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The Analyses of Educational Backgrounds and Career Paths of Faculty in Higher Education Institutions in Beijing

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[Abstract]: There are some long-standing problems in China's higher education institutions (HEIs), such as monotonous educational background and stagnation of faculty as a result of faculty recruiting from a pool of graduates and permanent employment. The survey is focused on faculty's educational backgrounds and work experiences. All together 3,220 valid questionnaires have been collected from 22 universities and colleges in Beijing by stratified sampling. We have had the following conclusions after conducting statistical analyses of faculty's questionnaire.

With regard to faculty's educational backgrounds, statistical results show that 1) All together 38.4 percent of faculty hold doctor degrees. There is a marked difference in doctor, master and bachelor degree combinations among different tiers of institutions. We see an inverted triangle in key universities, an olive curve in ordinary universities and a pyramid in vocational colleges. 2) The trend is clear and optimistic that younger faculty tend to hold higher degrees than senior ones. 3) The educational backgrounds of faculty in HEIs are monotonous that 45.2 percent of faculty receive all their degrees in one institution. 4) 18 percent of faculty have multiple-disciplinary experience in their formal education. The proportion is higher in social sciences than in natural sciences and humanities. 5) Roughly 25.7 percent of faculty work in the same institutions where they got their highest degree. The proportion is higher in key universities than in ordinary universities and vocational colleges, higher in natural

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sciences than in social sciences and humanities.

With regard to career paths, statistical results show that 1) Among the samples, professors account for 14 percent, associate professors for 35 percent, and lecturers and assistant professors for 51 percent. There are a higher proportion of senior titles (professors and associate professors) in key universities in contrast to a higher proportion of junior titles (lecturers and assistant professors) in ordinary universities and vocational colleges. 2) Faculty are stagnant with a little mobility. More than 60 percent of faculty members with various academic titles get promoted in the same institutions. By comparison, junior faculty members tend to be promoted in the same institutions, and senior faculty members tend to have once mobility. 3) By studying direction of cross-institutional mobility, 50 percent of cross institutional promotions are within the same tiers of institutions, 31.7 percent upward, 11.6 percent downward, and 5.9 percent for other cases (more than one cross-institution promotion). 4) 26.2 percent of faculty members have had working experience outside the educational system.

[Key words]: Beijing, higher education institution, faculty, educational backgrounds, career paths

Section One: Research Question

Academic profession is specifically referred to faculty in HEIs (Light, 1977:11). China's higher education system is ranked the first place in the world by measure of enrolment. Correspondingly, it has one of the biggest faculty profiles. However, little empirical research has been done with regard to academic profession. The importance of the research on the topic is not only due to the size but also due to special academic ecology that shapes the academic profession. Modern university is originated from European universities in medieval ages (Arimoto, 2007:5). When European university prototype spread out all over the world, and it was embedded in specific societies with idiosyncratic characters. This is why we see many diverse higher education systems (Clark, 1983; Arimoto, 2007:8). By the same token, it is assumed that academic profession obtains idiosyncratic characters in the embedding higher education system (Enders, 2006:16).

What are idiosyncratic characters of Chinese academic profession that this paper is exploring? To get answer to this question, it is necessary to make a comparison between Chinese firms and western firms at the outset. Scholars termed Chinese firms by *danwei*, the characteristics of which are formed in a state-controlled system and differ from organizations in market systems. Not only is *danwei* an economic unit, but also it is a political and social unit (Lu and Perry, 1997:5). From political perspective, *danwei* is penetrated by the ruling party. From social perspective, *danwei* is a small and self-sufficient society in which no exchange is necessary between *danwei*. In *danwei*, the relationship between employers and employees is not a market type but a dependent type (Walder, 1996:12). Like Chinese firms, Chinese HEIs also take some political and social functions and differ from western universities (Yan, 2004). In addition to above generalization, Chinese academic profession is specifically characterized with monotonous educational background, stagnation or low mobility, permanent employment or so called "iron rice bowl" and so forth. In 1997, the National Education Commission (now the Ministry of Education) organized a national survey on faculty. The survey result shows that faculty who study and work in the

same institution and the same discipline account for 33 percent, faculty who study and work in the same institution but different disciplines account for 5 percent, and faculty who study and work in different institutions but the same discipline account for 62 percent. The phenomenon is more remarkable for key universities in which their faculty recruitment is constrained to their own graduates to much extent. This leads to three generations of scholars working under the same roof (Ma, 2001; Zhang, 2004:32).

Academic openness or closeness has significant impacts on academic productivity. Academic openness has positive impacts on academic productivity, but academic closeness has negative impacts on academic productivity. Academic inbreeding is one kind of academic closeness, and it is specified as a scenario where faculty continues to teach in the same university or college from which he/she graduated. International experiences tell that apprenticeship in small chair system leads to academic inbreeding and nepotism. Owing to the drawback, small chair system has been replaced by large chair system which is supposed to be conducive to academic productivity and creativity. Since 19th century, Harvard, Yale and Princeton universities have controlled their inbreeding ratio below 30 percent (Arimoto, 2007:16). In addition, regulatory frameworks have been laid down in many western universities, such as, preventing graduates from teaching where they studied, having faculty to be promoted up or out, recruiting in public and fostering an academic labor market. Some universities in Germany and the United States even forbid promotion of full professors from inside applicants. British universities abolished faculty permanent employment. Japanese universities changed their faculty status from civil servant to employee (Yan, 2005).

This research concerns what is magnitude of inbreeding and what is academic vitality in Chinese HEIs. By analyzing educational backgrounds and career paths of faculty in HEIs in Beijing, this paper intends to explore idiosyncratic characters of Chinese academic profession. Because academic profession is challenged as a whole concept

for analysis, it should be divided into sub-categories according to discipline, institutional type, and title (Enders, 2006:9-10). In the following sections, attention will be paid to whole concept and as well as sub-categories. Three types of disciplines are classified into natural sciences, social sciences and humanities. Three tiers of HEIs are classified into key university, ordinary university and vocational college. Four titles are classified into professor, associate professor, researcher and assistant professor.

Section Two: Faculty's Educational Backgrounds

Faculty's academic degree combination (*xueyuan guanxi*) refers to a relatively steady inheriting relationship among the faculty's learning and theories (Ma, 2001), or institutional composition of the highest degrees held by all faculties (Wu and Xiong, 2000). Some other scholars deem that it is necessary to examine specialty and standing in addition to the institutional composition (Zhang and Zhao, 2003). The common issue for all definitions is academic inbreeding, and it can be derived from faculty's educational backgrounds. A faculty's educational background is considered to be diverse if he/she works in a university or college other than where he/she studied, or to be monotonous if in the same one. If the latter is a popular phenomenon, it means that students have less access to different knowledge and ways of thinking, which is rhetorically referred to as academic inbreeding.

In order to study the issue, we designed a questionnaire with questions regarding the educational institutions, majors and the year of admission as well as that of graduation for each degree, etc. The survey is based on stratified sampling. All together, 3,220 valid questionnaires have been collected from 22 universities and colleges, among which 1,919 questionnaires are from 11 key universities, 822 questionnaires are from 6 ordinary universities and 479 questionnaires are from 5 vocational colleges. Table 1 reveals a list of surveyed institutions and questionnaires from each institution.

Table 1: Valid Questionnaires Dispersion

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 represent the number of valid questionnaires.

1. Academic Degrees Held by Faculty

Academic degree is a basic indicator of faculty competency. Faculty in HEIs of Europe and North America is required to hold advanced degrees in specified areas. Doctoral degree or highest professional degrees are prerequisite for many HEIs (Light, 1977:14). When China laid down academic degree system in 1980, faculty's educational backgrounds have been upgraded appealingly. However, it still lags far behind faculty in developed countries. The degree combination has been calculated based on data obtained from questionnaires (see Table 2).

Table 2: Degree Combination

Unit : %

	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 questionnaires are available, with 1,796 from key universities, 764 from ordinary universities and 370 from vocational colleges.

Table 2 indicates that nearly 80 percent of faculty holds a master's degree or above, among which 38.3 percent hold a doctorate. There is a marked difference in degree among different tiers of institutions. Inverted triangle is shown for key universities as 53.1 percent of faculty is doctor, 33.3 percent of faculty is master, and 13.6 percent of faculty is bachelor. Olive curve is shown for ordinary universities as 57.3 percent of faculty is masters, 20.8 percent and 21.9 percent of faculty are bachelor and doctor respectively. Pyramid is shown for vocational colleges as less than 1 percent of faculty is doctor and bachelor to master ratio is nearly 3:2.

In order to carry out more thorough study, we divide faculty into three subgroups aging from 20 to 35, 36 to 50 and 51 above. Figure 1 depicts percentage of degrees held by three subgroups.

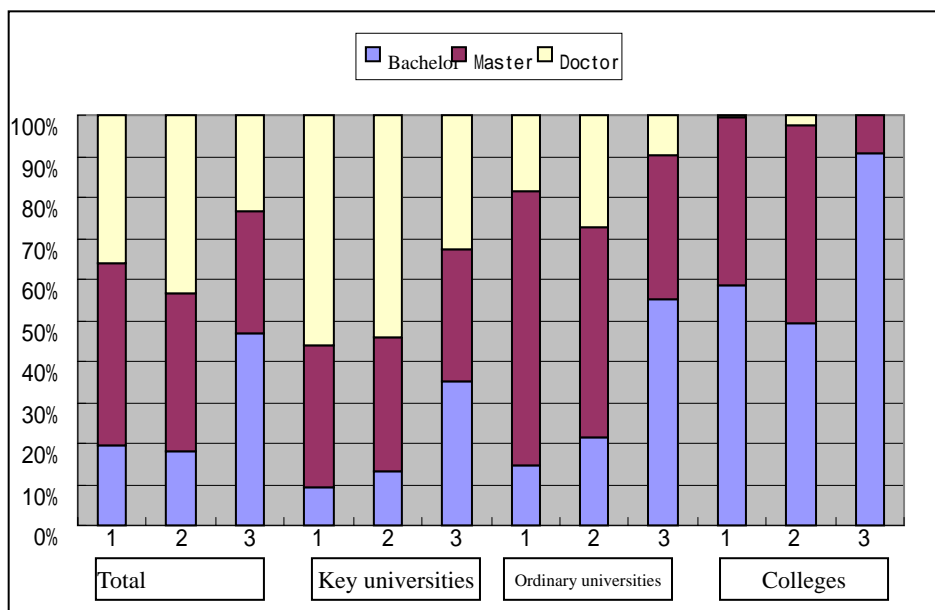


Figure 1: Degree Dispersion among Different Age Groups

Note: 1, 2, 3 represent three subgroups aging from 20 to 35, 36 to 50 and 51 above respectively.

All together 2,872 valid questionnaires are available, with 1,762 from key universities, 746 from ordinary universities and 364 from vocational colleges.

The ratio between group 1, 2 and 3 is 47:45:8 in general, 43:48:9 in key universities, 47:46:7 in ordinary universities and 67:24:9 in vocational colleges.

Several features can be revealed from Figure 1: there is an upward trend that the younger the teachers, the higher proportion of high degrees (that of masters and doctors combined) held by them. It is true both in general and in any given tier of institutions, and is especially obvious when comparing the groups 1, 2 with 3. the change in proportion of masters to doctors as age gains is different in different tiers of institutions. In key universities, the proportion of doctors is higher than that of masters with each of the three age groups, that of masters remains stable, and the younger the faculty are, the higher proportion of doctors. In ordinary universities, the proportion of masters is higher than that of doctors, that of doctors peaks off with group 2(36-50), and that of masters peaks off with group 1(20-35). In vocational colleges, the proportion of doctors is extremely low, and that of masters peaks off with group 1(20-35). The inverted triangle in key universities and the olive curve in ordinary universities are more obvious with groups 1 and 2. The pyramid curve is more obvious with group 3. These reveal a trend that younger faculty tend to hold high

degrees than senior ones.

Faculty in HEIs seeks higher degrees through on-the-job study. Among faculty, 16.7 percent are master's candidates, and 14.2 percent are doctor's candidates. In order to take on-the-job study into account, we have collected data representing 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 in the next few years may be revealed.

Table 3: Degree Combination (including all candidates)

Unit: %

	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 questionnaires are available, with 1,834 from key universities, 782 from ordinary universities and 382 from vocational colleges.

From the results that we get, it is clear that degree combination has undergone the following changes: in general, the proportion of doctors rises, while that of masters and bachelors declines. The proportion of masters declines roughly by as much as the rise of doctors. in vocational colleges, the proportion of bachelors drops substantially while that of masters rises substantially and that of doctors rises by a small margin. the proportion of bachelors in key universities and ordinary ones remain stable, and that of doctors rises roughly by as much as the decrease of masters. These changes indicate that a number of faculty in HEIs tend to upgrade their degrees in the short run.

2. Educational backgrounds

(1) A Cross-Institutional Perspective

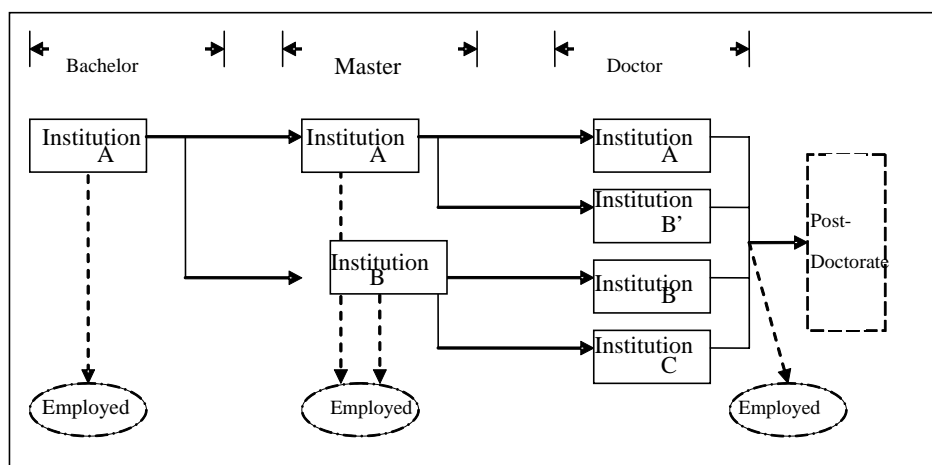


Figure 2: Educational Experience and Dispersion

When it comes to analyzing faculty's educational backgrounds, it is important to examine whether faculty is teaching where he/she studied. Figure 2 delineates how a faculty chooses his/her educational channels at the point of graduation. A bachelor may go on to graduate studies in the same or another institution or get a job. So do graduates. If a faculty receives his/her bachelor's, master's and doctor's degrees from three different institutions, he/she has diverse educational backgrounds; otherwise quite monotonous. Figure 2 shows seven types of flow: A bachelor's degree; a bachelor's and a master's degree both from institution A; a bachelor's degree from A and a master's degree from B; a bachelor's, a master's and a doctor's degrees from A; a bachelor's and a master's degree from A and a doctor's degree from B; a bachelor's degree from A and a master's and a doctor's degree both from B; a bachelor's degree from A, a master's from B and a doctorate from C.

In order to examine the issue, the questionnaire asks relevant questions to get the information about the granting institutions of each degree that every interviewee holds. We obtain statistics regarding seven types of flow as shown in Table 4:

Table 4: Degree Dispersion among Institutions

Unit : %

		Total	Key universities	Ordinary universities	Vocational colleges
Bachelors	Type	100	100	100	100
	Total percentage	21.1	14.7	18.4	49.4
Masters	Type	44.9	53.1	39.4	32.1
	Type	55.1	46.9	60.6	67.9
	Total percentage	32.8	26.6	45.7	38.9
Doctors	Type	28.8	30.9	17.4	n.a
	Type	19.4	20.2	14.9	n.a
	Type	23.6	23.4	24.8	n.a
	Type	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

Note: All together 3,220 valid samples are available, with 1,919 from key universities, 822 from ordinary universities and 401 from vocational colleges.

System default refers to the percentage of those interviewees who did not provide personal movement among institutions even though they have the correspondent degree.

Among faculty with a master's degree as the highest (including candidates, here and hereafter), the proportion of type is higher than that of type . Among those with a doctorate as the highest, type and type account for roughly the same percentage, the proportion of type and combined is higher than that of and combined.

The proportion of type is higher than that of type in key universities, and the opposite is true in ordinary universities and vocational colleges. Among faculty with a doctorate as the highest degree, type is dominant in key universities while type , and are more commonly seen in ordinary ones. The doctors in vocational colleges are skipped as the proportion is extremely low. There are several reasons for the above patterns: Firstly, faculty tends to go upward academically so that graduates from key universities prefer studying abroad and those from ordinary ones prefer studying in key ones. Secondly, generally speaking, key universities have qualifications to grant all academic degrees. Ordinary universities have qualifications to grant master and bachelor degrees. Vocational colleges have qualifications to grant

associate degrees. Thirdly, graduates from key ones prefer to stay where they were for higher learning because there are limited numbers of key institutions. Institutions organize their own admission examination for master and doctor studies. Fourthly, there are not many institutions for students to choose because specialized ones take up a fairly high proportion for a long time. Lastly, the undergraduate-master and master-doctor uninterrupted programs also contribute to a high proportion of type , and .

Table 4 also shows that the faculty members who received all their degrees within the same institution account for 45.2 percent, and the figure reaches 61.9 percent in vocational colleges largely due to a high proportion of faculty with only a bachelor's degree.

Excluding faculty with only a bachelor's degree, those who received all their post-bachelor degrees within one institution still account for 28.4 percent, which is higher than that in ordinary universities and vocational colleges.

We can continue to examine how the degrees of each age group of faculty are dispersed across institutions as shown in Figure 3.

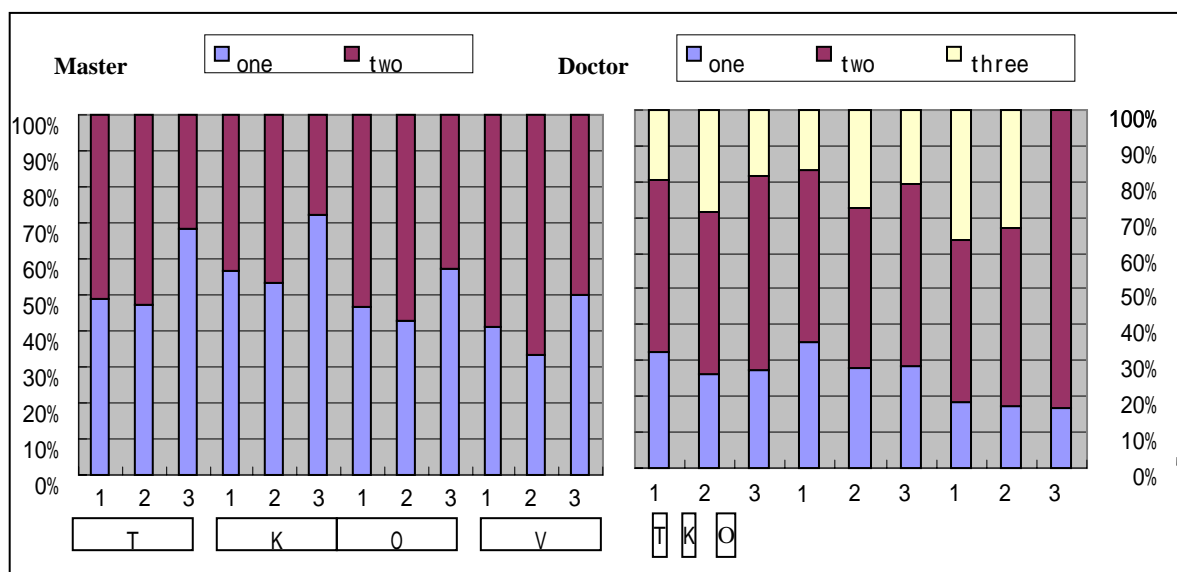


Figure 3: Dispersion of the Degrees of Each Age Group of Faculty

Note: T—total institutions; K---Key universities; O---Ordinary universities; V---Vocational colleges.

For the left Figure, all together 989 valid samples are available, with 458 from key universities, 367 from ordinary universities and 164 from vocational colleges. The ratio of the three groups is 52.7 : 40.6 : 6.7 on the whole, 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. For the right Figure, 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 on the whole, while it is 45:50:5 for key universities and 43:54:3 for ordinary ones.

When age is taken into consideration, faculty with a master's degree shows the following two features in terms of dispersion of degrees. Vertically, there are more young faculty with cross-institutional 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 age group 2 partially because some in age group 1 have not completed their highest degree. Horizontally, the order of vocational colleges, ordinary universities and key universities matches the order of percentage of cross-institutional experience ranged from high to low. The proportion of cross-institutional experience is higher for faculty with doctoral degree than for faculty with master degree.

(2) A Multiple-disciplinary Perspective

Another perspective to study faculty's educational backgrounds is through examining their multiple-disciplinary experience. Modern knowledge is represented by disciplinary knowledge (Arimoto, 2007:4). Correspondingly, modern academic profession can be categorized into scientists, social scientists and humanists. It is meaningless to talk about academic profession without talking about its discipline. Multiple-disciplinary frequency for degree holders is shown in Table 5.

Table 5: Multiple-disciplinary Frequency

Unit : %

		Total	Humanities	Social sciences	Natural sciences
Bachelors	percentage	20.7	30.7	19.0	17.5
Masters	never	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	never	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 experience in only one discipline. The proportion of the former is 18 percent, and that of latter is 82 percent. When bachelors are excluded from the calculation, the proportion of faculty with single discipline still exceeds 60 percent.

Masters and doctors with single discipline still account for over 70%, and the figure is higher in the case of masters than doctors.

As different disciplines are mutually related to different extent, people tend to choose the closely-related ones while crossing discipline. Disciplines are usually classified into 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 etc; natural sciences include sciences, engineering, agronomy, medicine etc.

Table 5 reveals that the degree combination of faculty from different disciplines has different patterns. The proportion of doctors in natural sciences is much higher than that of humanities and social sciences. The proportion of bachelors in humanities is

higher than that of social sciences and natural sciences. The proportion of masters in social science is relatively high.

Faculty from different disciplines bears different patterns in terms of degree combination and multiple-disciplinary experience. Social sciences see a higher proportion of faculty with multiple-disciplinary experience than natural sciences and humanities. The proportion of doctors with multiple-disciplinary experience is as high as 40 percent, twice the correspondents of the other two.

(3) Accepting Graduates as Faculty

Graduates are accepted as faculty in some institutions, which is partially responsible for the monotonous educational background of faculty. Table 6 shows the proportion of the interviewees who work where they received their degrees. The figures roughly represent the cases of accepting graduates as faculty in institutions. On the whole, 25.7 percent of the interviewees work where they studied. Key universities and natural sciences are ranked at the top.

Table 6: The Proportion of Faculty Who Work Where They Received Their Degree

Unit : %

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

Note: All together 3,142 valid samples are available, with 1,919 from key universities, 822 from ordinary universities and 401 from vocational colleges.

All together 3,004 valid samples are available, with 528 from key universities, 757 from ordinary universities and 1,719 from vocational colleges.

Extending the scope of statistical analysis into institution where faculty used to study with and without interruption, the actual proportion has become higher than those in Table 5. The proportion has been moved from 25.7 percent up to 30.8 percent. The proportions have been 41.2 percent for key universities, 36.4 percent for natural

sciences.

Among all three tiers of institutions, the case is more frequently seen in key universities with a percentage twice as much as that in ordinary universities. Among all three disciplines, the proportion in natural sciences is much higher than that in humanities and social sciences.

We can forecast the change trend by comparing the cases of senior and young faculty. Table 7 shows the proportion in different age groups, in different tiers of institutions and in different disciplines.

Table 7: Proportion of Inbreeding in Different Age Groups, in Different Tiers of Institutions and in Different Disciplines

Unit : %

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

Note: 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.

Vocational colleges are excluded as valid samples available are insufficient.

Table 7 indicates that: The proportion of faculty work where they studied in key universities is high on the whole with that of each age groups exceeding 30 percent, and rises slightly as age loses. Ordinary universities see much fewer cases than key universities, but the proportion also rises as age loses. Natural sciences also see a rising proportion as age loses. There is an adverse trend with humanities and social sciences that the proportions fall as age loses.

3. Brief Summary

Some conclusions can be summarized for above statistical analyses in section two:

1) 38.3 percent of faculty have obtained doctoral degrees. The degree combination among different tiers of institutions has different patterns. If we arrange the degree from doctor to master and bachelor, we see an inverted triangle for key universities, olive curve for ordinary universities and a pyramid for vocational colleges.

2) The trend is clear that younger faculty tends to hold high degrees than senior faculty.

3) The educational background of faculty in HEIs in Beijing is monotonous due to a high proportion of faculty who receives all their degrees in one institution. The proportion is 45.2 percent. It is also discovered after introducing age variable that it is even more monotonous with faculty aging from 20 to 35 compared to those aging from 36 to 50 in all tiers of institutions. Different chance of higher degrees between senior and junior faculty can explain above difference to some extent.

4) 18 percent of faculty has multiple-disciplinary experience, which is correlated to discipline types. Statistics show that the proportion is higher for social sciences than for natural sciences.

5) The proportion of faculty work where they studied is 25.7 percent on the whole. 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 Three: An Analysis of Career Paths of Faculty

In section two, we have analyzed the educational backgrounds of faculty in HEIs in an attempt to depict their pre-job development patterns. What are their paths of career like after they become faculty? What is the mobility?

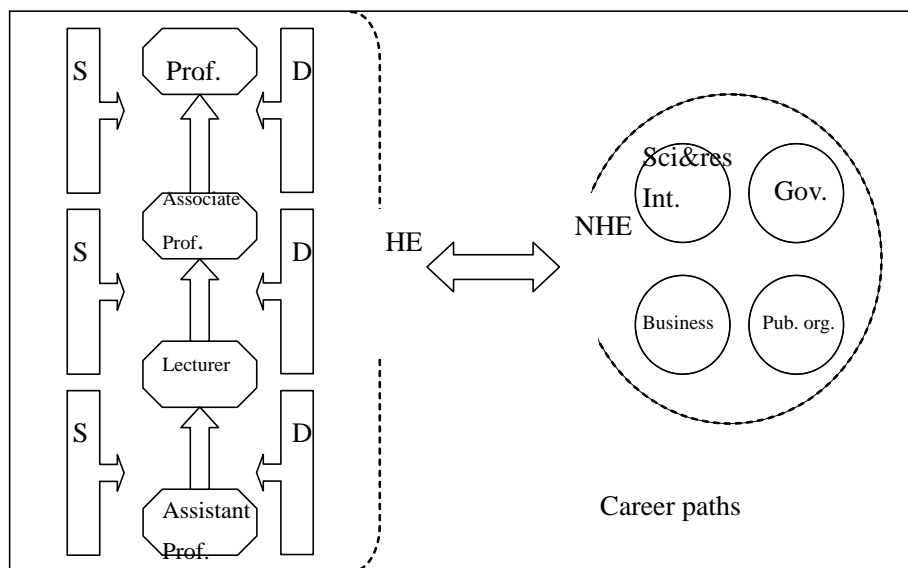


Figure 4: Career Paths

Note: S----get promotion in the same institution; D---- get promotion in a different institution;
HE----higher education system; NHE----non higher education system.

The career paths under discussion refer to how faculty move and get promoted at posts. In the questionnaire, promotion is designed to serve as a time point for examining the change of professions and affiliations for sake of feasibility and convenience. There is a four-level-hierarchy of titles including assistant professor, lecturer, associate professor and professor. Faculty may get promoted within their own or another field of study, in the same or another institution. Some faculty's career paths go beyond HEIs. Figure 4 presents several possible career paths.

The faculty's career paths depend on his/her interest and choice as well as academic rules. Low mobility in China is caused by insufficient competition and low openness

in recruitment and promotion. Academic labor market is still not prominent.

1. An Empirical Analysis of Career Paths

In order to study the trajectory of faculty career paths, we raised the following questions in questionnaires: 1) academic titles and where they are earned; 2) involved disciplines when earning each title; 3) job shifts; 4) time spent outside HEIs like government agencies or business firms. We have the following findings after analyzing questionnaire data.

(1) Title combination

Figure 5 shows the title combination of interviewees. On the whole, there is a high proportion of lecturers and associate professors and a low proportion of assistant professors and professors. Title combination varies from one tier of institutions to another. Comparatively speaking, key universities have low proportion of assistant professors and high proportion of associate professors and professors; ordinary universities have high proportion of assistant professors and lecturers and low proportion of associate professors and professors; vocational colleges exaggerate proportions in ordinary universities.

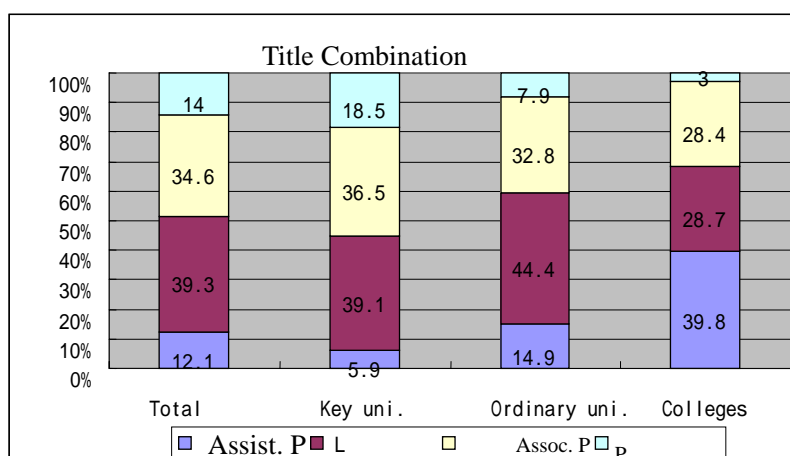


Figure 5: Title Combination

Note: All together 2,950 valid samples are available, with 1,836 from key universities, 780 from ordinary universities and 334 from vocational colleges.

(2) Career Trajectory

(A) Cross-institutional Mobility

Figure 6 shows the cross-institutional flow of faculty with different titles upon promotion. In most cases, there is a high proportion of promotion in the same institution and a low proportion of cross-institutional promotion. Promotion within the same institution exceeds 60 percent taking all titles into consideration. The higher the title, the more frequent flow across institutions. The flow rate of lecturer is 11 percent; associate professor 25 percent; professor nearly 40 percent. So it is obvious that promotion is a catalyst for job flows in addition to age.

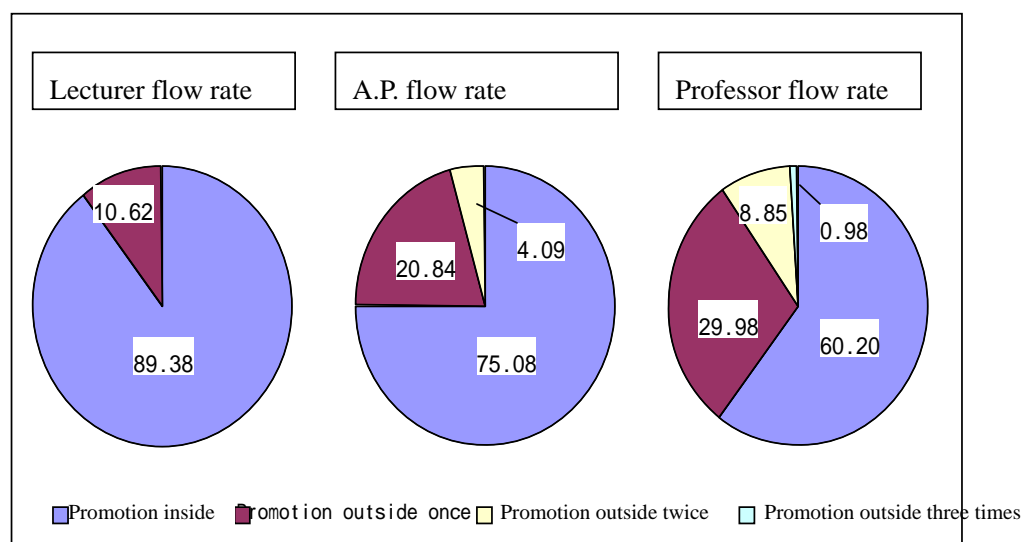


Figure 6: Cross-institutional Flow upon Promotion

Note: Valid samples are from 1,130 lecturers, 941 associate professors and 411 professors.

Figure 6 shows that there is a higher proportion of outside promotion once than that of outside promotions twice or more. Low faculty cross-institution flow is affected by many factors, including not only individual preference and qualifications but also *hukou* (household registration system), the economic, social and cultural development

of the location, difference in academic levels among institutions, children's schooling and affiliation of spouse.

The above analyses focus on all the title groups on the whole. What features do different age groups within each title group bear in terms of cross-institutional flow? In order to examine this issue, age is added as a variable. Table 8 shows the statistical results.

Table 8: Promotion and Cross-institutional Flow of Each Age Group

Unit : %

Age Range		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

Note: All together 2,612 valid samples are available, with 1,167 from lecturers, 1,027 from associate professors and 418 from professors.

Ratio in the table refers to the percentage of valid samples from each age and title group to interviewees within each title group.

Table 8 shows that age group 3 (over 50 years old) faculty has the highest proportion of promotions in a different institution in lecturers' case. In associate professors' case, 27.3 percent of age group 2 faculty 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 percent of age group 2 faculty has been promoted in a different institution, 10 percent higher than that of age group 1 and 8 percent higher than that of age group 3.

China's universities can be divided into four tiers according to their development level and standings, namely universities listed by the "985 project", those listed by the "211 project", ordinary universities and vocational colleges. The first two tiers constitute the key universities in above-mentioned analyses. Faculty has working experience in overseas universities. We consider overseas universities as the fifth tier and assume that they excel domestic universities. A faculty getting promoted may flow within the same tier, but he/she may as well move upward or downward in the hierarchy. We have analyzed the flow direction in this case as shown in Table 9. 50 percent flow within the same tier, 31.7 percent upward, 11.6 percent downward, 5.9 percent for any other cases (more than one promotion across institutions). In term of current affiliation, the majority faculty in "985" universities and those non-985 universities of "211 project" obtained current title by flowing within the same tier or moving upward. The proportions of each case are even, but more faculty in non-985 universities of "211 project" obtained current title by moving upward. 70 percent faculty in ordinary universities obtained current title by flowing within the same tier, and the proportion of upward movement and that of downward are even but both are low. Faculty in vocational colleges either flow within the same tier or move downward with a rough ratio of 3:1.

Table 9: Promotion and Flow Direction

Unit : %

	Total	985 univ.	Non-985 univ. of 211 proj.	Ordinary univ.	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	—

Note : Among the sample list, Peking University and Beijing Institute of Technology are in the 985 project. All key universities listed in Table 1 are non-985 university of 211

project except Peking University, Beijing Institute of Technology and Capital Normal University. Capital Normal University is considered as an ordinary university only here in Table 9.

When an institution where a faculty used to work is not covered by Table 1, it is classified according to the 985 Project and the 211 project criteria so as to examine cross-institutional flow.

All together 526 valid samples are available, with 85 from “985” universities, 260 from non-985 universities of “211 project”, 130 from ordinary universities and 51 from vocational colleges.

(B) Cross-sector Flow

Faculty flows within the higher education system as well as outside. Some faculty has working experience in other sectors such as government agencies, scientific research institutes, business or public organizations. We will examine their cross-sector flow by focusing on working time, titles obtained outside educational system, direction of cross-sector flow.

a) working time spent outside educational system

Among 3,220 interviewees, 26.2 percent have working experience outside educational system, with time spent varying from 2 months to 40 years. 12.4 percent have worked for one year or less, 26.8 percent for one to three years (including three years here and hereafter), 18.3 percent for three to five years, 16.9 percent for five to eight years, 10.0 percent for eight to ten years, 7.6 percent for ten to fifteen years, 4.4 percent for fifteen to twenty years and less than 3.6 percent for over twenty years. The umbers indicate that among faculty with working experience outside the educational system, the majority have worked for a short period of time as more than half for five years or less.

b) Titles obtained outside educational system

Among those faculty members with working experience outside the educational system, 30 percent have obtained equivalent titles as is shown on left in Figure 7.

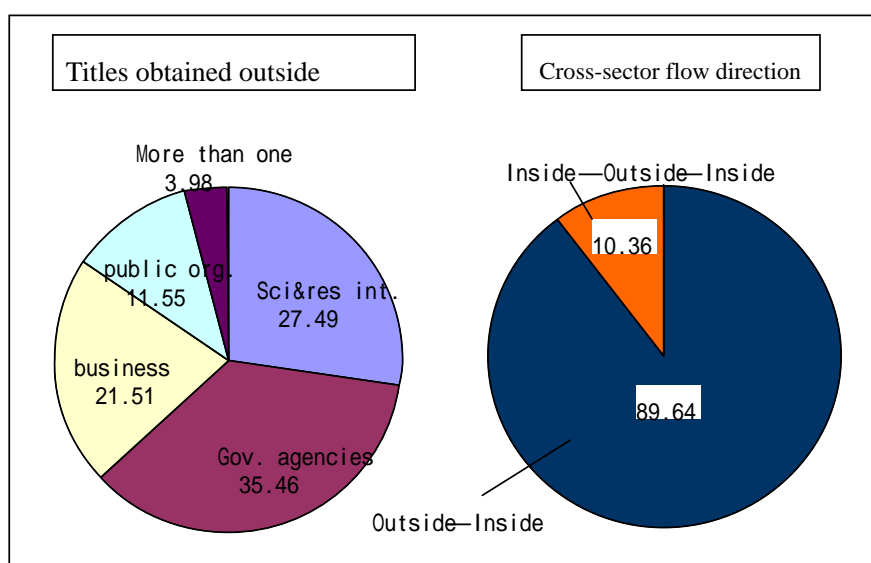


Figure 7: Promotion and Cross-sector Flow

Note: 251 faculty members obtained titles outside the educational system.

Among those who obtained titles outside the educational system, 35.5 percent received from government agencies, 27.5 percent from scientific and research institutes, 21.5 percent from business, 11.6 percent from public organizations including hospital, publishing house and art groups etc.

c) flow direction

According to different career paths, here are two directional flows, one from outside into the educational system, the other going out of educational system before reentry. The right pie of Figure 7 shows that 89 percent of faculty fall into the first category while only 10 percent the second.

(C) Cross-disciplinary Flow

Faculty may change his/her discipline as his/her academic interests or objective conditions change. Figure 8 shows that among all interviewees there are less than 10

percent faculty with cross-disciplinary experience upon promotion.

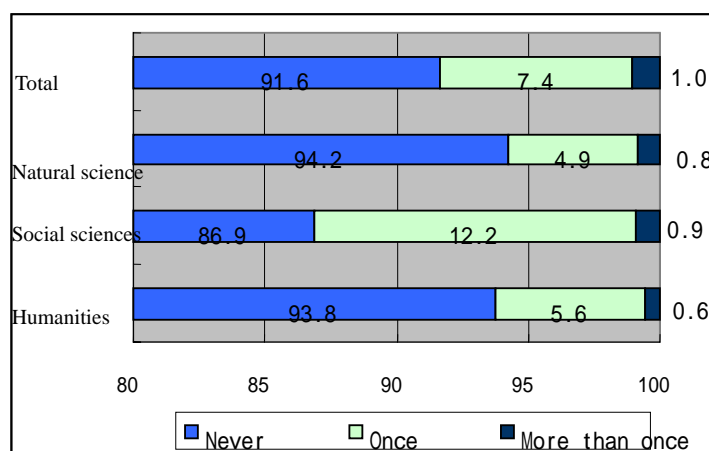


Figure 8: Promotion and Cross-disciplinary Flow

Note: All together 2,254 valid samples are available, with 337 from humanities, 565 from social sciences and 1,418 from natural sciences.

Figure 8 also reveals the different patterns of cross-disciplinary flow among the natural sciences, social sciences and humanities. It is obvious that there is a higher proportion of cross-disciplinary flow among social sciences than that of the other two.

Is there difference among different age groups in terms of cross-disciplinary flow?

Table 10 gives an explanation after age is introduced as a variable.

Table 10: Promotion and Cross-disciplinary Flow of All Age Groups

Unit : %

Age range		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

Note : All together 2,078 valid samples are available, with 341 from humanities, 449 from social sciences and 1,238 from natural sciences.

Ratio in the table refers to the percentage of valid samples from each age and title group to interviewees within each title group.

Table 10 shows that there is a significant difference even though faculty who never crossed disciplines are the majority in each of the three age groups of three disciplines. In humanities, less than 5 percent of age group 1 and 2 have crossed disciplines compared to more than 17 percent of age group 3. In social sciences, over 17 percent of age group 2 compared to around 6 percent of age group 1 and 3. In natural sciences, the proportion fluctuates less than 6 percent among all age groups, at 8 percent of age group 2 and 7.6 percent of age group 3 compared to only 2 percent of age group 1. The difference above reflects such a phenomenon that the proportion of faculty who has crossed disciplines in age group 1 is lower than those of age group 2 and 3.

2. Brief summary.

Some conclusions can be summarized for above statistical analyses in section three:

1) Among the samples, professors account for 14 percent, associate professors for 35 percent, and assistant professors and lecturers for 51 percent. Title combination varies from one tier of institutions to another. Key universities accommodates bigger share of associate professors and professors. In contrast, ordinary universities and vocational colleges accommodates bigger share of assistant professors and lecturers.

2) Academic profession in China tends to be stagnant. More than 60 percent get promoted in the same institution for all titles. The higher the titles, the higher the proportion of cross-institution promotion.

3) It is discovered after introducing age as a variable that faculty in age group 1 (20-35) tends to get promoted in the same institution, which can be attributed partially to promotion chance.

4) It is discovered after comparing the flow directions of cross-institution promotion that 50 percent cross-institution promotions are within the same tiers of institutions, 31.7 percent upward, 11.6 percent downward, and 5.9 percent for any other cases (more than one promotion across institutions). In “985” universities and non-985 universities of “211 project”, the proportion of titles obtained by moving upward equals to that of by flowing within the same tier; the proportion of titles obtained by moving downward in vocational colleges is higher than that in the other two.

5) It is discovered after examining cross-sector flow of faculty that 26.2 percent of faculty have working experience outside the educational system but the majority have worked for a short period of time. Government agencies are most popular work places in which faculty got working experience, followed by scientific and research institutes, business, and public organizations. The majority of cross-institution flow is one-way from outside into educational system.

6) It is also discovered after analyzing cross-disciplinary flow of faculty that the majority have not crossed disciplines. There is a higher proportion of faculty in social sciences who have crossed disciplines than those of natural sciences and humanities.

Section Four: Policy Implications

Academic profession in China’s universities tends to have monotonous educational background and be stagnant as a result of *danwei* system. As China reforms its university management system, the problems is being addressed gradually. The following suggestions are hereby put forward in view of the monotonous educational background and stagnation:

1. To expand access to diverse educational backgrounds. Those who want to pursue high degrees should be encouraged to do that in other institutions. Those who already

have high degrees should be provided opportunities to visit other institutions either at home or abroad.

2. To designate an institutional framework or norm to limit graduates to be recruited in their Alma Mater. International experience strongly support the policy to prevent academic inbreeding.

3. To recruit faculty in public and to adopt a transparent promotion policy so as to promote cross-institution and cross-sector flows.

4. To encourage cross-disciplinary exchanges and to promote the development of cross-disciplinary academic work.

In conclusion, a set of academic norms and quality criteria, public faculty recruitment and competitive promotion mechanism are conducive to addressing the problems of stagnation and monotonous academic and professional background. It remains an arduous task, however. Effective measures should be taken in accordance to different tiers of institutions and disciplinary features.

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