thirds who do so only part time.[1]

On the other hand teachers in Argentine universities are distributed evenly according to gender. Although a certain predominance of males is evident – a majority that has diminished in recent years – it is striking how this tendency has been inverted sharply in favour of women when we look at full-time teachers.

The chair is the type of organisation of academic work which predominates in universities, above all in the most traditional. Under this scheme the faculty career system is composed of a series of five positions organised hierarchically, into the categories of: auxiliary teachers (Junior Assistant and Assistant Professor, who may be called Chief of Practical Works – JTP) and professors (Associate,

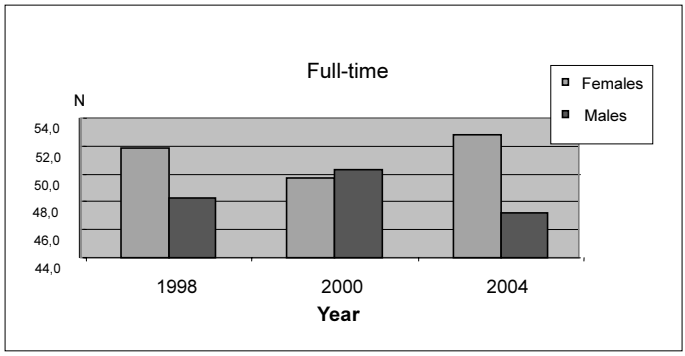
[1] In many cases, which it is as yet not possible to quantify, the fact that the teacher is part-time does not mean that s/he does not carry out research duties. When the teacher's interest is related to the development of an academic career in which scientific production is a key element for promotion, the teacher carries out research regardless of whether this task is recognized in monetary terms. It is for this reason that in the survey sample the Argentine team decided to include part-time teachers in the analysis.

Adjunct and Chair Professor).[2] In theory the first group takes responsibility for coordinating the commission of students' practical assignments, and at the same time attends theory classes given by professors. Other institutions are organised under departmental structures in an attempt to avoid the vertical and rigid nature of the chair. Nevertheless, the different levels of the teaching positions do not vary to a great extent and in actual fact in many cases a vertical work system is maintained.



Source: Authors' own work based on data from SPU (1996-2005)

Figure 6. Faculty according to gender 1998-2005



Source: Authors' own work based on data from SPU (1996-2005)

Figure 7. Faculty according to gender 1998-2004

[2] The positions described in the paper refer specifically to the Argentine education system and do not necessarily correspond to similarly termed positions within the British or North American systems. Each of these positions is independent of the "dedication". The term "dedication" is used to refer to the time the faculty member devotes to the position; thus "exclusive dedication" is an alternative for "full-time".

Access to positions is decided, in general terms, by a mechanism termed the "contest of work record and opposition", in which the institution makes an open call for the occupation of a position and selection is made by a board of adjudicators composed of peers with positions higher in the hierarchy. Their job is to evaluate the aptitude of the applicants by means of their *curricula vitae,* an interview and the observation of a class, the topic of which is decided by the drawing of lots from the curriculum of the course that is being contested. In the case of professorial positions the duration of the contested appointments extends to six or seven years, at the end of which time an open contest is called to refill the same post. In the case of auxiliary teachers the time period is less. The teaching contest gives to the teacher 'regular' status, or stability for its duration. This status implies that these teachers cannot be removed – except in extreme circumstances – and that they have acquired 'university citizenship' which allows them to choose and to be chosen for various bodies or positions in university governance. Thus the complexity of this contest mechanism lies in its double impact of quality for the academic activity and the political consequence.[3]

In the last few years, above all since the reforms of the 1990s, innovations have been implemented in the systems governing access to positions, especially in the new universities created around that time. In some cases a variation in the contest method has been opted for, by which the panel of examiners evaluates the work carried out by teachers holding the position at the expiration of their term and their continuation in the posts is decided. Other universities, following innovative models, have opted directly for systems of hiring teachers with annually renewable contracts, as in the majority of private universities.

Another feature of the Argentine academic profession is provided by the low level of salaries. Although on average university institutions dedicate more than 85% of their budget to personnel expenses, many – above all the largest and most traditional – function by 'work donation' (Fernandez Lamarra, 2003). In the biggest universities, such as those of Buenos Aires and La Plata, around 30% of teachers, in general recent graduates who work as auxiliaries to the chair at

[3] This complexity explains many of the current problems concerning governability in the traditional and bigger universities. In several cases the percentage of teachers chosen by contest is low, and this is due not only to the complexity of sustaining those mechanisms but also to political decisions which influence the impeding or advancement of contests which clearly have the potential to determine the political composition of the governing bodies in the universities. The recent case of the governability crisis in the University of Buenos Aires (UBA) has its origin in these causes.

the head of courses, do so *ad honorem,* as part of the inevitable initiation to an academic career, or for professional prestige. However these posts do receive recognition in terms of some type of formalisation of the relationship of dependency with the university institution. At the present time there is some concern regarding this situation, due to which policies have been announced tending to reduce the number of *ad honorem* teachers who do not hold another paying position.

Although in the last five years teacher remuneration has increased substantially after being frozen for a long period – reaching, in the case of some part-time teachers, to increments of 200% – faculty salaries continue low today.

Table 2. Teacher salaries according to position and years of service

Position	Dedication	Salary in Arg. $	Salary in American $
Chair Professor	Full-time	6,248	1,952
(maximum service)	Part-time	1,562	488
Assistant Professor –JTP–	Full-time	3,987	1,246
(medium service)	Part-time	853	266
Junior Assistant	Full-time	2,242	700
(First class, without years of service)	Part-time	561	175

Source: Authors' own work based on data from MECyT 2007

In spite of this panorama and the limited resources available for research, the greater part of the scientific output in the country is produced in national universities, which translates into more than two-thirds of articles published.

The policies of the 1990s for the academic profession: between the availability of resources and accountability

In university matters, the government which took office in 1989 designed and implemented a political agenda for the sector that was clearly set within the international trends of the era, by placing the emphasis on the efficiency of institutional administration and improvement in educational quality. These policies took specific shape from 1994 when certain measures were developed at governmental level. These policies have modified faculty work, the socialisation mechanisms and their practices. Thus a type of academic began to emerge, characterised by a high level of postgraduate education and with the requirement of developing teaching and research duties. Within this framework academic activity began to be evaluated according to criteria of productivity in research – more than in teaching – and with different incentives and regulations

being introduced that begin to constitute an academic work model, which until that time had been limited to certain specific disciplines. Some of these policies are described briefly in the following section.

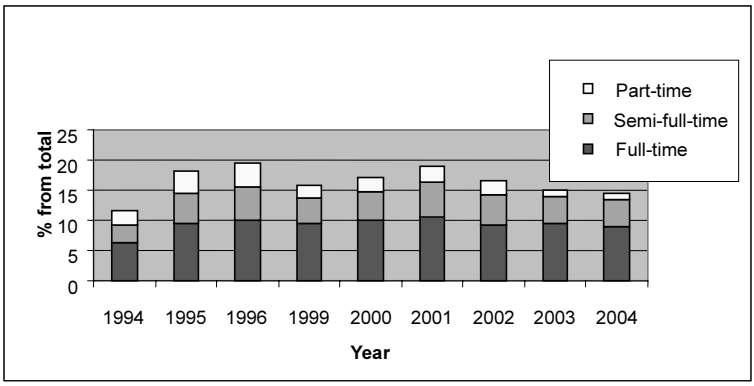
The Fund for Improvement in University Quality (FOMEC)

The creation of FOMEC re-oriented university teachers' activity in directing them to present projects that aimed at institutional improvement. With funding from the World Bank the four 'calls' realised between 1995 and 1998 distributed $203 million to the financing of 472 projects carried out by teams of research teachers in national universities. These funds were assigned on the whole to the acquisition of assets (54.4%) and the financing of scholarships for attending graduate programs in Argentina and abroad (34.5%) (SPU, 1996). Marquis (2004), one of its creators, maintains that this initiative implied "the establishment of a new link between government and universities, particularly with faculty leaders, by which quality and financing formed a partnership" (p.7). From more critical positions it is asserted that this fund has consolidated an unequal distribution of resources and power among diverse faculty groups within one single institution as it has also weakened the perspective concerning the improvement in quality at the institutional level insofar as the programme set its foundations in a direct link with groups, avoiding the institutional authorities (Chiroleu, 2002; Cano, 1995). This programme signified the point of departure from the policy of the differential assignation of funds to faculty groups in a way that was direct and competitive, a course of action which continues in existence to the present day.

The Programme of Incentives for Teacher – Researchers

In the year 1993 the National Programme of Incentives for Teacher – Researchers was created with the aim of promoting an integrated focus on academic careers, contributing to an increase in research tasks within the university, and stimulating teaching staff towards a greater dedication to scholarship (Ministry of Education, 1994). In the framework of plainly depressed salaries, this incentive meant an improvement in the incomes of faculty members who voluntarily joined the programme, met with certain requisites and fulfilled pre-established performance guidelines. Thus, by means of a systematisation of information regarding academic activity, the government established a new mechanism for quality control to regulate the activity of a group of teacher-researchers in public universities, which has varied in number during the course of its existence.

Some preliminary studies exist concerning the effects of this programme, which need to be corroborated. Marquis (2004) recognises that in addition to benefits, such as the increase in scientific production and the tendency to consolidate research groups and salary improvement, it has also generated "undesired effects: the development of an appearance of research of low real impact, an excess of competitiveness among colleagues, a lack of stability with respect to salary increments obtained, *etc.*" (*loc. cit*. p.8).



Source: Authors' own work based on data from SPU (1996-2005)

Figure 8. Research Teachers receiving incentives: total percentages and according to dedications 1994-2005

From a more critical position Sonia Araujo demonstrates through a national university case study the way in which this programme generated greater competition and rivalry, a growing bureaucratisation and the "strengthening of authoritarian practices in the life of the faculty" (Araujo, 2004). Furthermore, the research carried out by Araujo demonstrates that the bureaucratisation generated by the enticement of being able to reach a "categorisation or re-categorisation" – by means of which higher incomes could be obtained – resulted in the loss of a sense of the meaning of the research activity, loss of originality and the gradual contamination of the faculty, which evolved into unprecedented vices and pathologies such as self-plagiarisms, inflation of curricula vitae, 'boys' clubs', cliques, nepotisms and favouritisms (Araujo, 2004).

In the present day, with some minor adjustments, the programme continues functioning with the same budget in absolute values since the moment of its creation. In terms of material value the programme does not represent the importance of its origins, not only because of the effect of inflation during so

many years but also because the number of teachers benefiting from the programme has increased. However, symbolic values of a kind are distributed through this mechanism, by the installation of a system of categories allotting, by peers, a recognised career record in regards to the academic progress of each faculty member.

Continuity of the '90s model in present policies

In recent years the introduction of evaluation and accrediting processes of institutions and programmes has generated a series of new institutional practices that involve academics who are participants in both self-evaluation and external evaluation activities. One aspect to investigate is related to the role academics have assumed in these new processes.

New options also appear for obtaining funds for research or for the specific development of programmes, assigned competitively to institutions or research teams that have gone on to form part of the practices already installed for the sector by the Ministry of Education. Thus, the new courses of action for the assignment of funds have an influence on academic activity insofar as the multiple submissions for competitive funds have begun to generate the practice of the design of projects, the filling in of forms and the preparation of reports, arising from initiatives that do not necessarily have anything to do with the mission or the institutional priorities but do have a connection with government policies. Without a doubt these new conditions for academic work have operated and operate forcefully in the area of tension that has been produced in academic fields with respect to the distribution of material and symbolic assets (Bourdieu, 1983, 1989). It becomes necessary to evaluate this hypothesis through empirical, concrete information and hence the importance of studies such as this and all those that may be derived from it.

Research advances in the framework of CAP

As was said above, output concerning the academic profession in Argentina is scarce. Some exploratory works do exist; others refer to cases in particular institutions or disciplines. No one case concerns empirical studies of national import, for which reason the significance of the Argentine component of CAP has unlimited potential for our country.

Methodological aspects

To carry out the survey, faculty in public universities, *i.e*. those teachers of any dedication and position with a relationship of dependency with national universities were considered as the analysis population. This demarcation is justified by the fact that the private sector is marginal both in terms of students and of teachers; that the information on its small number of teachers is non-existent; and that on the whole these teachers also fulfil duties in public universities. Those in the wide non-university spectrum of higher education acquire characteristics far removed from what is considered academic activity as they have contracts *per* class hour, do not carry out research and their activity is more similar to that of a secondary school teacher than to that of an academic.

The definition of the sample was performed in one single step, taking as a starting point the official base available from the System of University Information (SIU) of the Ministry of Education, Science and Technology of the Nation. From the total of 119,000 teachers in existing national universities, a random national sample of 2,400 teachers was designed, a figure which comes out of an international agreement of estimation of a percentage of 30% of effective replies, and which has as its goal obtaining 800 responses. The instrument in its Spanish version had added a few questions related to particularities of the Argentine system and was a product of a process of discussion and trial in addition to consultations with other teams in Latin America.[4]

At the time of this report, 70% of expected replies had been obtained, with a distribution of respondents very similar to that of the total sample except for a certain bias towards full-time teachers in the answers received. Nevertheless, for the quantity of responses obtained, an acceptable level of reliability is estimated in the representative value of these preliminary results.

Preliminary survey results

We start from the hypothesis that public policies regarding academics have generated changes in the system of recognition and recompense that explain the preferences, interests, commitments and states of mind. Greater preference for

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[4] The field work, although still in process, consisted in the localisation of people and contact with invitation by e-mail to the filling out of the survey on line. This was set up in an automatic virtual system which allowed its administration, with invitations to participate and periodic reminders. The major difficulty in the field work was not in obtaining a reply but in locating the teachers chosen. The official base provided a series of data on each teacher selected, from which e-mail address, telephone and postal address were excluded.

research or teaching, recognition from the discipline, the institution or the department as principal field of reference, or inquiring into the degree of satisfaction with the task they perform may be indicators of these changes, which probably affect academics in different ways depending on their discipline, the time when they set out on their academic career path, the position they fill, the time they dedicate to the activity, or their gender. Therefore the next section presents some results of the survey applied by selecting four main aspects: degrees obtained, interests, satisfaction and principal reference.

Degrees obtained

Unlike other countries in the world and also in the region, the possession of a graduate degree is not a generalised condition among Argentine academics. In the survey carried out only 22.7% of respondents have doctorates and the possession of a master's or a specialisation[5] appears in similar percentages.

Table 3. Graduate degrees obtained by respondents grouped according to year

(%)

	Between 1960 and 1975	Between 1976 and 1983	Between 1984 and 1989	Between 1990 and 1999	Between 2000 and 2007	Row totals	% with respect to total
Specialisation	3.2	9.8	3.2	32.2	51.6	100	20.4
Master's	1.4	4.3	4.3	28.6	61.4	100	23.0
Doctorate	5.8	4.3	5.8	29.1	55.0	100	22.7
Postdoctorate	7.7	0.0	7.7	23.0	61.6	100	4.3

In effect, the explosion in the attainment of postgraduate degrees in Argentina is a recent phenomenon, framed within the modernising agenda of the '90s. From that time forward, and in the last two periods considered for the purposes of our study, strong growth in the number of academics who obtain postgraduate degrees is seen, with greater emphasis in the most recent period. Thus it can be asserted that more than 80% of faculty surveyed attest to having obtained their postgraduate degree after 1990 and more than 50% after 2000. These data are closely associated with the impulse given by the government in the direction of obtaining teaching profiles of a high level of education, translated into policies that are aligned with the type of academic already spelt out in previous sections.

[5] Graduate programme professionally oriented.

Academics' interests

The academics surveyed have a slight tendency to prefer research activity to that of teaching. More than half (51.8%) opt for research either exclusively (6.8%) or for "both, but leaning towards research" (45%). Differentiating according to position, we see that this tendency is more pronounced the further is the post up the hierarchical scale. Those holding positions of Chair Professor appear above the overall average. Conversely, Assistant Professors (JTP) and Associates exceed the general average of opting for "teaching" or "both but leaning towards teaching" (51.5% and 55% respectively). The Junior Assistants do not echo this tendency, orienting more towards "research" (9.6%) or "both but leaning towards research" (48.1%), between the two questions reaching 57.7% of the total of Junior Assistants. The option oriented to teaching by the Assistant Professors (JTP) and Associates can be explained by the fact that it is on them that the burden of organising the teaching activity falls within the chair academic work organisation. An understanding of the Junior Assistants' inclination towards research requires the aid of another of the analysis units, for which reason we describe this subsequently.

Table 4. Interests among functions according to position (%)

	Primarily in teaching	**In both, but leaning towards teaching**	**In both, but leaning towards research**	**Primarily in research**	**Row totals**
Junior Assistant	9.6	32.7	48.1	9.6	100
Assistant professor (JTP)	13.0	38.5	41.5	7.0	100
Associate	5.6	49.4	40.5	4.5	100
Adjunct	25.0	25.0	50.0	0	100
Chair Professor	9.3	30.2	60.5	0	100
Column average	**10.0**	**38.2**	**45.0**	**6.8**	**100**

Considering the "dedication" variable, as expected the tendency to prefer research is more pronounced in the case of full-time teachers. This group inclines towards research exclusively (7.2%) or for "both but leaning towards research" (58.6%). This tendency diminishes as positions with less dedication of time are considered. Nevertheless, it is worth highlighting the case of part-time teachers as a specific case, as a post that is clearly conceived as designated for teaching is being occupied by people who even with that proviso

prefer research or both functions but leaning towards research in a percentage that is by no means insignificant (39.6%).

Table 5. Interests among functions according to "dedication" (%)

	Primarily in teaching	In both, but leaning towards teaching	In both, but leaning towards research	Primarily in research	Row totals
Full-time	0.9	33.3	58.6	7.2	100
Semi-full-time	11.3	46.8	37.1	4.8	100
Part-time	20.9	39.6	34.1	5.5	100
Column average	**10.0**	**38.2**	**45.0**	**6.8**	**100**

On considering interests according to discipline areas (Becher, 2001), a wide diversity can be seen with respect to the mean. The discipline areas that exceed the mean towards research in its two varieties are those of the applied, hard disciplines (61.4%), the pure, hard ones (60.8%), and the pure, soft disciplines (59.6%). At the other extreme the disciplines that which favour teaching in its two varieties are the applied, soft disciplines (66.9%). Although these preferences are associated with the characteristics of the academic work of each of the disciplines, which establish specific mechanisms for internal socialization, it is interesting to note the preference towards research in the case of the applied, hard disciplines, in which Engineering, Agronomy and Medicine predominate. These fields are currently the object of accreditation processes that state the research activity as a requirement weakly present in the recently administered evaluations. It is possible that the stated preferences are influenced because of this situation.

Table 6. Interests according to discipline areas (%)

Discipline areas	Primarily in teaching	In both, but leaning towards teaching	In both, but leaning towards research	Primarily in research	Row totals
Pure, hard	10.9	28.3	50.0	10.8	100
Applied, hard	13.6	25.0	53.4	8.0	100
Pure, soft	2.1	38.3	53.2	6.4	100
Applied, soft	10.1	56.8	29.9	3.2	100
Column average	**10.0**	**38.2**	**45.0**	**6.8**	**100**

Considering gender, differences are seen in the interests of academics. Women coincide with the general mean, while men prefer the research activity (8.8%) or "both with a leaning towards research" (49.1%), the difference between the two options exceeding the general mean by 7 points.

Table 7. Interests according to gender (%)

Gender	Primarily in teaching	In both, but leaning towards teaching	In both, but leaning towards research	Primarily in research	Row totals
Female	6.9	42.8	44.1	6.2	100
Male	11.4	30.7	49.1	8.8	100
Column average	**10.0**	**38.2**	**45.0**	**6.8**	**100**

Lastly, it is worthwhile considering the career span of faculty in evaluating their interests. For this purpose we make use of the "year of obtaining first post" indicator, by analysing two periods.[6] We see that while the teachers with more years of service fit into the general mean, strikingly the youngest, who obtained their first posts after 2000, clearly incline exclusively towards research (16.3% rather than 6.8% of the general mean), or "both but leaning towards research" (55% rather than 45% of the general mean), showing that 71.4% of these young teachers have an inclination towards this activity. This tendency could at the same time explain why on considering "position" the Junior Assistants group differs from the general tendency of greater inclination for teaching the lower down the hierarchical scale the post they hold. Given that this category groups together teachers who recently initiated an academic career, it is probable that the analysis of this variable, which considers time, helps to explain the former. Thus, a certain influence by the public policies of the '90s could be inferred, accepted more significantly by the youngest as a means of incorporation into and promotion within an academic career.

[6] The years have been grouped according to periods defined by key points in the country's history. The first period, until 1976, considers the period of splendour for the Argentine university, the 1960s, which endured in spite of military interventions previous to the coup of 1976. The second period covers the military dictatorship and state terrorism that deeply affected the university. The third period marks the first government of the democratic transition, followed by the fourth of neo-liberal modernisation and introduction of the Argentine university to international norms. The last period marks the most recent time and includes the profound economic crisis of 2001 until the present day. In this report the first and last periods of this classification are considered.

Table 8. Interests according to obtainment of first post (%)

	Primarily in teaching	In both, but leaning towards teaching	In both, but leaning towards research	Primarily in research	Row totals
Until 1976	14.7	35.3	44.1	5.9	100
From 2000	8.2	20.4	55.1	16.3	100
Column average	**10.0**	**38.2**	**45.0**	**6.8**	**100**

Satisfaction with the academic job

Argentine academics show a considerable level of satisfaction with the tasks they perform (more than 60%), which runs in contrast to international tendencies of the last few decades that showed low self-esteem and growing pressure (Boyer *et al.*, 1994; Altbach, 2000). It is likely that the salary update experienced in the last few years – after more than a decade of frozen salaries – may explain this favourable state of mind.

Considering the gender variable, we see that there are no great differences with respect to the overall average between the "very high" and "high" levels of satisfaction (females 60.6% and males 62.3%).

Table 9. Satisfaction according to gender (%)

	very high	2	3	4	Very low	Row totals
Female	17.2	43.4	29.7	6.9	2.8	100
Male	20.2	42.1	28.9	7.0	1.8	100
Column average	**18.2**	**43.2**	**30.0**	**6.4**	**2.1**	**100**

In contrast, where we do observe significant variations with respect to the mean is in the variables "dedication" and "position". Full-time academics show more satisfaction (71.2%, by combining "high" and "very high") than part-time faculty (52.8%) with the semi-full-timers lying between the two (58.1%). In this last case the low comparative level of satisfaction may be due to the ambiguity in this "dedication": those from whom tasks similar to those of full-time faculty are demanded in spite of a lesser quantity of weekly working hours.

Table 10. Satisfaction according to "dedication" (%)

	very high	2	3	4	Very low	Row totals
Full-time	19.8	51.4	24.3	4.5	0	100
Semi-full-time	24.2	33.9	38.7	3.2	0	100
Part-time	11.0	41.8	31.9	11.0	4.4	100
Column average	**18.2**	**43.2**	**30.0**	**6.4**	**2.1**	**100**

For their part, while Associates remain at the general mean, we see that Chair Professors and Adjuncts far exceed it, showing high levels of satisfaction (83.3 and 68.8% respectively). Assistant Professors (JTP) and Junior Assistants are far below the average of satisfaction, the former being those who manifest the least level of "high" and "very high" satisfaction (53.9%) within a mean that, again, is worth noting for its generally high level.

There is no doubt that salary level is an unconsidered variable that is operating indirectly on these results. Those most satisfied with the academic tasks are those in higher positions in the hierarchy and those of greater time "dedication". In both cases, separately and even more jointly, it is a question of people who receive higher remuneration.

Table 11. Satisfaction according to post (%)

	very high	2	3	4	Very low	Row totals
Junior Assistant	21.2	36.5	25.0	11.5	5.8	100
Assistant Professor (JTP)	12.3	41.6	36.9	7.7	1.5	100
Associate	13.5	48.3	31.5	5.6	1.1	100
Adjunct	18.8	50.0	31.2	0	0	100
Chair Professor	32.6	51.2	14.0	2.3	0	100
Column average	**18.2**	**43.2**	**30.0**	**6.4**	**2.1**	**100**

Considering the different disciplines, we see that the general tendency of 61.4% for "very high" and "high" level of satisfaction is maintained in the applied, hard disciplines (61.6%) and is higher in the areas of pure, hard (64.6%) and applied, soft disciplines (65.4%). Below the average level are found the pure, soft disciplines (54.1%).

Table 12. Satisfaction according to disciplinary areas (%)

	very high	2	3	4	Very low	Row totals
Pure, hard	24.1	40.5	32.0	3.4	0.0	100
Applied, hard	14.0	47.6	31.5	4.7	2.3	100
Pure, soft	15.2	38.9	33.0	9.9	3.0	100
Applied, soft	19.6	45.8	23.6	7.8	3.2	100
Column average	**18.2**	**43.2**	**30.0**	**6.4**	**2.1**	**100**

Finally, some interesting data appear when we measure satisfaction according to the time of entering faculty life. Teachers with a longer academic career record are the most satisfied with their jobs (70.6% compared to an average of 61.4%), while the youngest appear less satisfied, with a percentage of 46.9% from both "high" and "very high" levels of satisfaction These data may be associated with the initial difficulties of insertion in the academic career for those who recently began, while teachers with longer service have already travelled a road that was less competitive and less populated, and today are consolidated in their academic life.

Table 13. Satisfaction according to year of obtaining a first post (%)

	very high	2	3	4	Very low	Row totals
Until 1976	23.5	47.1	23.5	5.9	0	100
From 2000	12.2	34.7	34.7	10.2	8.2	100
Average	**18.2**	**43.2**	**30.0**	**6.4**	**2.1**	**100**

In the survey there are other questions associated with the degree of satisfaction that can be analysed. On asking if they have considered making some important change to their job, 58.3% of those surveyed answered in the negative. These percentages again vary when we consider positions, showing a direct relation between a greater percentage of negative answer and a higher position in the hierarchy. Those in lower ranking positions are found below the average: Junior Assistants, 46.1%, and Assistant Professors (JTP), 53.5%, respond in the negative, as do Associates, in 60% of cases, Adjuncts in 75% and Chair Professors in 68%. Analysing the same question according to "dedications" we see the same correlation: part-timers 48.9% in the negative; semi-full-timers 60.3% and full-timers 66%. According to gender, there are no significant differences. Finally, according to the time of initiating their careers we see that faculty with longer service respond in the negative in a greater

percentage (61.7%) than those who started recently (44.9%).

Another three questions associated with greater pressure or negative view of academic work are analysed, registering the percentages of negative answers ("absolutely disagree" and "disagree") shown in Table 14. More than 80% of faculty surveyed would still choose to be academics if they had to begin their career again, more than half do not consider it a source of personal stress and almost 60% would recommend to young people that they take up an academic career. These results confirm the high level of satisfaction indicated by the answers to the previous question.

The differences in the responses according to the variables considered are not significant, or at least do not present correlations that could give rise to specific interpretations. It could be said that the highest posts are more emphatic in the idea of making the same choice if they had to start again; that according to "dedications" there is a direct relationship between higher position/greater emphasis on the idea of choosing again an academic career; and that both faculty with more years of service and those who began their careers recently are less emphatic in this answer, with respect to the general average.

Table 14. Percentage of negative answers to three questions according to post, "dedication", gender and time of entry in the academic career (%)

Variable / question		If I had it to do over again, I would not become an academic (disagree/strongly disagree)	My job is a source of considerable personal strain (disagree/strongly disagree)	This is a poor time for any young person to begin an academic career in my field (disagree/ strongly disagree)
Position	Junior assistants	82.7	53.8	51.9
	Assistant professors (JTP)	83.1	53.8	56.9
	Associates	83.1	49.5	64.0
	Adjuncts	93.8	62.6	81.3
	Chair professors	86.0	58.2	55.8
Dedication	Full-time	86.5	51.3	69.3
	Semi-full-time	83.9	56.5	62.9
	Part-time	80.2	57.2	56.1
Gender	Female	84.8	49.6	62.7
	Male	83.4	58.7	55.2
Moment of insertion in the academic career	Until 1976	79.6	55.1	51.1
	From 2000	79.6	55.1	51.1
Total average		83.6	53.9	59.6

As regards the question related to personal strain in academic work, the Adjunct and Part-time positions, men, and faculty with a longer career record that they feel less strain compared with the overall average, which we repeat is already very low, since we are considering "absolutely disagree" and "disagree" with the affirmation suggested in the question.

Finally, as is to be expected, although more than half the total do not agree with the idea of not recommending beginning an academic career to the youngest faculty, it is those youngest (Junior Assistants, and insertion after 2000) who are found farthest below this general average.

Area of Reference

In general terms those surveyed define discipline (70.2%) as the principal field of reference ("very important"), followed by institution (62.3%) and finally department (53.2%). The order of importance of the three areas of reference is maintained on considering all positions, with the exception of that of Chair Professor, where the main field of reference is the institution (72.2%), followed by discipline (67.4%) and in third place the department (55.8%). It is probable that this reference is related to a longer period of service in the academic activity that causes the institutional component in academic work to be valued.

Table 15. Reference: totals and post of chair professor (%)

		Very important	2	3	4	Not at all important	
Discipline	Total	70.7	21.4	6.1	1.1	0.7	100
	Chair Professor	67.4	18.6	11.6	2.3	0.0	100
Department	Total	53.2	30.4	11.8	3.9	0.7	100
	Chair Professor	55.8	27.9	9.3	7.0	0.0	100
Institution	Total	62.9	23.9	10.0	3.2	0.0	100
	Chair Professor	72.1	16.3	4.7	7.0	0.0	100

If we consider "dedication" (time devoted to the academic activity) the order of importance given these three areas of reference does not vary from the general total. Neither were variations found on examining the time of access to the first post, nor regarding gender, nor disciplines.

These results indicate that, in spite of the great diversity of disciplines, with their different mechanisms of socialization and recognition, as well as degrees of organisation around rules, the value of reference to the discipline appears in widespread ways. It is possible that this option is coherent with the model to

which academic work has been conforming as a consequence of the recent public policies.

Some Provisional Conclusions

Keeping in mind the limitations peculiar to surveys of the type we implemented, it is possible to conclude with some preliminary results that need to be corroborated with in-depth studies. In effect, each of the questions asked and the corresponding responses from those surveyed is intercepted by a space which is impossible to penetrate with this methodology as it is related to the subjectivity of each person surveyed. Thus each stated preference could be influenced by what the respondent believes is expected, whether by us, the surveyors, or by the system itself that establishes academically correct practices, which it is supposed that today every academic – above all the youngest – must follow. Be that as it may, and even with these reservations, the answers have an inherent value in that they may be analysed. Accordingly, we can synthesise the results of this analysis.

From the results we can infer that the university teachers surveyed tend to adapt to the academic model implicit in university public policies implemented in the last decade.

We have seen that the growth in the number of doctors, masters and specialists is a recent phenomenon. In the same way there is a majority tendency to incline towards research in the tasks of preference. Both aspects are criteria of evaluation that appear in all processes to which Argentine faculty presently are submitted, whether in order to obtain subsidies, to accede to a position or to stand out from their peers at the moment of being selected as a project evaluator, a peer reviewer, or member of a faculty committee.

In this sense it has been observed that faculty who recently began their careers are those who seem to show greater predisposition and interest in adapting to these criteria. Together with the highest positions – Chair and Adjunct Professors – it is the Junior Assistants who most markedly opt for research, as also do those who initiated academic careers after 2000.

It is also worthwhile considering in this tendency, in addition to the reasonable preference for research of full-time faculty, the significant group of part-time faculty – who hold positions that are supposedly oriented to teaching – who also choose research as the academic activity of preference.

Considering the educational disciplines directs attention to members of disciplinary areas that have no tradition of organization of academic work

around research yet now demonstrate their preference for this activity. It is possible that the diversity of every disciplinary field today tends to homogenize in a common pattern of academic work disseminated as desirable by public policies.

Following the same line of argument when we consider the field of reference, "discipline" appears as the most significant at the expense of "institution" and "department". This preference is in line with previous assertions, insofar as the external incentives of academic recognition foster activities linked to respective disciplinary fields – publications, attendance at events, participation in committees *etc.* – rather than the institution and the department.

In spite of this influence through public policies, academics in our country are very satisfied with their jobs, do not feel greatly pressured, do not foresee important changes in the short term and would recommend to young people the initiation of an academic career. Although there do exist variations with respect to position, academic career path and "dedication", which mean these data are less conclusive in younger academics and those of lower time dedication and position, in the general levels the results are very significant. We have asserted that these preferences and states of mind may be related to a variable not considered in this study – the improvement in salary which university teachers received in recent years, after a situation of profound arrears in salaries in relation to inflation.

These data are scarcely the tip of the iceberg which makes it necessary to continue investigation in greater depth. However it is possible at least to pose some questions that could guide future works. Have Argentine academics adapted in their preferences to the academic model established at governmental level? What would be their preferences if the policies were different? What implications for the different functions of the university, especially for teaching, may the preferences imply on the basis of the ideal "type" disseminated in recent public policies? Is it possible to think of public policies which attend to a diversity of academic profiles and not to an ideal type which appears to be taking shape? Would faculty be as satisfied with their careers as they are at present if these policies were to change?

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Africa

The Academic Profession in South Africa in Times of Change: portrait from the preliminary results of the Changing Academic Profession (CAP) Research Project

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Introduction

South Africa is currently in the throes of an ambitious societal reconstruction project, in which higher education has been assigned a major role. Furthermore, since re-joining the international community in 1994, higher education in South Africa has been subjected to the same changes as higher education sectors worldwide. The academic profession is a key partner in the higher education project, and their experience and input are pivotal for the success of higher education.

The aim of this research is to determine how the South African academic profession is experiencing their currently changing professional environment. The paper commences with an outline of the historical development of higher education in South Africa, followed by an exposition of the spectrum of changes currently taking place. The authors applied the questionnaire of the international CAP (Changing Academic Profession) research project to a sample of the South African academic profession. The paper reports on how the South African academic profession is currently experiencing the following aspects of

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their professional environment, based on the results of the survey:

- teaching activities
- research activities
- internationalisation and
- relations with university management

Historical Context (till 1994)

The first university in South Africa was the University of Good Hope, founded in 1873 under the auspices of the then British colonial administration. This university did no teaching, but prescribed syllabuses, conducted examinations, and awarded degrees for teaching done at colleges, such as the South African College (Cape Town), and the Victoria College (Stellenbosch). Act 12 of 1916 made provision for the establishment of a federal examining university, to be called the University of South Africa (UNISA), located in Pretoria. In time its constituent colleges became autonomous universities: University of Stellenbosch (1916), University of Cape Town (South African College, 1916), Witwatersrand University (1922), University of Pretoria (1930), University of Natal (1949), University of the Orange Free State (1950), Rhodes University (1951) and Potchefstroom University (1951). When its constituent colleges became independent universities, UNISA became a correspondence university (1951). All these institutions were meant to cater for the white population.

Tertiary education for black South Africans commenced in 1916, when the South African Native College was established in Fort Hare. This institution became autonomous in 1949, under the name of the University of Fort Hare. 1948 is a key date in the history of South Africa. In that year the National Party came to power. It implemented a programme of rigorous *de facto* and *de jure* racial segregation – 'Apartheid' policies (a typical colonial set-up, *de facto* racial segregation had always been a characteristic of South African society). The advocates of Apartheid believed that the separation of the races (and the various ethnic groupings within the black race) would enable each grouping to develop to prosperity upon the basis, and along the lines, of their own cultures. For this purpose ten autonomous states (so-called "homelands") were created within the borders of South Africa, for the various ethnic groupings. Each was to have its own government, school system, universities, *etc*. Consequently, such universities were created, each exclusively for students of a particular ethnic

group.

The idea of separate, segregated education systems and universities was widely condemned among black South Africans as inferior education meant to perpetuate inequality and white domination (see Karis & Gerhart, 1977; Nkomo, 1990; Christie, 1991, pp.229-265). The South African government did not succeed in selling its policies to the international community either. After 1961 (when the country ceded from the British Commonwealth and became an independent republic), South Africa was subjected to a barrage of international sanctions and isolation measures directed at, for example, trade, economic, political, diplomatic, cultural, sports and other measures. With regard to universities, the international academic boycott was waged for three decades (*ca*. 1960-1990) as part of the international world's protest against the segregation policies of the South African government. Harricombe and Lancaster (1995, p.30) note that this boycott included the following:

- a refusal of international scholars to travel to South Africa or to invite South Africans abroad;
- a refusal to publish South African manuscripts internationally;
- a refusal of international scholars to collaborate with South African scholars;
- a refusal by some publishers to provide access to information (*e.g.*, books, software);
- a denial of South African participation at international conferences;
- a denial of access to South African academics by certain institutions abroad;
- a refusal to act as external examiners for theses at South African universities.

(for a survey of the full extent and intensity of this academic boycott, the interested reader is referred to the publication of Harricombe & Lancaster, 1995).

Current Changes

In 1994, 342 years of white minority government in South Africa ended. A new political dispensation commenced, the basis of which was a new constitution with a Bill of Human Rights widely hailed as one of the most democratic and most progressive in the world. The ANC (African National Congress) took over as ruling party from the National Party.

Since the change of government and the new socio-political dispensation in

1994, South African academics have been facing three sets of changes:

- a reintegration into the mainstream international academic community;
- one unintended effect of the international academic isolation was that South Africa had been kept aloof from changes taking place in the environment of academics abroad, such as increasing managerialism, increased calls for accountability and increased measures of quality control;
- the exigencies of the new socio-political environment.

These three sets of changes will now be focused upon in turn.

A new educational dispensation in the changed socio-political context

In the first years after 1994, the ANC formulated a new education policy, based upon the following principles: equalisation of educational opportunities, desegregation, multiculturalism and democratisation (see Wolhuter, 1999, p.366). The aim of this policy was directed at the economic development and modernization of South Africa.

Equal educational opportunities

One of the rallying points of the socio-political turmoil which preceded the 1994 political settlement was the segregated and unequal education system. In 1993 the gross tertiary education enrolment ratio in South Africa was 12.9% (aggregate figure) (Wolhuter, 1998, p.15). This aggregate figure masked big differences: for the different racial groups, the figures were as follows: whites, 50.4%; Indians (i.e. South Africans of Indian descent), 30.4%; coloureds (South Africans of mixed-racial descent), 9.7%; blacks, 11.1% (Wolhuter, 1998, p.15). This policy meant that universities had to gear themselves for a surge in black student enrolments after 1994. A problem was that the black primary and secondary schools of the pre-1994 era offered the worst quality education in South Africa. This meant a surge of black students from schools that ill-prepared them for tertiary study. The racial make-up of the South African population (total 44.8 million) is as follows: whites, 10%; Indians, 2%; coloureds, 9%; blacks, 79% (Steyn, 2008).

Desegregation

In 1994, the various racially based education systems and their administrations were collapsed into one national Ministry of Education. In the South African context, desegregation would be very much a one-way movement

of blacks from the historically black educational institutions to the better endowed historically white educational institutions. This meant that the historically white institutions had to gear themselves for a much more diverse student body. Desegregation and equity also meant that the academic profession (traditionally very white male dominated, even at the historically black universities) would have to change to reflect the demographic make-up of the South African population.

Multiculturalism

A criticism from the circles of the new rulers was that the pre-1994 education system was too Eurocentric, and that Africa's cultural heritage was neglected. In very radical quarters it was felt that the message was preached that African cultures were inferior, and the most extreme critics alleged that curricula contributed to the subjugation of blacks. Even curricula at university level were thus criticized (*e.g.,* see Jansen, ed., 1991).

Democratisation

The pre-1994 education system was also criticized as being too authoritarian and of thus fostering a culture of submission. In response, the new government accepted the principle of democratization in education. This meant that all stakeholders (teachers, parents, workers, students and the broader community) would participate actively in decision-making on education.

Development

The government pursued an ambitious set of national development goals by means of education. These goals include:

- economic goals: the eradication of poverty and the promotion of the country's economic productivity and development;
- nation building: moulding national unity in a country with a divided past; building a communal value system for a society characterised by democracy, equality, freedom, peace, justice tolerance and stability;
- social: building a society free of racial, gender and other forms of unfair discrimination, creating a socially-mobile society and the removal of artificial hierarchies and obstructions in the way of progress.

Re-integration into the mainstream international academic community

The new political order, which commenced in 1994, meant that South

African academics, after having been cut off from their colleagues abroad for some thirty years, were once again welcome at international conferences, as visiting professors and as research collaborators worldwide.

The force of international trends shaping a new academic environment

As mentioned above, one (unintended) effect of the international boycotts waged against South Africa was that universities remained relatively isolated from changes that affected universities elsewhere in the world. During the boycott years some radical changes took place abroad. These changes could, to a large extent, be traced back to the neo-liberal economic revolution which commenced in the 1980s and gained ever increasing momentum in the 1990s. The welfare state scaled down its range of activities and the capitalist or free market system was accepted globally. For the academic environment this meant a persistent denudation of academic autonomy as business principles such as accountability, quality control, managerialism and profitability were applied to the running of universities and as governments (as the main sources of funds to most universities) assumed ever more say in the affairs of universities (Wolhuter & Higgs, 2006, p.64). It should be mentioned that apart from applying pressure to conform to governmental segregation policies, in the pre-1994 era universities in South Africa enjoyed a measure of autonomy probably unparalleled elsewhere in the world (Bundy, 2005). While management issues were the prerogative of a few incumbents in top management positions, academicians enjoyed full autonomy on academic matters. Even the renowned British comparativist, Edmund J King, an outspoken critic of the pre-1994 government's policies, lauded the autonomy enjoyed by South African universities (King, 1979). After the advent of the new socio-political dispensation and after South Africa's incorporation into the international mainstream, the South African academic environment was confronted with these changes, not gradually as elsewhere in the world, but intensely and rapidly (Jansen, 2004; Bundy, 2005; Wolhuter *et al.*, 2007a).

How the academic profession is experiencing current changes: preliminary results from the CAP research project

Research Methodology

The CAP is an international research project, surveying the academic profession in 22 countries. The questionnaire surveys the following aspects of academics' lives: biographic particulars, teaching, research, international

activities, relations with university management, and job satisfaction. Being part of the project, the authors applied the questionnaire to a representative sample of 302 South African academics. This paper reports on the results.

Biographic Particulars

Of the respondents, 50% were male and 47% female, while 3% declined to disclose their gender. As this comes close to the official South African aggregate figure (which reports 50.3% of all faculty at tertiary education institutions in South Africa as being female, UNESCO, 2007) it shows that the sample was representative (Of the respondents who did disclose their gender 142 of 293, or 48.4% were female). This also means that the proportion of female academics in South Africa is one of the highest in the world (*cf*. Higgs *et al.*, 2004; Welch, 1997).

The average age of respondents was 49.3 years. When compared to the results of a study, six years ago, that applied to South Africa the questionnaire used by the Carnegie International Investigation into the Academic Profession, it was found that the average age of the South African academic profession at that stage was 43.4 years (*cf*. Wolhuter, *et al*., 2006, p.9), the results of this survey confirm the observation frequently made, namely that the South African academic profession is ageing.

Qualifications and higher education experience

Almost half (48.3%) of respondents held a doctorate. For a developing country, this is quite high. In Mexico, like South Africa an upper-middle income country, 58% of all faculty hold as their highest degree a licensure (The Mexican licensure is a 4-5 year undergraduate program) (Galaz-Fontez *et al*., 2007, p.56). On average, the South African academic has 15.2 years work experience in the higher education sector; 39.7% of respondents have spent their entire higher education working career at one institution, 31.9% have experience of two institutions, while 28.4% have been employed by more than two higher education institutions. As many academic faculty are employed by institutions where they had been students, the 39.7% who have been employed by one higher institution only point to a high incidence of the academically pernicious phenomenon of inbreeding.

Teaching Activities

During the academic year, when classes are in session, respondents taught on average 21.0 hours *per* week. When compared with the results of the

Carnegie survey, this represents a significant increase in the past six years. The study using the Carnegie questionnaire, undertaken six years ago, found that South African Academics spend a mean of 12.9 hours per week teaching (Wolhuter *et al*., 2006, p.10). The South African mean is now on a par with the international norm: the average in the fourteen countries surveyed by the International Survey of the Academic Profession (Carnegie Investigation) was 22.2 (Altbach & Lewis, 1996, p.21). The median undergraduate class size reported by this present survey is 195.0. This too represents a significant increase from what was shown by the investigation six years ago (*cf.* Wolhuter *et al*., 2006, p.11). Academics in South Africa find the quality of student intakes problematic. The average response on a five point scale ranging from 1: strongly agree, to 3: neutral, to 5 strongly disagree, to the statement "you spend more time than you would like teaching basic skills due to student deficiencies" was 2.14.

Research activities

In the three year period prior to the survey the average respondent has authored or co-authored 1.45 books, edited or co-edited 1.03 books, published 3.93 articles in an academic book or journal and presented 4.56 papers at scholarly conferences. Compared to the international norm, these are quite low figures. In participating countries of the Carnegie investigation, available average responses to the question on how many articles respondents have published in the three year period prior to the survey, in an academic book or scholarly journal range from 4.3 in the case of Australia (Sheenan & Welch, 1996) to 7.7 in the case of the Netherlands (Geurts *et al*., 1996). From application of the Carnegie investigation in South Africa, the respondents indicated that factors influencing their research output included the availability of research funding, facilities and resources for research but, surprisingly, not the numbers of students enrolled in their classes (Wolhuter & Higgs, 2008).

Internationalisation

The study employing the Carnegie questionnaire six years ago, found that whereas the effects of the international academic boycott were still perceptible in the ten years period before that investigation (1991-2000), when looking at the three years prior to the study (*i.e*. 1998-2000), the effects were more than wiped out, and the South African academic profession had become one of the most internationalised in the world (Wolhuter & Higgs, 2004). For example, on average, South Africa's respondents had published articles or books in another

country 3.75 times during the three years prior to the survey (1998-2000) and 3.67 times during the ten years prior to the survey (1991-2000) (Wolhuter & Higgs, 2004). In the 14 countries of the Carnegie survey, the corresponding averages were 1.3 and 4.0 (Altbach & Lewis, 1996, p.37). The present CAP survey did not ask the same questions. But results that only 11.62% and 12.77% of respondents had published a book or article in respectively the three years and ten years period prior to the survey do point to a sharp drop in international activities, which might be related to the exigencies of increasing managerialism, for example making access to funding for the attendance at international conferences much more difficult than it used to be a few years ago.

Relations with management

The study by means of the Carnegie questionnaire, done in 2000, came to the conclusion that South African academics had mildly positive relationships with university governance (Wolhuter *et al*., 2007b). Since then other research such as that of Webster & Mosoetsa (2002) came to more negative conclusions. This present research (CAP survey) confirms the results of Webster & Mosoetsa (2002) and in fact portrays a mirror image of the results from the study in 2000. South African academics now appear to have slightly negative relations with management. On a five point semantic differentiation scale, ranging from 1: strongly disagree, to 3: neutral, to 5: strongly agree, their average responses to the following statements were as follows:

- Top level administrators are providing competent leadership : 3.49
- I am kept informed about what is going on at this institution : 3.16
- Lack of faculty involvement is a real problem : 2.92
- The administration is supporting academic freedom : 3.41

These responses indicate the negative effects of insidious but growing managerialism at South African universities.

Conclusion

Contextually related pressures such as the influx of poorly prepared students, impact negatively on the South African academic profession. Changes which are part of international trends, such as managerialism, are being experienced negatively by the South African academic profession. Both these sets of factors (international trends and South African context-specific factors) are probably factors behind the large (and increasingly larger) classes and high

and rising lecture loads which South African academics have to cope with. South African academics seem to become less and less internationalized. The result of all these is a low research output and this portrays a disturbing picture of the quality of scholarship at South African universities. A research project such as CAP is therefore extremely timely, providing information necessary to secure for South African academia the turf for pursuing the noble ideals associated with higher learning.

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Conclusion

Preliminary Findings and Discussions about the Characteristics of the Changing Academic Profession in Fifteen Countries and Regions: an international, comparative and quantitative perspective

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From January 28-29, an international meeting on The Changing Academic Profession (CAP) in International, Comparative and Quantitative Perspectives was organized by the Research Institutes for Higher Education (RIHE) of Hiroshima University and of Hijiyama University in Hiroshima as part of the Changing Academic Profession Project.

Currently there are 22 countries involved in the CAP project. They include countries from the five continents: Asia and the Pacific, Africa, Europe, North America and Latin America. The following countries have conducted or are well into the process of conducting national surveys and studies: Argentina, Australia, Brazil, Canada, China and Hong Kong, Finland, France, Germany, Italy, Japan, Malaysia, Mexico, Norway, Portugal, Romania, South Africa, the Netherlands, the UK, and the US; New Zealand and South Korea may also conduct national studies. This is the largest survey of the academic profession ever undertaken by RIHE. At the meeting, 19 speakers from Argentina, Australia, Brazil, Canada, China and Hong Kong, Finland, Germany, Italy, Japan, Malaysia, Mexico, Portugal, the UK, and the USA made presentations. Contributions were also made by 12 foreign participants, including one from South Korea. In addition, over 80 Japanese academics from various institutions, including staff and graduate students from RIHE, were present at the meeting.

In the year 2006, two international conferences concerning the academic profession were organized by RIHE. The first was mainly concerned with the contexts, driving forces, major aspects and specific characteristics relating to the

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changing academic profession in North America, Europe and some Asian countries. The second, with a special focus on Asian countries, was mainly concerned with issues arising from reconstruction of university visions and the mission of the academic profession. The CAP project is now to examine the nature and extent of the changes experienced by the academic profession in recent years through the national surveys in individual countries and in some regions. The extent of change will be considered through comparison with the similar Carnegie survey in 1991, comparison of responses by different generations of academics, and by perceptions of change. The major purpose of this meeting was to discuss the issues and share ideas concerning the following three aspects.

1. Key facts and statements about the characteristics and the actual situation of the academic profession in the participating countries.
2. Views on the nature and the extent of the changes experienced by the academic profession in recent years, with a focus on the relevance of the academy's work, the internationalization of the academy, and recent managerial innovations.
3. Comparison of the responses in 2007 with those in 1992 by those countries that participated in the earlier survey of the academic profession.

Based on these aspects, the organizers arranged two keynote speeches, to precede the country reports, and then allocated time for discussion in order to identify themes shared across the country reports. While much of the attention was focused on the country reports, generous time was also devoted to discussion of the issue of developing and completing the future collaborative work now to be undertaken by the participating countries.

From an international comparative perspective, some major similarities and differences existing in the academic professions of the participating countries are already evident. A vast majority of participating countries reported that in the past years, there has been:

- a growing percentage of academic staff with higher degrees, especially doctorates;
- an increased introduction of fixed-term appointments;
- high job satisfaction;
- increased cumbersome administrative processes and a top-down management style;

- increased pressures on faculty, especially on young faculty in the research arena; and
- feminization, especially in countries such as the USA, the UK, Japan and Mexico.

In contrast, there also exist distinguishing differences among the countries. For example, on the one hand, there has been an increase in the time spent on teaching, especially at undergraduate level, in Japan, Mexico, the USA, and Germany (notably by non-professorial staff); on the other hand, in Argentina, and Germany (notably by university professors) it is reported that more time has been devoted to research activities; yet a third pattern is observed in the UK, where academic staff tend to emphasize both activities. With regard to internationalization of the academy, there has been more internationalization in Canada, Australia and Brazil, whereas in the USA, the UK, and China, less internationalization of the academy was reported.

During the two-day meeting, the importance of seeking solutions to three major issues facing the participating countries through the collaborative efforts was emphasized. The first is how to achieve a common understanding of some key terms and factors concerning the academic profession in the participating countries. The second is how to explain some of the key factors affecting the similar changes and the differences in changes in the academic professions in the participating countries. The third is how to combine the national data sets into an international data set in order to facilitate a 'real' international comparative study of the academic profession across the participating countries.

Apparently, most countries are still in the very early stages of analyzing their survey data. The main findings that were presented by the speakers from those countries are relatively simple and their country reports were very preliminary. Moreover, the focus for the research project, methodology, and expectations varies significantly among the different countries. However, a clearer picture of the changing academic profession in the participating countries and regions is already appearing in the resultant international comparative and quantitative perspectives. Most importantly, the main value of this meeting at Hiroshima has provided stimulation as different groups start to consider collaborative analytic projects. This provides a useful base for discussions on the subsequent program. In a major sense, the meeting was timely, stimulating and yielded fruitful outcomes.

Appendices

Appendix 1:
The Changing Academic Profession: Questionnaire

Final Version 21 November 2006

A. Career and Professional Situation

A1 For each of your degrees, please indicate the year of completion and the country in which you obtained it.

Degree	Year	Earned in country of current employment	If no, please specify country
First degree [NATCAT]	☐☐☐☐	Yes ☐ No ☐	.....
Second degree (if applicable) [NATCAT]	☐☐☐☐	Yes ☐ No ☐	.....
Doctoral degree (if applicable) [NATCAT]	☐☐☐☐	Yes ☐ No ☐	.....
Post-doctoral degree (if applicable) [NATCAT]	☐☐☐☐	Yes ☐ No ☐	.....

A2 Please, identify the academic discipline or field of your…

Check one in each column

Highest Degree	Current Acad. Unit	Current Teaching	
1 ☐	1 ☐	1 ☐	Teacher training and education science
2 ☐	2 ☐	2 ☐	Humanities and arts
3 ☐	3 ☐	3 ☐	Social and behavioural sciences
4 ☐	4 ☐	4 ☐	Business and administration, economics
5 ☐	5 ☐	5 ☐	Law
6 ☐	6 ☐	6 ☐	Life sciences
7 ☐	7 ☐	7 ☐	Physical sciences, mathematics, computer sciences
8 ☐	8 ☐	8 ☐	Engineering, manufacturing and construction, architecture
9 ☐	9 ☐	9 ☐	Agriculture
10 ☐	10 ☐	10 ☐	Medical sciences, health related sciences, social services
11 ☐	11 ☐	11 ☐	Personal services, transport services, security services
12 ☐	12 ☐	12 ☐	Other: (please specify) ..... (please specify)
13 ☐	13 ☐	13 ☐	Not applicable

A3 How would you characterize the training you received in your doctoral degree? (If you do not hold a doctoral degree: Please go to question A4)

Check all that apply

1 ☐ You were required to take a prescribed set of courses

2 ☐ You were required to write a thesis or dissertation

3 ☐ You received intensive faculty guidance for your research

4 ☐ You chose your own research topic

5 ☐ You received a scholarship or fellowship

6 ☐ You received an employment contract during your studies (for teaching or research)

7 ☐ You received training in instructional skills or learned about teaching methods

8 ☐ You were involved in research projects with faculty or senior researchers

9 ☐ You served on an institutional or departmental (unit) committee

A4 Since your first degree, how long have you been employed in the following? [If "0," so indicate]

Full time	Part time	
☐☐	☐☐	Higher education institutions
☐☐	☐☐	Research institutes
☐☐	☐☐	(Other) Government or public sector institutions
☐☐	☐☐	(Other) Industry or private sector institutions
☐☐	☐☐	Self-employed

☐☐☐☐ If you reported some non-academic employment, since how many years do you work in academe without interim phases of employment in other occupational areas?

A5 By how many institutions have you been employed since your

First degree	Highest degree	
☐☐	☐☐	Higher education institutions or research institutes
☐☐	☐☐	Other institutions (including self-employment)

A6 Please indicate the following

☐☐☐☐ Year of your first full-time appointment (beyond research and teaching assistant) in the higher education/research sector

☐☐☐☐ Year of your first appointment to your current institution (beyond research and teaching assistant)

☐☐☐☐ Year of your appointment/promotion to your current rank at your current institution

☐☐ For how many years have you interrupted your service at your current institution for family reasons , personal leave or full-time study? [If "0," so indicate]

A7 How is your employment situation in the current academic year at your higher education institution/research institute? [Check one only]

1 ☐ Full-time employed

2 ☐ Part-time employed, ☐☐ % of full-time

3 ☐ Part-time with payment according to work tasks

4 ☐ Other (please specify) .....

A8 Do you work for an additional employer or do additional remunerated work in the current academic year?

1 ☐ No

2 ☐ In addition to your current employer, you also work at another research institute or higher education institution

3 ☐ In addition to your current employer, you also work at a business organization outside of academe

4 ☐ In addition to your current employer, you also work at a non-profit organization or government entity outside of academe

5 ☐ In addition to your current employer, you are also self-employed.

6 ☐ Other: .....

(please specify)

A9 How would you describe your current institution?

Check one only

☐ NATCATs to identify a) Higher education institution or research institute and b) type of higher education institution and c) type of research institution

A10 What is your academic rank (If you work in a research institutions with ranks differing from those at higher education institutions, please choose the rank most closely corresponding to yours)?

1 ☐ NATCAT

2 ☐ NATCAT

3 ☐ NATCAT

4 ☐ NATCAT

5 ☐ NATCAT

6 ☐ NATCAT

7 ☐ NATCAT

8 ☐ Other: .....

(please specify)

A11 What is the duration of your current employment contract at your higher education institution or research institute? [Check only one]

Check only one

1 ☐ Permanently employed (tenured)

2 ☐ Continuously employed (no preset term, but no guarantee of permanence)

3 ☐ Fixed-term employment *with* permanent/continuous employment prospects (tenure-track)

4 ☐ Fixed-term employment *without* permanent/continuous employment prospects

5 ☐ Other: .....

(please specify)

A12 What is your overall annual gross income (including supplements) from the following sources?

☐☐☐☐ Your current higher education institution/research institute [NATCAT: Currency and number of boxes]

☐☐☐☐ All other concurrent employers[NATCAT: Currency and number of boxes

☐☐☐☐ Other income (e.g. self-employment) [NATCAT: Currency and number of boxes]

A13 During the current academic year, have you done any of the following?

Check all that apply

1 ☐ Served as a member of national/international scientific committees/boards/bodies

2 ☐ Served a peer reviewer (e.g. for journals, research sponsors, institutional evaluations)

3 ☐ Served as an editor of journals/book series

4 ☐ Served as an elected officer or leader in professional/academic associations/organizations

5 ☐ Served as an elected officer or leader of unions

6 ☐ Been substantially involved in local, national or international politics

7 ☐ Been a member of a community organizations or participated in community-based projects

8 ☐ Worked with local, national or international social service agencies

9 ☐ Other: .....

(please specify)

A14 Within the last five years, have you considered a major change in your job? And did you take concrete actions to make such a change? [If yes, check all that apply in both columns A and B. If no, so indicate in column A and skip to B1]

Considered	Concrete action taken	
1 ☐	1 ☐	To a management position in your higher education/research institution
2 ☐	2 ☐	To an academic position in another higher education/research institute within the country
3 ☐	3 ☐	To an academic position in another country
4 ☐	4 ☐	To work outside higher education/research institutes
5 ☐		No, I have not considered making any major changes in my job

B. General Work Situation and Activities

B1 Considering all your professional work, how many hours do you spend in a typical week on each of the following activities? [If you are not teaching during the current academic year, please reply to the second column only.]

Hours per week when classes are in session	Hours per week when classes are not in session	
☐☐	☐☐	Teaching (preparation of instructional materials and lesson plans, classroom instruction, advising students, reading and evaluating student work)
☐☐	☐☐	Research (reading literature, writing, conducting experiments, fieldwork)
☐☐	☐☐	Service (services to clients and/or patients, unpaid consulting, public or voluntary services)
☐☐	☐☐	Administration (committees, department meetings, paperwork)
☐☐	☐☐	Other academic activities (professional activities not clearly attributable to any of the categories above)

B2 Regarding your own preferences, do your interests lie *primarily* in teaching or in research?

Check only one

1 ☐ Primarily in teaching

2 ☐ In both, but leaning towards teaching

3 ☐ In both, but leaning towards research

4 ☐ Primarily in research

B3 At this institution, how would your evaluate each of the following facilities, resources, or personnel you need to support your work?

Excellent 1	2	3	4	Poor 5	
☐	☐	☐	☐	☐	Classrooms
☐	☐	☐	☐	☐	Technology for teaching
☐	☐	☐	☐	☐	Laboratories
☐	☐	☐	☐	☐	Research equipment and instruments
☐	☐	☐	☐	☐	Computer facilities
☐	☐	☐	☐	☐	Library facilities and services
☐	☐	☐	☐	☐	Your office space
☐	☐	☐	☐	☐	Secretarial support
☐	☐	☐	☐	☐	Telecommunications (Internet, networks, and telephones)
☐	☐	☐	☐	☐	Teaching support staff
☐	☐	☐	☐	☐	Research support staff
☐	☐	☐	☐	☐	Research funding

B4 Please indicate the degree to which each of the following affiliations is important to you.

Very important 1	2	3	4	Not at all important 5	
☐	☐	☐	☐	☐	My academic discipline/field
☐	☐	☐	☐	☐	My department (at this institution)
☐	☐	☐	☐	☐	My institution

B5 Please indicate your views on the following

Strongly Agree 1	2	3	4	Strongly Disagree 5	
☐	☐	☐	☐	☐	Scholarship is best defined as the preparation and presentation of findings on original research
☐	☐	☐	☐	☐	Scholarship includes the application of academic knowledge in real-life settings
☐	☐	☐	☐	☐	Scholarship includes the preparation of reports that synthesize the major trends and findings of my field
☐	☐	☐	☐	☐	This is a poor time for any young person to begin an academic career in my field
☐	☐	☐	☐	☐	If I had it to do over again, I would not become an academic
☐	☐	☐	☐	☐	My job is a source of considerable personal strain
☐	☐	☐	☐	☐	Teaching and research are hardly compatible with each other
☐	☐	☐	☐	☐	Faculty in my discipline have a professional obligation to apply their knowledge to problems in society

B6 How would you rate your overall satisfaction with your current job?

Very high 1	2	3	4	Very low 5
☐	☐	☐	☐	☐

B7 Since you started your career, have the overall working conditions in higher education and research institutes improved or declined?

Very much improved 1	2	3	4	Very much deteriorated 5	
☐	☐	☐	☐	☐	Working conditions in higher education
☐	☐	☐	☐	☐	Working conditions in research institutes

C. Teaching (Refer to the current academic year or the previous academic year (if you do not teach in this academic year). If you do not/did not teach in this or the previous academic year go to section D)

C1 Please indicate the proportion of your teaching responsibilities during the current academic year that are devoted to instruction at each level below and the approximate number of students you instruct at each of these levels

Percent of instruction time	Approximate average number of students per course	
☐☐	☐☐☐	(NATCAT) Undergraduate programs
☐☐	☐☐☐	(NATCAT) Master programs
☐☐	☐☐☐	(NATCAT) Doctoral programs
☐☐	☐☐☐	(NATCAT) Continuing professional education programs
☐☐	☐☐☐	Others

C2 During the current (or previous) academic year, have you been involved in any of the following teaching activities?

Check all that apply

1 ☐ Classroom instruction/lecturing
2 ☐ Individualized instruction
3 ☐ Learning in projects/project groups
4 ☐ Practice instruction/ laboratory work
5 ☐ ICT-based learning/computer-assisted learning
6 ☐ Distance education
7 ☐ Development of course material
8 ☐ Curriculum/program development
9 ☐ Face-to-face interaction with students outside of class
10 ☐ Electronic communications (e-mail) with students

C3 Does your institution set quantitative load targets or regulatory expectations for individual faculty for the following:

Check all that apply

1 ☐ Number of hours in the classroom
2 ☐ Number of students in your classes
3 ☐ Number of graduate students for supervision
4 ☐ Percentage of students passing exams
5 ☐ Time for student consultation

C4 Please indicate your views on the following:

Strongly agree 1	2	3	4	Strongly disagree 5	
☐	☐	☐	☐	☐	You spend more time than you would like teaching basic skills due to student deficiencies
☐	☐	☐	☐	☐	You are encouraged to improve your instructional skills in response to teaching evaluations
☐	☐	☐	☐	☐	At your institution there are adequate training courses for enhancing teaching quality
☐	☐	☐	☐	☐	Practically oriented knowledge and skills are emphasized in your teaching
☐	☐	☐	☐	☐	In your courses you emphasize international perspectives or content
☐	☐	☐	☐	☐	You incorporate discussions of values and ethics into your course content
☐	☐	☐	☐	☐	You inform students of the implications of cheating or plagiarism in your courses
☐	☐	☐	☐	☐	Grades in your courses strictly reflect levels of student achievement
☐	☐	☐	☐	☐	Since you started teaching, the number of international students has increased
☐	☐	☐	☐	☐	Currently, most of your graduate students are international
☐	☐	☐	☐	☐	Your research activities reinforce your teaching
☐	☐	☐	☐	☐	Your service activities reinforce your teaching

C5 During the current (or previous) academic year, are you teaching any courses.

Check all that apply

1 ☐ Abroad

2 ☐ in a language different from the language of instruction at your current institution

D. Research (Refer to the current academic year or the previous academic year (if you are not active in research in this academic year). If you are not/were not active in research in this or the previous academic year go to section E.)

D1 How would you characterize your research efforts undertaken during this (or the previous) academic year?

Yes	No	
1 ☐	1 ☐	Are you working individually/without collaboration on any of your research projects?
2 ☐	2 ☐	Do you have collaborators in any of your research projects?
3 ☐	3 ☐	Do you collaborate with persons at other institutions in your country?
4 ☐	4 ☐	Do you collaborate with international colleagues?

D2 How would you characterize the emphasis of your primary research this (or the previous) academic year?

Very much 1	2	3	4	Not at all 5	
☐	☐	☐	☐	☐	Basic/theoretical
☐	☐	☐	☐	☐	Applied/practically-oriented
☐	☐	☐	☐	☐	Commercially-oriented/intended for technology transfer
☐	☐	☐	☐	☐	Socially-oriented/intended for the betterment of society
☐	☐	☐	☐	☐	International in scope or orientation
☐	☐	☐	☐	☐	Based in one discipline
☐	☐	☐	☐	☐	Multi-/interdisciplinary

D3 Have you been involved in any of the following research activities during this 9or the previous) academic year?

Check all that apply

1 ☐ Preparing experiments, inquiries etc.

2 ☐ Conducting experiments, inquiries etc.

3 ☐ Supervising a research team or graduate research assistants

4 ☐ Writing academic papers that contain research results or findings

5 ☐ Involved in the process of technology transfer

6 ☐ Answering calls for proposals or writing research grants

7 ☐ Managing research contracts and budgets

8 ☐ Purchasing or selecting equipment and research supplies

D4 How many of the following scholarly contributions have you completed in the past *three* years?

(Number completed in the past three years)

☐☐ Scholarly books you authored or co-authored

☐☐ Scholarly books you edited or co-edited

☐☐ Articles published in an academic book or journal

☐☐ Research report/monograph written for a funded project

☐☐ Paper presented at a scholarly conference

☐☐ Professional article written for a newspaper or magazine

☐☐ Patent secured on a process or invention

☐☐ Computer program written for public use

☐☐ Artistic work performed or exhibited

☐☐ Video or film produced

☐☐ Others (please specify): .....

(please specify)

D5 Which percentage of your publications in the last three years were

☐☐☐ published in a language different from the language of instruction at your current institution

☐☐☐ co-authored with colleagues located in the country of your current employment

☐☐☐ co-authored with colleagues located in other (foreign)countries

☐☐☐ published in a foreign country

☐☐☐ On-line or electronically published

☐☐☐ Peer-reviewed

D6 Please indicate your views on the following

Strongly agree 1	2	3	4	Strongly disagree 5	
☐	☐	☐	☐	☐	Restrictions on the publication of results from my publicly-funded research have increased since my first appointment
☐	☐	☐	☐	☐	Restrictions on the publication of results from my privately-funded research have increased since my first appointment
☐	☐	☐	☐	☐	External sponsors or clients have no influence over my research activities
☐	☐	☐	☐	☐	The pressure to raise external research funds has increased since my first appointment
☐	☐	☐	☐	☐	Interdisciplinary research is emphasized at my institution
☐	☐	☐	☐	☐	Your institution emphasizes commercially-oriented or applied research
☐	☐	☐	☐	☐	Your research is conducted in full-compliance with ethical guidelines
☐	☐	☐	☐	☐	Research funding should be concentrated(targeted) on the most productive researchers
☐	☐	☐	☐	☐	High expectations to increase research productivity are a threat to the quality of research
☐	☐	☐	☐	☐	High expectations of useful results and application are a threat to the quality of research

D7 In the current (or previous) academic year, which percentage of the funding for your research came from

☐☐☐ Your own institution

☐☐☐ Public research funding agencies

☐☐☐ Government entities

☐☐☐ Business firms or industry

☐☐☐ Private not-for-profit foundations/agencies

☐☐☐ Others: .....

(please specify)

D8 In the current (or previous) academic year, which percentage of the *external* funding for your research came from

☐☐☐ National organizations/entities

☐☐☐ International organizations/entities

(please specify)

E. Management

E1 At your institution, which actor has the primary influence on each of the following decisions (please check only one column on each decision)?

Government or external stakeholders	Institutional managers	Academic Unit managers	Faculty committees/ boards	Individual faculty	Students	
☐	☐	☐	☐	☐	☐	Selecting key administrators
☐	☐	☐	☐	☐	☐	Choosing new faculty
☐	☐	☐	☐	☐	☐	Making faculty promotion and tenure decisions
☐	☐	☐	☐	☐	☐	Determining budget priorities
☐	☐	☐	☐	☐	☐	Determining the overall teaching load of faculty
☐	☐	☐	☐	☐	☐	Setting admission standards for undergraduate students
☐	☐	☐	☐	☐	☐	Approving new academic programs
☐	☐	☐	☐	☐	☐	Evaluating teaching
☐	☐	☐	☐	☐	☐	Setting internal research priorities
☐	☐	☐	☐	☐	☐	Evaluating research
☐	☐	☐	☐	☐	☐	Establishing international linkages

E2 How influential are *you*, personally, in helping to shape key academic policies?

Very influential	Somewhat influential	A little influential	Not at all influential	Not applicable	
☐	☐	☐	☐	☐	At the level of the department or similar unit
☐	☐	☐	☐	☐	At the level of the faculty, school or similar unit
☐	☐	☐	☐	☐	At the institutional level

E3 By whom is your teaching, research, and service regularly evaluated?

Check all that apply

Your teaching	Your research	Your service	
1 ☐	1 ☐	1 ☐	Your peers in your department or unit
2 ☐	2 ☐	2 ☐	The head of your department or unit
3 ☐	3 ☐	3 ☐	Members of other departments or units at this institution
4 ☐	4 ☐	4 ☐	Senior administrative staff at this institution
5 ☐	5 ☐	5 ☐	Your students
6 ☐	6 ☐	6 ☐	External reviewers
7 ☐	7 ☐	7 ☐	Yourself (formal self-assessment)
8 ☐	8 ☐	8 ☐	No one at or outside my institution

E4 At my institution there is…

Strongly agree 1	2	3	4	Strongly disagree 5	
☐	☐	☐	☐	☐	… A strong emphasis on the institution's mission
☐	☐	☐	☐	☐	… Good communication between management and academics
☐	☐	☐	☐	☐	… A top-down management style
☐	☐	☐	☐	☐	… Collegiality in decision-making processes
☐	☐	☐	☐	☐	… A strong performance orientation
☐	☐	☐	☐	☐	… A cumbersome administrative process
☐	☐	☐	☐	☐	… A supportive attitude of administrative staff towards teaching activities
☐	☐	☐	☐	☐	… A supportive attitude of administrative staff towards research activities
☐	☐	☐	☐	☐	…professional development for administrative/management duties for individual faculty

E5 Please indicate your views on the following issues.

Strongly agree 1	2	3	4	Strongly disagree 5	
☐	☐	☐	☐	☐	Top-level administrators are providing competent leadership
☐	☐	☐	☐	☐	I am kept informed about what is going on at this institution
☐	☐	☐	☐	☐	Lack of faculty involvement is a real problem
☐	☐	☐	☐	☐	Students should have a stronger voice in determining policy that affects them
☐	☐	☐	☐	☐	The administration supports academic freedom

E6 To what extent does your institution emphasize the following practices?

Very much 1	2	3	4	Not at all 5	
☐	☐	☐	☐	☐	Performance based allocation of resources to academic units
☐	☐	☐	☐	☐	Evaluation based allocation of resources to academic units
☐	☐	☐	☐	☐	Funding of departments substantially based on numbers of students
☐	☐	☐	☐	☐	Funding of departments substantially based on numbers of graduates
☐	☐	☐	☐	☐	Considering the research quality when making personnel decisions
☐	☐	☐	☐	☐	Considering the teaching quality when making personnel decisions
☐	☐	☐	☐	☐	Considering the practical relevance/applicability of the work of colleagues when making personnel decisions
☐	☐	☐	☐	☐	Recruiting faculty who have work experience outside of academia
☐	☐	☐	☐	☐	Encouraging academics to adopt service activities/entrepreneurial activities outside the institution
☐	☐	☐	☐	☐	Encouraging individuals, businesses, foundations etc. to contribute more to higher education

F. Personal Background

F1 What is your gender?

1 ☐ Male

2 ☐ Female

F2 Year of birth

☐☐☐☐ Year

F3 What is your familial status

1 ☐ Married/partner

2 ☐ Single

3 ☐ Other: .....

(please specify)

F4 If married/partner, is she/he employed?

1 ☐ Yes, full-time

2 ☐ Yes, part-time

3 ☐ No

F5 Is your spouse/partner also an academic?

1 ☐ Yes

2 ☐ No

F6 Do you have children living with you?

1 ☐ Yes, 1 child

2 ☐ Yes, 2 children

3 ☐ Yes, 3 or more children

4 ☐ No

F7 Did you ever interrupt your employment in order to provide child or elder care in the home?

1 ☐ Yes

2 ☐ No

☐☐ If yes, for how many years?

F8 What is your parents' highest, and if applicable, partner's highest education level?

Father	Mother	Partner	
1 ☐	1 ☐	1 ☐	Entered and/or completed tertiary education
2 ☐	2 ☐	2 ☐	Entered and/or completed secondary education
3 ☐	3 ☐	3 ☐	Entered and/or completed primary education
4 ☐	4 ☐	4 ☐	No formal education
5 ☐	5 ☐	5 ☐	Not applicable

F9 What was/is your nationality/citizenship and your country of residence

	Citizenship	Country of Residence
At birth	.....	.....
At the time of your first degree	.....	.....
Currently	.....	.....
	(please specify)	(please specify)

F10 What is first language/mother tongue?

.....

(please specify)

F11 Which language do you primarily employ in teaching?

1 ☐ First language/mother tongue

2 ☐ Other: .....

(please specify)

F12 Which language do you primarily employ in research?

1 ☐ First language/mother tongue

2 ☐ Other: .....

(please specify)

F13 How many years since the award of your first degree have you spent…

☐☐ …in the country of your first degree

☐☐ …in the country in which you are currently employed, if different from the country of your first degree

☐☐ …in other countries (outside the country of your first degree and current employment)

Appendix 2: Conference Program

The Changing Academic Profession in International Comparative and Quantitative Perspectives

Date: January 28-29, 2008
Venue: Hiroshima Garden Palace

Monday, January 28

8:30 - Registration

Opening Ceremony

9:00 - 9:20 **Opening Remarks**
Toshimasa Asahara, President, Hiroshima University, Japan
Susumu Takahashi, President, Hijiyama University, Japan
Shinichi Yamamoto, Director & Professor, Research Institute for Higher Education, Hiroshima University, Japan
Akira Arimoto, Director & Professor, Research Institute for Higher Education, Hijiyama University, Japan

9:20 - 9:30 **Orientation**
Futao Huang, Professor, Research Institute for Higher Education, Hiroshima University, Japan

Session 1: Morning Session

Chairs:
Motohisa Kaneko, Dean & Professor, Graduate School of Education, The University of Tokyo, Japan
Ulrich Teichler, Professor & former Rector, International Centre for Higher Education Research Kassel (INCHER-Kassel), University of Kassel, Germany

9:30 - 10:00 **Keynote Speech 1**
"International Implications of the Changing Academic Profession in Japan"
Akira Arimoto, Director & Professor, Research Institute for Higher Education, Hijiyama University, Japan

10:00 - 10:30 **Keynote Speech 2**
"What we can learn from International Indicators about the context for Change in the Academic Profession"
William K. Cummings, Professor, Graduate School of Education and Human Development, The George Washington University, USA

10:30 - 10:40 Q & A

10:40 - 10:50 Coffee Break

***** Country Reports (North America) *****

10:50 - 11:20 **Presentation 1: Canada**

"The Changing Academic Profession in Canada: Exploring Themes of Relevance, Internationalization, and Management"

Amy S. Metcalfe, Assistant Professor, Higher Education Department of Educational Studies, Faculty of Education, University of British Columbia, Canada

11:20 - 11:50 **Presentation 2: USA**

"The American Professorate in an Age of Globalization"

Martin Finkelstein, Professor, College of Education and Human Services, Seton Hall University, USA

11:50 - 12:20 Discussion

12:20 - 13:20 Lunch

Session 2: Afternoon Session

Chairs:

Takekazu Ehara, Professor, Center for Development and Support of Higher Education, Ritsumeikan University, Japan

V. Lynn Meek, Director & Professor, Centre for Higher Education Management and Policy (CHEMP), University of New England, Australia

***** Country Reports (European Countries) *****

13:20 - 13:50 **Presentation 3: UK**

"The UK Academic Profession: still stratified after all these years?"

William D. Locke, Principle Policy Analyst and Assistant Director, Centre for Higher Education Research and Information (CHERI), The Open University, UK

13:50 - 14:20 **Presentation 4: Finland**

"Report from Finland"

Seppo Нцlttд, Professor & Head of Higher Education Group, Department of Management Studies, University of Tampere, Finland

14:20 - 14:50 **Presentation 5: Norway**

"Report from Norway"

Svein Kyvik, Senior Researcher, NIFU STEP Studies in

Innovation, Research and Education, Norway

14:50 - 15:20 **Presentation 6: Germany**
"Changes in the Situation and Views of Junior Academic Staff in Germany"
Ulrich Teichler, Professor & former Rector, INCHER-Kassel, University of Kassel, Germany
Oliver Bracht, Research Associate, INCHER-Kassel, University of Kassel, Germany

15:20 - 15:30 Coffee Break

15:30 - 16:00 **Presentation 7: Romania**
"Report from Romania"
Remus Pricopie, Dean & Associate Professor, College of Communication and Public Relations, National University of Political Studies and Public Administration, Romania

16:00 - 16:30 **Presentation 8: Portugal**
"Report from Portugal"
Manuel Graça, Researcher, Centre for Research on Higher Education Policies (CIPES), Portugal

16:30 - 17:00 **Presentation 9: Italy**
"The Academic Profession in Italy: first results from the 'Changing Academic Profession' survey"
Michele Rostan, Director, Center for Study and Research on Higher Education Systems, University of Paria, Italy

17:00 - 17:30 Discussion

18:00 - 20:00 Reception at Hiroshima Garden Palace
MC:
Jun Oba, Associate Professor, Research Institute for Higher Education, Hiroshima University, Japan

Tuesday, January 29

8:30 - Registration

Session 3: Morning Session

Chairs:
Aya Yoshida, Professor, National Institute for Multimedia Education, Japan
William D. Locke, Principle Policy Analyst & Assistant Director, CHERI, The Open University, UK

***** Country Reports (Asia-Pacific Region) *****

9:00 - 9:30 **Presentation 10: Australia**

"Report on Changes to the Academic Profession in Australia"

V. Lynn Meek, Director & Professor, CHEMP, University of New England, Australia

Leo Goedegeburre, Associate Professor, CHEMP, University of New England, Australia

Hamish Coates, Senior Research Fellow, Australian Council for Educational Research, Australia

9:30 - 10:00 **Presentation 11: Malaysia**

"Governance and Decision-Making Relating to Academic Activities: the case of Higher Education Institutions in Malaysia"

Sirat Morshidi, Director & Professor, National Higher Education Research Institute (IPPTN), Universiti Sains Malaysia, Malaysia

Muhamadbin Jantan, Professor, Center for Policy Research, Universiti Sains Malaysia, Malaysia

10:00 - 10:30 **Presentation 12: China, Hong Kong**

"Changing Times for the Academic Profession in China's Hong Kong: a preliminary look at the results of the Second Survey"

Gerard A. Postiglione, Professor, Faculty of Education, University of Hong Kong, Hong Kong , China

(Co-authored by Li-fang Zhang and Hei Hang Hayes Tang)

10:30 - 10:45 Coffee Break

10:45 - 11:15 **Presentation 13: China (1)**

"Development of the Academic Profession in China: based on a National Survey"

Hong Shen, Vice Dean & Professor, Graduate School of Education, Huazhong University of Science and Technology, China

11:15 - 11:45 **Presentation 14: China (2)**

"The Analyses of Educational Backgrounds and career paths of faculty in Higher Education Institutions in Beijing"

Fengqiao Yan, Professor, Graduate School of Education, Peking University, China

11:45 - 12:30 **Presentation 15: Japan**
"The Changing Academic Profession in an Era of University Reform in Japan"
Atsunori Yamanoi, Dean & Professor, Faculty of Childhood Education, Kurashiki Sakuyo University, Japan
Tsukasa Daizen, Professor, Research Institute for Higher Education, Hiroshima University, Japan
12:30 - 13:00 Discussion
13:00 - 14:00 Lunch

Session 4: Afternoon Session
Chairs:
Shinichi Yamamoto, Director & Professor, Research Institute for Higher Education, Hiroshima University, Japan
William K. Cummings, Professor, Graduate School of Education and Human Development, The George Washington University, USA
***** Country Reports (Latin America) *****
14:00 - 14:30 **Presentation 16: Brazil**
"The Changing Academic Profession: the Brazilian case"
Elizabeth Balbachevsky, Associate Professor, Department of Political Science, University of São Paulo, Brazil
(Co-authored by Simon Schwartzman)
14:30 - 15:00 **Presentation 17: Mexico**
"Mexican Academics at the Turn of the Twenty-First Century: who are they and how they perceive their work, institutions and public policies?"
Jesús F. Galaz-Fontes, Professor, Faculty of Human Science, Autonomous University of Baja California, Mexico
15:00 - 15:30 **Presentation 18: Argentina**
"The Academic Profession in Argentina: characteristics and trends in the context of a mass higher education system"
Monica Marquina, Research Professor, Institute of Human Development, National University of General Sarmiento, Argentina
15:30 - 16:00 Discussion
16:00 - 16:15 Coffee Break

	Chairs: William K. Cummings, Professor, Graduate School of Education and Human Development, The George Washington University, USA Sirat Morshidi, Director & Professor, IPPTN, Universiti Sains Malaysia, Malaysia
16:15 - 17:40	**General Discussion** On major topics concerning the changing academic profession
17:40 - 17:50	**Concluding Remarks** Futao Huang, Professor, Research Institute for Higher Education, Hiroshima University, Japan
17:50 - 18:00	**Closing Speeches** Akira Arimoto, Director & Professor, Research Institute for Higher Education, Hijiyama University, Japan Shinichi Yamamoto, Director & Professor, Research Institute for Higher Education, Hiroshima University, Japan

∗ The participants from Norway and Romania did not attend the conference.

Appendix 3: List of Participants*

OVERSEAS PARTICIPANTS

Invited Experts

Argentina

Monica Marquina	Research Professor, Institute of Human Development, National University of General Sarmiento

Australia

V. Lynn Meek	Director and Professor, CHEMP, University of New England

Brazil

Elizabeth Balbachevsky	Associate Professor, Department of Political Science, University of Sao Paulo

Canada

Amy S. Metcalfe	Assistant Professor, University of British Columbia

China

Hong Shen	Vice Dean and Professor, Graduate School of Education, Huazhong University of Science and Technology
Fengqiao Yan	Professor, Graduate School of Education, Peking University
Gerard A. Postiglione	Professor, Faculty of Education, University of Hong Kong

Finland

Timo Aarrevaara	Professor, University of Tampere

Germany

Oliver Bracht	Research Associate, INCHER-Kassel, University of Kassel
Ulrich Teichler	Professor and former Rector, INCHER-Kassel, University of Kassel

Italy

Michele Rostan	Director, Center for Study and Research on Higher Education Systems, University of Paria

Malaysia

Sirat Morshidi	Director and Professor, National Higher Education Research Institute (IPPTN), Universiti Sains Malaysia

* As of January, 2008

Mexico

Jesús F. Galaz-Fontes	Professor, Autonomous University of Baja California

Portugal

Manuel Graça	Researcher, Centre for Research on Higher Education Policies (CIPES)

UK

William D. Locke	Principle Policy Analyst and Assistant Director, CHERI, the Open University

USA

William K. Cummings	Professor, George Washington University
Martin Finkelstein	Professor, Seton Hall University

Participants

Australia

Loe Goedegebuure	Associate Professor, CHEMP, University of New England
Hamishi Coates	Senior Research Fellow, Australian Council for Educational Research

Korea

Jung-Cheol Shin	Research Professor, Seoul National University

Malaysia

Muhamadbin Jantan	Professor, Center for Policy Research, Universiti Sains Malaysia

Mexico

Laura Padilla Gonzalez	Professor, Autonomous University of Aguascalientes
Maria de los Dolores Ramirez Gordillo	Associate Professor, Autonomous University of Aguascalientes
Sergio Martinez Romo	Professor, University of Metropolitan
Jose Luis Arcos-Vega	Associate Professor, Autonomous University of Baja California
Juan Jose Sevilla-Garcia	Professor, Autonomous University of Baja California

and another 12 overseas participants

JAPANESE PARTICIPANTS

Presidents

Toshimasa Asahara	President, Hiroshima University
Susumu Takahashi	President, Hijiyama University

Invited Experts

Akira Arimoto	Director and Professor, Hijiyama University
Takekazu Ehara	Professor, Ritsumeikan University
Masashi Fujimura	Professor, Nigata University
Motohisa Kaneko	Dean and Professor, University of Tokyo
Hiroaki Urata	Professor, Meijo University
Atsunori Yamanoi	Dean and Professor, Kurashiki Sakuyo University
Aya Yoshida	Professor, National Institute for Multimedia Education

Research Institute for Higher Education（RIHE）

Shinichi Yamamoto	Director and Professor
Ikuo Kitagaki	Professor
Tsukasa Daizen	Professor
Futao Huang	Professor
Naoyuki Ogata	Associate Professor
Jun Oba	Associate Professor
Masataka Murasawa	Associate Professor
Kazunori Shima	Associate Professor
Keith J. Morgan	Visiting Professor
Jussi Valimaa	Visiting Professor

and another 32 Japanese Participants

R.I.H.E. PUBLICATION IN ENGLISH

RIHE International Publication Series

No. 1: Kaneko, M. (1987). *Enrollment Expansion in Postwar Japan*.

No. 2: Guocai, Z. (1989). *Higher Education Research in China: An Annotated Bibliography*.

No. 3: Abe, Y. (1989). *Non-University Sector Higher Education in Japan*.

No. 4: Kaneko, M. (1989). *Financing Higher Education in Japan: Trends and Issues*.

No. 5: Kaneko, M. (1992). *Higher Education and Employment in Japan: Trends and Issues*.

No. 6: Morgan, J. Keith (1999). *Universities and the Community: Use of Time in Universities in Japan.*

No. 7: Arimoto, A. (ed.) (2001). *University Reforms and Academic Governance: Reports of the 2000 Three-Nation Workshop on Academic Governance*.

No. 8: Arimoto, A. (ed.) (2002). *University Reforms and Academic Governance Reconsidered: Report of the Six-Nation Higher Education Research Project*.

No. 9: Arimoto, A., Huang, F., and Yokoyama, K. (eds.) (2005). *Globalization and Higher Education.*

No.10: Huang, F. (ed.) (2006). *Transnational Higher education in Asia and the Pacific Region.*

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Higher Education Forum Vol. 2 (2005).

Higher Education Forum Vol. 3 (2006).

Higher Education Forum Vol. 4 (2007).

Higher Education Forum Vol. 5 (2008).

Higher Education Research in Japan

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Higher Education Research in Japan Vol. 3 (2006).

Higher Education Research in Japan Vol. 4 (2007).

Higher Education Research in Japan Vol. 5 (2008).

COE Publication Series

No. 6: *Construction and Quality Assurance of 21st Century Higher Education* (Reports of the 2003 COE International Symposium) (2003).

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RIHE International Seminar Reports

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No. 2: *Higher Education for the 1980s: Challenges and Responses* (Report of the Second Hiroshima International Seminar on Higher Education) (1980).

No. 3: *Innovations in Higher Education: Exchange of Experiences and Ideas in International Perspective* (Reports of the Hiroshima/OECD Meeting of Experts on Higher Education and the Seminar on Innovations in Higher Education) (1981).

No. 4: *Comparative Approach to Higher Education: Curriculum, Teaching and Innovations in an Age of Financial Difficulties* (Reports of the Hiroshima/OECD Meetings of Experts) (1983).

No. 5: *The Changing Functions of Higher Education: Implications for Innovation* (Reports from the 1984 OECD/JAPAN Seminar on Higher Education), (1985).

No. 6: *Higher Education Expansion in Asia* (Reports from the 1985 International Seminar on Asian Higher Education) (1985).

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No. 8: *The Role of Government in Asian Higher Education Systems: Issues and Prospects* (Report from the Fourth International Seminar on Higher Education in Asia) (1988).

No. 9: *Foreign Students and Internationalizaion of Higher Education* (Proceedings of OECD/JAPAN Seminar on Higher Education and the Flow of Foreign Students) (1989).

No. 10: *Academic Reforms in the World: Situation and Perspective in the Massification Stage of Higher Education* (Reports of the 1997 Six-Nation Higher Education Project Seminar) (1997).

No. 11: *Higher Education Reform for Quality Higher Education Management in the 21st Century: Economic, Technological, Social and Political Forces Affecting Higher Education* (Proceedings of the 1999 Six-Nation Presidents' Summit in Hiroshima) (2000).

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