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Since the end of the 1990's, higher education in China has seen a remarkable expansion. Through this process, the higher education system has become more differentiated and hierarchical. This change was accompanied by a significant shift in the funding mechanism in the direction of further reliance on markets. This paper analyzes the process of system differentiation and funding shifts, and the relation between the two, and then examines the consequences and issues connected with these changes.

1. Introduction

After moderate growth in the 1980s, expansion of higher education in China accelerated in the 1990s, and with 1999 as a turning point, entered into a period of great expansion associated with dramatic changes. Enrollments in institutes of higher education posted double-digit increases between 1999 and 2004, and have continued to grow thereafter. Consequently, the number of students enrolled in higher education showed an explosive growth of over five times from 3.41 million in 1998 to 17.39 million in 2006. Thus, higher education in China has achieved a remarkable quantitative expansion, while differentiation in the higher education system has developed rapidly, resulting in a clearer hierarchical structure. Along with progress in the market-based approach and system differentiation, funding and financial allocations in higher education have also undergone a significant transformation. This paper first outlines the quantitative expansion and changes in the financial structure of higher education in China, and then analyzes system differentiation and structural shifts in funding in higher education, and finally considers the policy implications of these.

2. Quantitative Expansion and Structural Transformation in Higher Education

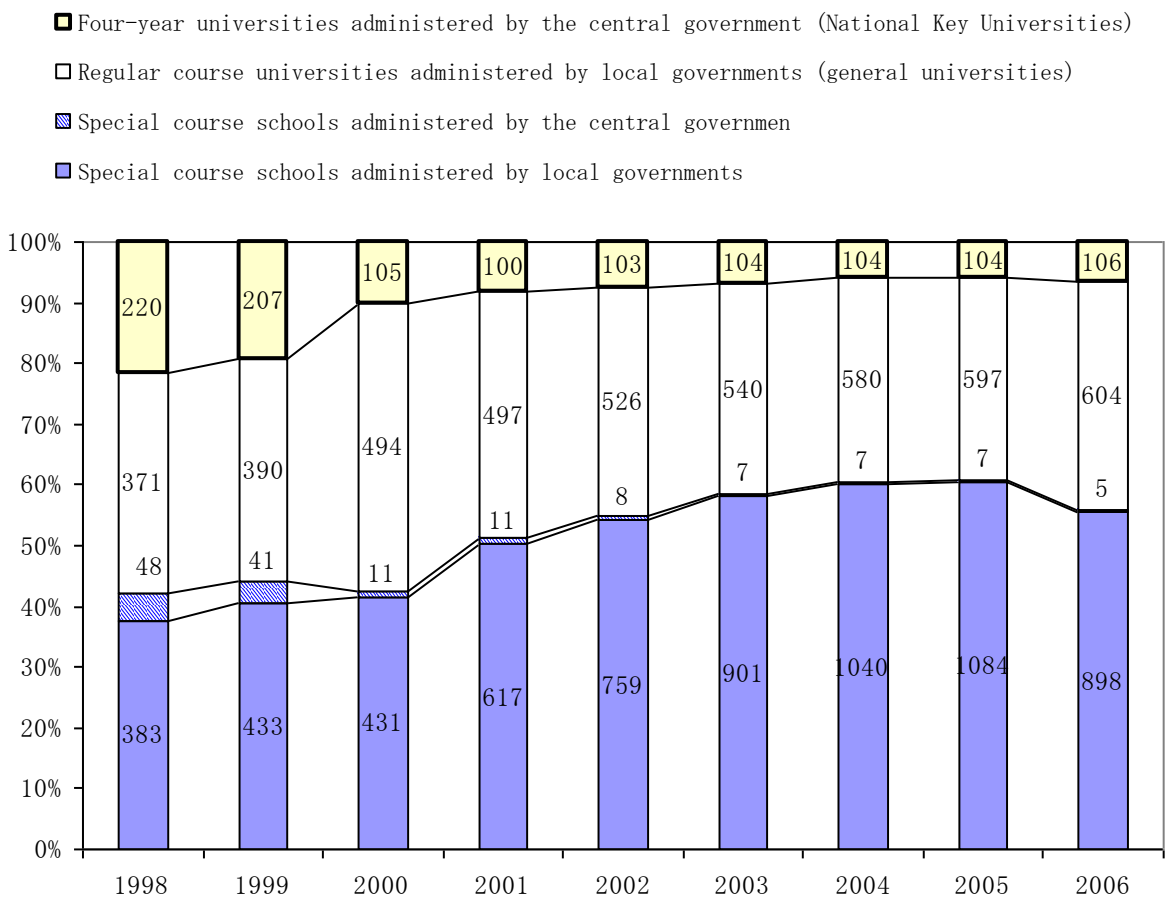
Since the 1980s, higher education in China has steadily developed and expanded against the backdrop of the country's economic development. During this period of over two decades, quantitative expansion has been accompanied by a string of trial-and-error

experiences as well as various institutional reforms. Two guidelines announced respectively in the 1980s and the 1990s, namely, the "Decision on the Reform of the Educational System" (1985) and the "Outline for Educational Reform and Development in China" (1993), were the most important policy papers setting the tone for reforms in higher education in China. In line with the basic policies of reform enunciated by these two policy papers, such as "transfer of control from the central government to local governments," "expansion of local autonomy" and "diversification of fundraising routes," higher education in China drastically cast off the previous system corresponding to the planned economy and gradually transformed the system to one adaptable to a market-oriented economy. Cited behind the explosive expansion of higher education in the 1990s were factors such as an acceleration of demand for a higher level of education associated with China's economic development, macroeconomic policy intentions to expand domestic demand amid the Asian currency crisis, and labor market measures to prolong the period of education of young people in order to tide over the slowing demand for labor. Having said that, it was not that there was a social consensus concerning the rapid expansion of higher education, and heated arguments for and against ensued among researchers. The Chinese government did not necessarily have a well thought-out higher education expansion program, and the fact that the actual speed of the expansion was much faster than the government had expected is reflected in various policy papers. In reality, the new higher education system had been formed through various reforms undertaken since the 1980s and contained within itself the conditions for a great expansion or had reached the stage where it had no choice but to expand greatly. These aspects should not be neglected as factors behind the great expansion of higher education in China.

Institutes of higher education in China can be broadly classified into "regular courses," the equivalent of four-year universities in Japan, and "special courses," which are similar to junior colleges and vocational colleges in Japan, ordinarily having a two-year duration of schooling. In China, in addition to the universities directly controlled by the Ministry of Education, there also are universities established by other central government ministries such as the Ministry of Public Health and the Ministry of Agriculture (the equivalents of ministries and agencies in Japan) and universities administered by local governments. Most of the universities under the administration of central government agencies are categorized as "National Key Universities," while universities controlled mainly by local governments are regarded as "general universities" However, the National Key Universities in Chinese higher education have been so termed principally because they are closely related to nation-building, such as

infrastructure construction, national defense, and agriculture, and as such do not necessarily represent higher levels of academic research or difficulty of entrance. Comparing the number of schools by classification, out of a total number of 1,075 universities in 1989, the number of universities administered by central government agencies stood at 353, accounting for a little over one-third of the total. In the wake of the reform of higher education, universities under the control of the central government were gradually transferred into the hands of local governments. In particular, the sweeping restructure of China's central administrative organizations reduced the number of central government ministries and agencies from 40 to 29. Universities previously administered by the consolidated central government agencies were transferred to local governments along with the reorganization of universities under the control of the Ministry of Education. As a result, between 1998 and 2000, the number of four-year universities and vocational colleges administered by central government agencies declined sharply from 220 to 105 and from 48 to 11, respectively. All these developments resulted in the formation of a changed proportion of universities administered by the central and local governments. As of 2005, there were 104 four-year regular course universities and seven special course vocational colleges under the administration of central government agencies, while there were 597 regular course universities and 1,084 vocational colleges controlled by local governments, rendering the comparison of schools simply according to administration by the central or local governments no longer meaningful. The "Higher Education Law of the People's Republic of China" and the "Action Plan for Invigorating Education Towards the 21st Century," both adopted in 1998, and the "Decision on Deepening Educational Reform and Pushing Ahead with Education for All-around development " of 1999 emphasized the role of provincial governments in the establishment and management of institutes of higher education. Regarding the authorized numbers of students to be recruited for higher education, previously under the rigid control of the central government, the authority to make decisions concerning student enrollment numbers in special courses was ceded to local governments. These changes also proved to be important factors encouraging the great expansion of higher education that took place from 1999 onwards.

Figure 1: Changes in Shares of Institutes of Higher Education by Classification (1998-2006)



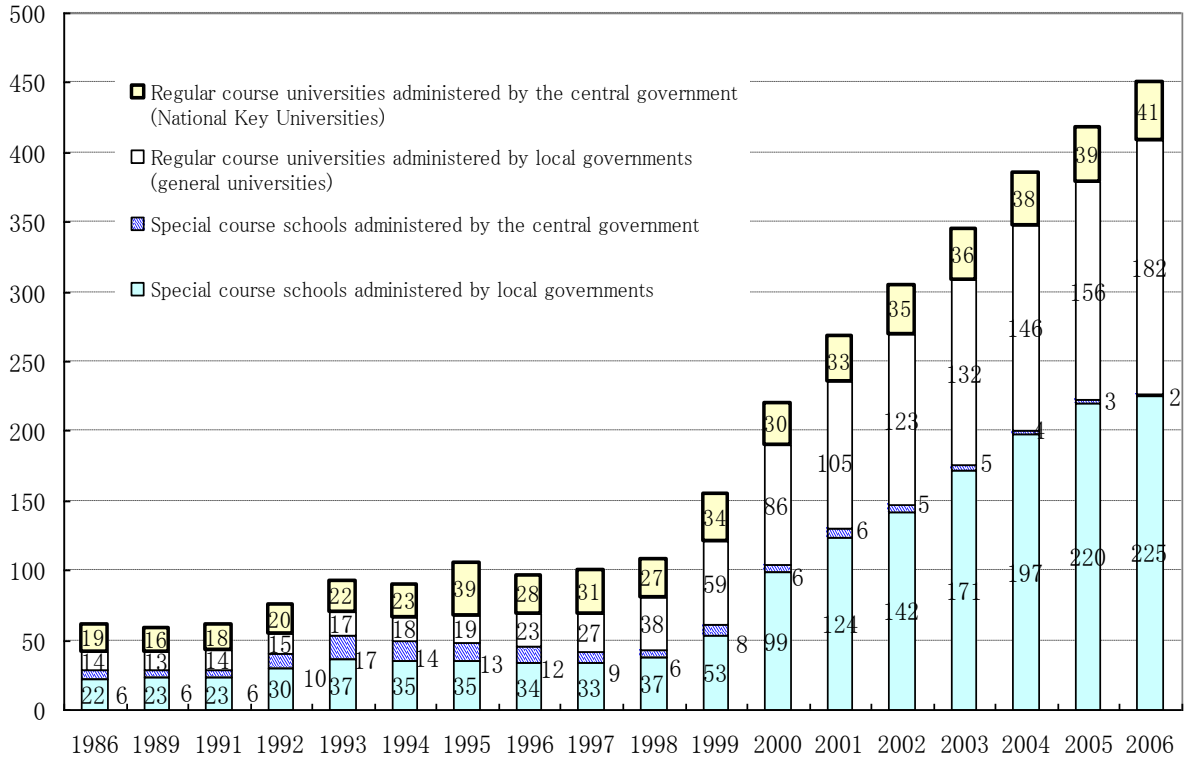
Source: Development and Planning Department, Ministry of Education, *China Educational Statistical Yearbook*, 1999-2007

Note: Figures in the graphs indicate the number of schools.

Under these circumstances, as shown in Figure 1, the number of special course schools under the administration of local governments increased by approximately 700 from 383 to 1,084 during the seven years from 1998 to 2005, a prodigious pace of an average 100 schools per year. The number of regular course universities also increased by 226 during the same period. In terms of the capacity to accept students (Figure 2), in 1986, the student enrollment was larger at four-year regular course universities than at special course schools, and more students enrolled in four-year universities administered by the central government than in four-year universities administered by local governments. To summarize, until the 1990s, increases in enrollment were larger at universities administered by local governments when comparing institutes

administered by the central or local governments, and larger at regular course universities when comparing regular and special courses. However, the great expansion in higher education from 1999 brought about a significant alteration in this composition. For example, between 1998 and 2005, the student enrollment at special course schools administered by local governments increased some six-fold from 370,000 to 2.2 million, grew by some fourfold from 380,000 to 1.56 million at regular course universities administered by local governments, but rose by only 120,000 from 270,000 to 390,000 at regular course universities administered by the central government. Further, in 2005 the enrollment at special course schools administered by the central government actually declined to a mere 30,000. Thus, the great expansion in higher education was clearly propelled by regular and special course universities administered by local governments.

Figure 2: Changes in Enrollment at Institutes of Higher Education by Classification (1986-2006, 10,000 persons)

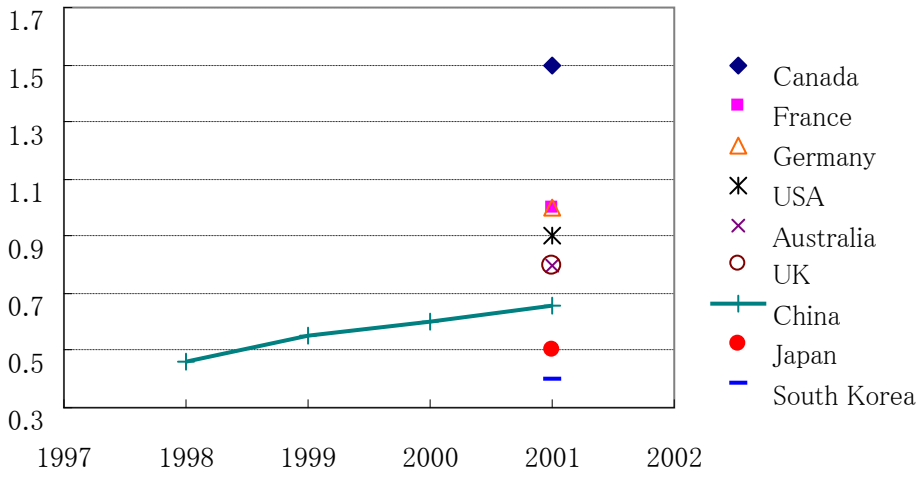


Source: Development and Planning Department, Ministry of Education, *China Educational Statistical Yearbook*, 1987-2007

3. Funding of Higher Education

Progress in the massification of higher education in tandem with the tide of global marketization is one of the important characteristics of China. Here, we first take a look at the structural shifts in the funding of Chinese higher education during the period of great expansion.

Figure 3: Ratio of Government Expenditures on Higher Education to GDP (%)



Sources: Fumihiro Maruyama, "Funding of Higher Education and University Tuition Fees," University Finance and Management Research, No. 2, 2005, p. 31; Min Weifang and Wang Rong eds., *Chinese Education and Human Resources Development Report, 2005-2006*, 2006, p.72

As shown in Figure 3, the ratio of government expenditures on higher education to GDP in China, which was less than 0.5% in 1998, exceeded 0.6% in 2001, but still lagged far behind the industrial countries of Europe and North America. The Chinese ratio was higher than those of Japan and South Korea, but in these two countries, enrollments in private institutes of higher educational account for 80% of the total enrollment, with private-sector funds playing a significant role despite the lower ratio of government expenditures to GDP. In the case of China, however, national and other public universities account for the dominant proportion, resulting in a much stronger demand for public expenditures. This also means that there are significant constraints on government expenditures on higher education.

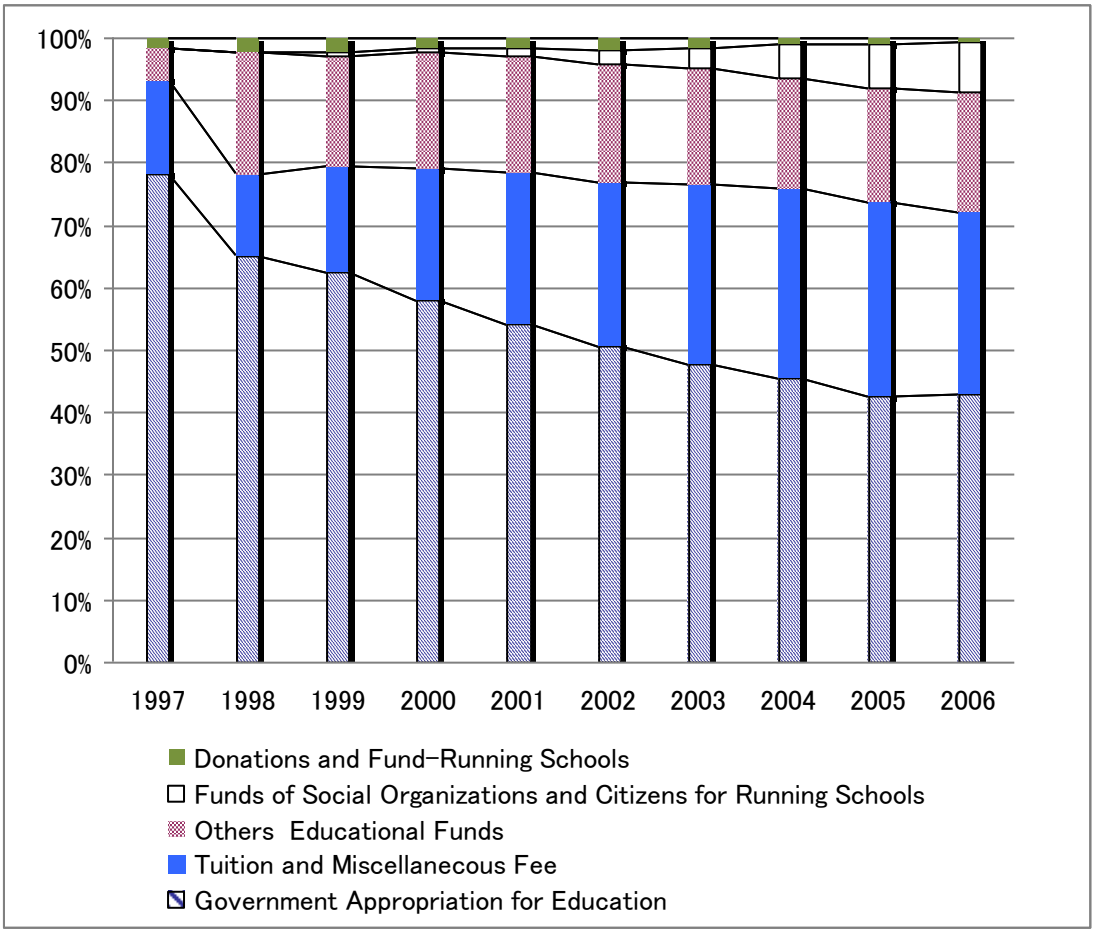
The rapid growth of higher education in China can also be described as having been facilitated by the forces of marketization. Kaneko (2004, p. 6) suggested that the

marketization trends of higher education in various countries involve three aspects: beneficiary liability; introduction of competition and evaluation; and diversification of funding sources and fund supply routes. Similar developments were also seen in China. The system of levying tuition fees for higher education, introduced in 1989, was fully enforced in 1997. Competition for research achievements was also institutionalized, and economic incentives were provided for individuals. Under these systems, subsidies for competitive research projects expanded markedly from the late-1990s. At the same time, funding sources and fund supply routes were diversified in order to draw on funds other than governmental funds. Not a few of the venture businesses established by universities in the late-1980s and early-1990s developed into large enterprises in the late-1990s, and profits earned by these venture businesses have become sources of revenue for universities. In addition, an attempt was also made to proactively obtain donations from the private sector. The enactment in 1999 of the Law of the People's Republic of China on Donations for Public Welfare Undertakings raised expectations concerning the promotion of donations to higher education. Thus, market principles were introduced into Chinese higher education in various ways during the period of great expansion.

Revenue structure changes in national and other public institutes of higher education (Figure 4) indicate that while government subsidies steadily increased, as total revenues expanded simultaneously, the ratio of subsidies to total revenue declined substantially from around 80% in 1997 to less than 50% in 2005. In contrast, revenues from tuition fees as well as miscellaneous revenues and donations have increased significantly. However, high tuition fees have reached maximum levels affordable by households after spiraling rises in recent years, leaving little room for further increases.

Thus, on the one hand, the government sector's fiscal capacity has failed to keep up with the rapid pace of expansion in higher education, making it necessary to raise funds for higher education through diversified means. On the other, the situation has raised the important policy issue of how the relatively shrinking fiscal expenditures are to be efficiently and rationally allocated to fund the bloated higher education system.

Figure 4: Shares of Revenues at National/Public Institutes of Higher Education by Source (1997-2006)



Source: Development and Planning Department, Ministry of Education, *China Educational Statistical Yearbook*, 1998-2007

4. Differentiation in the Higher Education System

As described above, there was not necessarily a consistent policy concerning the expansion of the scale of higher education in China. Yet, it is also true that there was a certain policy direction concerning the structure of higher education. The period following the late-1990s was a period of great expansion in higher education as well as a period of differentiation in the higher education system.

4.1 Specialization in Special Course Vocational Education: The Distinction between Special Courses and Regular Courses

Special course education, developed since the 1950s, represented one type of

specialized higher schools. While the status of these schools as short-term institutes of higher education is low relative to four-year regular course universities, the educational content was in many cases simply a shortened and popular version of what was taught in regular course education. In the early 1980s, short-term vocational colleges were newly established in the wake of the reform of the education system, with a tendency to link special course education to the fostering of specialist technical human resources for actual production and business operations becoming increasingly noticeable. Furthermore, following the legal and institutional improvements in higher education from 1992, the vocational education nature of special course education came to be emphasized. The Vocational Education Law of the People's Republic of China, adopted in 1996, transferred vocational education, previously conducted at the stage of secondary education, to the stage of higher education, and legally provided for the mission of higher vocational education. In particular, the Chinese government announced in 1999 a policy to reorganize various existing short-term institutes of higher education and some of the secondary specialized schools into "vocational and technical colleges" In 1998, of the total of 431 special course institutes of higher education, there were 101 "short-term vocational colleges" In 2005, of the 1,091 special course institutes of higher education, there were 921 vocational and technical colleges.

In the period of the great expansion in higher education, the process of the expansion of special courses was a process of their becoming specialized institutes of vocational education and casting aside institutional similarities with universities to become clearly distinct from regular course education.

4.2 Strengthening of the National Key Universities Policy: Differentiation among Regular Course Universities

Along with the specialization in vocational education of special courses, the differentiation of functions gradually progressed among regular course universities. As shown in Figure 1, while special course education and regular courses administered by local governments significantly contributed to the great expansion in higher education, universities administered by the central government posted only a modest growth. Amid the expansion in higher education as a whole, parallel efforts were underway to strengthen the National Key Universities. The National Key Universities policy was implemented in the early 1950s, immediately after the establishment of the People's Republic of China. Important requirements for recognition as a National Key University, aside from regional distribution, included relevance to nation-building, such as infrastructure construction, national defense and agriculture. National Key Universities

are administered mainly by the Ministry of Education, but also by other central government ministries and agencies, and their enrollments are allocated to provinces and cities under the direct control of the central government, with their graduates also to be allocated to various regions of the country. With the reopening of universities in the early 1980s, the status of National Key Universities was also restored. However, the National Key Universities did not necessarily represent high levels of education and research and difficulty of entrance relative to the general universities. Since graduates from National Key Universities are allocated to jobs across the country, they were shunned by young people from urban areas, making National Key Universities the choice of young people from rural areas. Efforts to strengthen National Key Universities from the mid-1980s helped gradually raise the levels of education and competition for entrance to these universities. However, the greatest impact of the National Key Universities policy was felt with Project 211 implemented in 1993 and Project 985 launched in 1998.

The objective of Project 211 was for the government, during the Ninth Five-Year-Plan period, to intensively reinforce a number of universities and key disciplinary areas in anticipation of the beginning of the 21st century. On this foundation, and after several years' efforts, some l00 institutes of higher education and a group of key disciplinary areas would have greatly improved in terms of the quality of their education, scientific research, and university management and operations. Consequently, these institutes became the bases for developing diverse human resources and research into major problems in China's economic construction and social development. As of 2005, a total of 107 universities were recognized under the project. Project 985, meanwhile, stemmed from the proposal of then President Jiang Zemin made at a meeting to commemorate the 100th anniversary of Peking University on May, 1998, that "China must have a number of top-class universities at the international level in order to accelerate modernization." Following the proposal, the Ministry of Education, in the course of the implementation of the Action Scheme for Invigorating Education Towards the 21st Century, was instructed to provide prioritized support to universities endeavoring to become world-class and high-level universities. Currently, a total of 38 universities are recognized as such universities under Project 985.

Through the strengthening of the National Key Universities policy as described above, differentiation between National Key Universities administered mainly by the central government and general universities administered mainly by local governments advanced rapidly. Needless to say, the dramatic expansion in higher education and this rapid systemic differentiation brought about a major shift in the funding of higher

education.

5. Funding Shifts and Their Consequences

One of the reasons Projects 211 and 985 generated such a tremendous impact as part of the National Key Universities policy is that the implementation of the two projects brought about a major structural shift in fund allocations in the area of higher education.

5.1 Concentration of fund allocations

Project 211 was one of China's priority projects during the Ninth Five-Year-Plan period (1966-2000) and boasted the largest amount of investment for a university education project since the founding of the People's Republic of China. The combined amounts invested in the 96 then-recognized universities and two public service systems came to 11,037 billion yuan. With a further 7.332 billion yuan invested in the development of education-related infrastructure, the gross investment reached 18.369 billion yuan. Of the total amount, 2.755 billion yuan came from the Ministry of Education (central government specified funds) and 3.952 billion yuan from local governments. The ambitious investments significantly transformed the universities recognized under Project 211. Between 1996 and 2000, the combined value of machinery and equipment at these universities almost doubled from 10.4 billion yuan to 20.6 billion yuan. While these universities accounted for some 10% of the total number of institutes of higher education, the gross of value of machinery and equipment installed, books in their possession and scientific research funding obtained represented 54%, 31% and 72%, respectively, of the total.

Under Project 985, intensive investments were made in a further narrowed-down number of universities. For the first phase of the project, 34 universities were selected, these 34 universities being further classified into three classes. These three classes of universities were encouraged to achieve the respective goals of becoming "world-class universities," "distinguished high-level universities well-known both domestically and internationally," and "domestically and internationally famous high-level universities." As shown in Table 1, investment amounts differ according to the class of the university. For Peking University and Tsinghua University, in the first class, the central government disbursed the total investment amounts from its coffers. Universities in the second and third classes first conclude "joint construction contracts" with central government ministries and agencies or local governments, under which

they disburse about half of the investment amounts and then sign project contracts with the Ministry of Education. The duration of the first phase was to be 1999-2003 for the first and second classes and 2001-2003 for the third class. The second phase is already under way, with the addition of four universities.

The major difference between these two projects and the previous National Key Universities policy lies in that, aside from the massive amounts of investment mentioned earlier, the two projects draw heavily on local government funds as a form of "joint construction." The breakdown of Project 985 investment funds between the central and local governments is given in Table 1. Projects 211 and 985 are both premised on fund contributions from local governments, and thus they have been labeled a "fishing process" designed to pull in funds from local governments using central government funding as bait (Chen, 2005, p. 12). Local governments consider the designation of universities in their regions as favorable for regional development and commonly eke out investment funds. However, this mechanism is deemed to have four problems.

First, local government finances, already under pressure from the rapid expansion of universities under their administration have had to struggle with further burdens. At the time of concluding contracts for the first phase of Project 985, provincial governments that found it difficult to provide the whole sum of the funds expected of them used land and other projects they owned to fill the gaps. Some local governments were unable to make good on their promised funding after the conclusion of contracts. Extracting funds from local governments through the "fishing process" may have had an adverse influence on other institutes of higher education administered by local governments or other levels of education. It has often been pointed out that the condition and quality of education at universities under the administration of local governments deteriorated markedly during the great expansion period.

Second, the geographical distribution of the 38 universities designated under Project 985 shows that while Beijing has eight, there is not one in the provinces and autonomous regions of Inner Mongolia, Jiangxi, Henan, Guangxi, Hainan, Guizhou, Yunnan, Tibet, Qinghai and Xinjiang. These are provinces and regions where economic development and educational levels are falling behind. Thus, the project may possibly cause a widening of gaps in the developmental level of local higher education and exacerbate the problem of unequal higher education opportunities.

Third, since the restoration of the national unified examination system in 1978, National Key Universities have allocated greater portions of their enrollments to the regions in which they are located. For example, Peking University and Tsinghua

University allocate one-tenth of the national enrollment quota to Beijing each year and the pass mark for Beijing applicants is significantly lower than the national average. It is a known fact that even when they earn identical scores, students taking the entrance examinations from Beijing are able to enter prestigious universities, while students from rural areas have to settle with second-class universities. However, since local governments made investments in universities in their regions under Projects 211 and 985, they have gradually earned a greater say concerning the operation of these universities and are now demanding greater enrollment quotas for local students. For the 2005 student enrollments, for example, Fudan University, Shanghai Jiaotong University and Tongji University, all located in Shanghai, allocated over 60%, 50% and 50%, respectively, to students from Shanghai. In recent years, Zhejiang University has allocated 70% of its enrollment to students from Zhejiang Province. This localization phenomenon at National Key Universities not only results in a regional disparity of opportunities, but also may substantially lower the levels of selection and quality of education at National Key Universities, an outcome quite contrary to the original intentions of the projects.

Fourth, there is the problem of widening economic gaps between teachers at universities designated under Projects 211 and 985 and those at other universities. Under these two projects, housing for teachers has improved and a considerable portion of funds accepted were appropriated for teaching staff salaries. In the case of Peking University, for example, funds used for these purposes accounted for almost one-third of the funds received (1.8 billion yuan) during the first phase of Project 985, and it is conceivable that the salaries of some teachers has increased several times (Chen, 2005, p. 16). Unless sufficient explanations are given regarding the advisability of great portions of the massive funds disbursed under the project going to individuals, it will be hard to avert complaints from teachers at other non-designated universities.

Table 1: Breakdown of Project 985 Investment Funds between Central and Local Governments (in 100 millions of yuan)

University	First phase		Second phase	Location
	Central (Ministry of Education)	Local	Central (Ministry of Education)	
First class				
Peking University	18		22	Beijing
Tsinghua University	18		22	Beijing
Second class				
Nanjing University	6	6	8	Jiangsu
Fudan University	6	6	8	Shanghai
Zhejiang University	7	7	8	Zhejiang
Shanghai Jiaotong University	6	6	8	Shanghai
University of Science and Technology of China	6(other ministry/agency 3)	3	4	Anhui
Xian Jiaoton University	6	3	8	Shanxi
Harbin Institute of Technology	6(other ministry/agency 3)	4	5.1	Heilongjiang
Third class				
Beijing Institute of Technology	6(other ministry/agency 3)	4	4	Beijing
Beijing Normal University	6	6	5	Beijing
Renmin University of China	6	6	5	Beijing
Beihang University (formerly Beijing University of Aeronautics and Astronautics)	(other ministry/agency 3)	3	4	Beijing
Northwestern Polytechnical University	(other ministry/agency 3)	3	4	Shaanxi
Nankai University	3.5	3.5	4	Tianjin
Tianjin University	3.5	3.5	4	Tianjin
Wuhan University	4	4	5	Hubei
Sichuan University	4	3.2	4	Sichuan
Jilin University	4	3	4	Jilin
Sun Yat-sen University	3	9	4	Guangdong
Shandong University	3	5	3	Shandong
Southeast University	3	3	4	Jiangsu
Huazhong University of Science and Technology	3	3	4	Hubei
Xiamen University	3	3	3	Fujian
Tongji University	3	3	4	Shanghai
Chongqing University	3	2.4	3	Chongqing
Lanzhou University	3	1.5 + land	3	Gansu

Central South University	2	2	3	Hunan
Hunan University	2	2	2	Hunan
Dalian University of Technology	2	2	3	Liaoning
Northeastern University	2	2	2	Jilin
University of Electronic Science and Technology of China	2	1.6	2	Sichuan
Ocean University of China	1	2	1.5	Shandong
China Agricultural University			3.5	Beijing
National University of Defense Technology			3	Hunan
Northwest A&F University			2.4	Shaanxi
Central University for Nationalities			1.5	Beijing

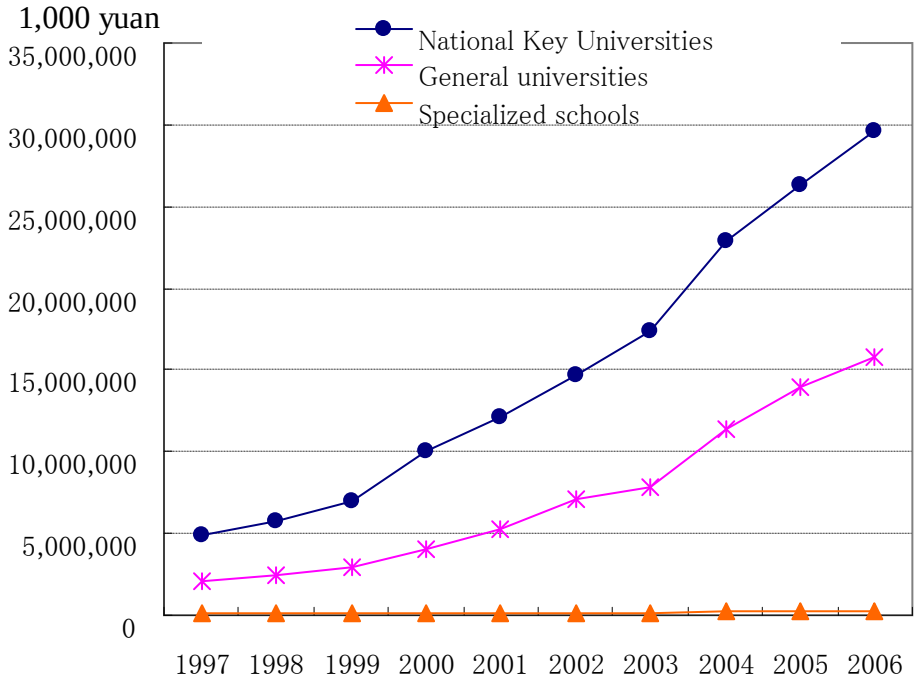
Note 1: Prepared by the author by referring to "A List of State Approved and Specified Key National Universities since Liberation," Liu Niancai, Differentiation and Classification of Institutes of Higher Education in China, and Hiroshima University, "A New Era for Higher Education in Japan and China"

Note 2: While the author has yet to obtain materials on second phase funds invested in universities by other ministries and agencies of the central government and local governments, they are said to be at the same one-for-one ratio with investments by the central government (Ministry of Education) as in the first phase.

5.2 Structural Changes in the Distribution of Scientific and Technological Research Expenditures

The concentration of fund allocations described above is reflected also in the structure of the distribution of scientific and technological research expenditures. As shown in Figure 5, an initial look at the changes in scientific and technological research expenditures by type of institute appears to indicate increases for both National Key Universities and general universities. But a closer examination reveals two points. First, a small number of National Key Universities receives far larger amounts than general universities. Further, as pointed out earlier, the pace of increase in research expenditures at general universities is slower than that at National Key Universities despite the rapid increase in the number of general universities during the great expansion period.

Figure 5: Scientific and Technological Research Expenditures at Institutes of Higher Education by Classification (1997-2006)

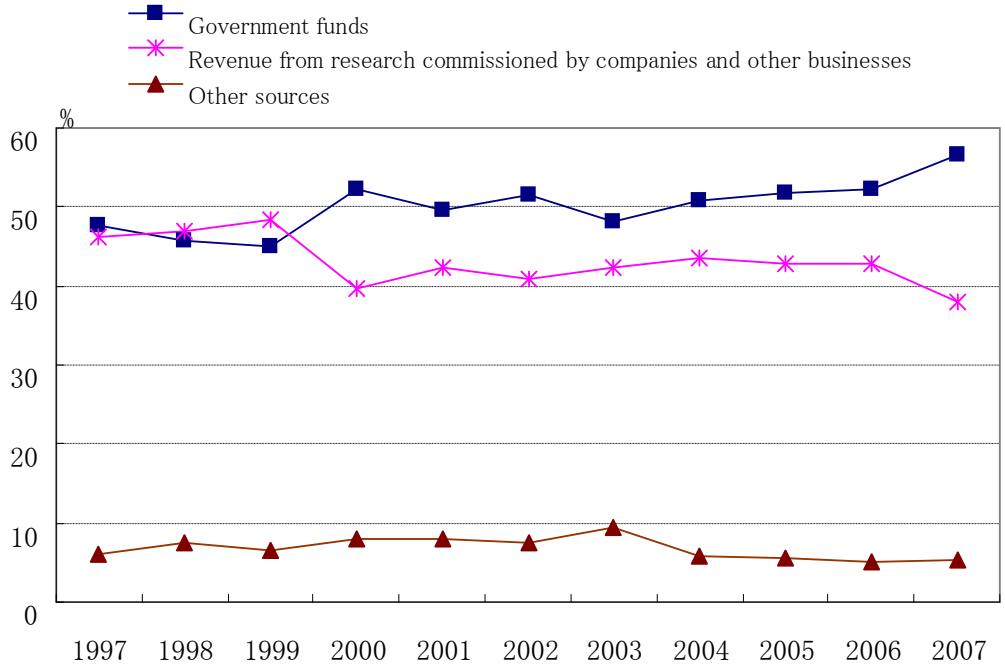


Source: Development and Planning Department, Ministry of Education, *China Educational Statistical Yearbook*, 1998-2007

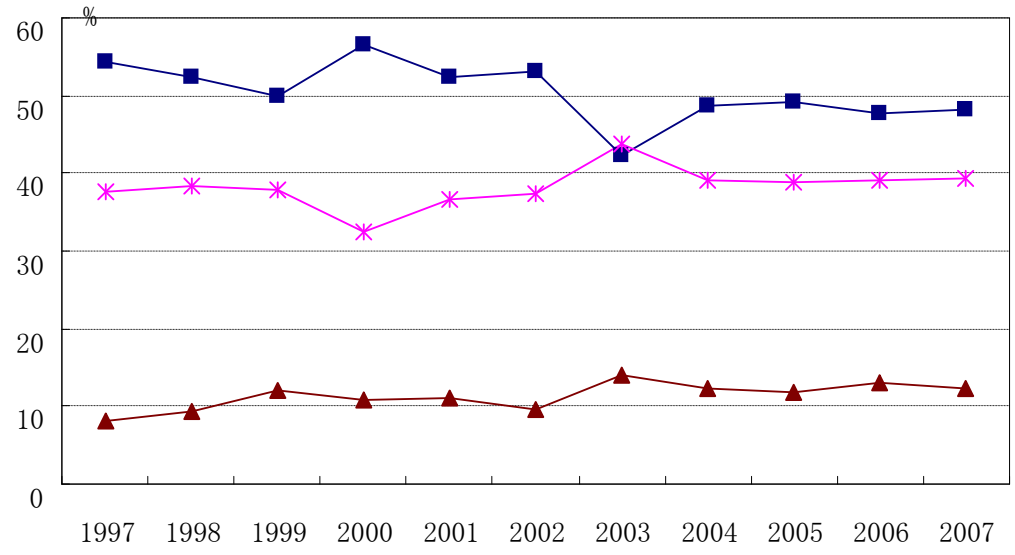
Furthermore, regarding the sources of scientific and technological research expenditures (Figure 6), the ratio of government funds exceeded 50% for the general universities by 2002, but subsequently declined, with growth occurring in the ratio of funds for research commissioned by companies and other businesses and funds from other sources. On the other hand, looking at the sources of scientific and technological research expenditures of National Key Universities , the ratio of funds by companies and other businesses, etc. has decreased since 1999. It is evident that both National Key Universities and general universities obtain about 50% of their scientific and technological research expenditures from sources other than the governments.

Figure 6: Sources of Funding for Scientific and Technological Research Expenditures at National Key Universities and General Universities (1997-2007)

National Key Universities



General Universities



Source: Development and Planning Department, Ministry of Education, *China Educational Statistical Yearbook*, 1997-2007

As noted above, the gap in the distribution of scientific and technological research expenditures between National Key Universities and general universities widened further during the great expansion period. In addition, as China has been expanding the allocation of competitive funding in a bid to enhance the research functions of universities, and part of these research funds are directly linked to the revenues of individual teaching staff at universities, the economic disparity between teachers at National Key Universities and general universities could widen further. These two points may help further strengthen research functions at National Key Universities while accelerating the erosion of the foundations for research at general universities.

5.3 Widening Gaps in Higher Education among Institutes and Regions

In order to examine the gaps between institutes of higher education brought about by the changes in the financial structures described in the preceding section, we look at educational expenses per student of universities administered by the central government and local governments by region in 2004 (Table 2).

Educational expenses per student in Beijing, which has the highest figure for universities administered by local governments, are over three times those in Guizhou, with a standard deviation reaching as high as 4,565. On the other hand, at universities administered by the central government, the highest figure is eight times as large as the lowest figure, with a standard deviation of 9,975.7. In other words, this confirms that there are large gaps both between universities in provinces administered by local governments and between universities located in provinces but administered by the central government. Furthermore, it is apparent that the gap in the latter case is considerably larger. The average of educational expenditures came to 12,652.4 yuan for universities administered by local governments and to 22,921.9 yuan for universities administered by the central government, an obviously huge disparity between the two.

Next, we look at the correlation between educational expenses per student and per-capita GDP of regions where the universities are located, for both universities administered by local governments and universities controlled by the central government.

As seen in Figure 7, both scatter plots indicate a positive correlation between educational expenses per student (vertical axis) and per-capita GDP of university locations (horizontal axis). In other words, while universities administered by local governments are significantly affected by the levels of economic development in their locations, universities controlled by the central government are also influenced by the

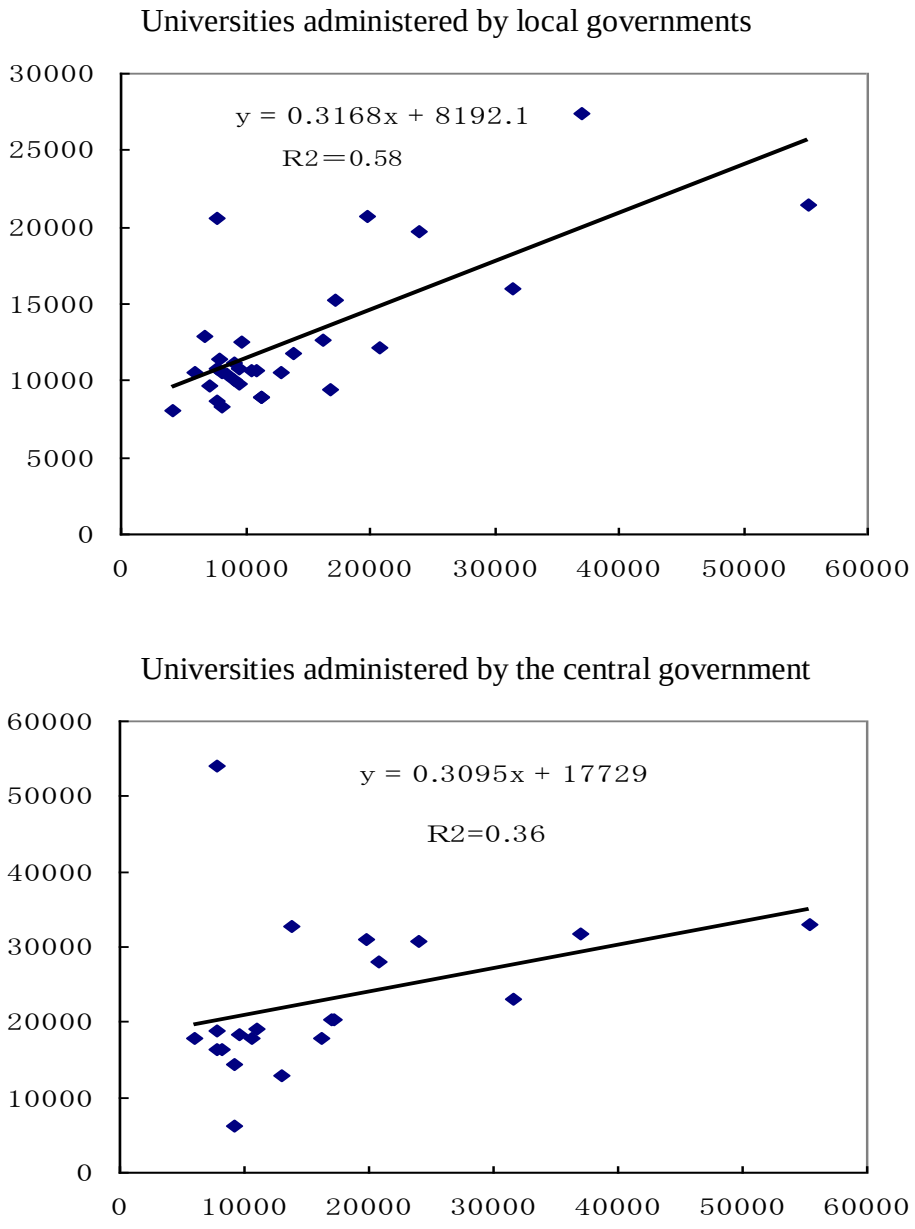
levels of economic development in the regions in which they are located. These situations not only reflect the scale of fund contributions from local governments but also are linked to divergent sources of non-government funds in such areas as industry-university cooperation.

Table 2: Educational Expenses per Student at Universities Administered by the Central Government and Local Governments in 2004 (in yuan)

	Universities administered by local governments	Universities administered by the central governments
Beijing	27399.4	31857.8
Tianjin	15961.6	23178.0
Hebei	10499.0	12822.3
Shanxi	11130.8	6183.3
Inner Mongo	8927.1	
Lioaning	12668.7	17780.3
Jilin	10642.9	19148.8
Heilongjiang	11792.7	32808.5
Shanghai	21498.6	33056.1
Jiangsu	12133.3	28049.9
Zhejiang	19663.3	30792.1
Anhui	8727.0	54069.8
Fujian	15228.8	20396.5
Jiangxi	10485.3	
Shandong	9424.4	20285.6
Henan	10758.3	
Hubei	10695.4	17956.5
Hunan	10037.1	14340.3
Guangdong	20690.5	31007.1
Guangxi	9615.6	
Hainan	9732.6	
Chongqing	12472.8	18402.2
Sichuan	8295.6	16267.9
Guizhou	8103.2	
Yunnan	12870.3	
Tibet	20588.9	
Shaanxi	10775.4	18781.4
Gansu	10515.0	17871.2
Qinghai	10464.9	
Ningxia	11439.2	16304.7
Xinjiang	8986.7	
Average	12652.4	22921.9
Standard deviation	4565.0	9975.7

Source: Finance Department, Ministry of Education, *China Educational Finance Statistical Yearbook*, 2005

Figure 7: Correlation between Educational Expenses and Per-Capita GDP in University Locations by Administration (in yuan)



Sources: Finance Department, Ministry of Education, *China Educational Finance Statistical Yearbook*, 2005; State Statistical Bureau, *China Statistical Yearbook*, 2004

6. Policy Implications

Higher education in China achieved a dramatic expansion from the late 1990s, and the significant players in that expansion of educational opportunities were special

course and regular course institutes of education under the administration of local governments. Subsequently, special course institutes became specialized in vocational education, becoming further distinct from regular course institutes. On the other hand, China invested heavily in a selected few National Key Universities in a bid to enable a swift rise in the level of research at these universities. This shows a differentiation in the function of regular course universities, with National Key Universities, mainly universities administered by the central government, becoming research-oriented institutes, and general universities, mainly consisting of universities administered by local governments, turning into education-oriented institutes. As a result of this process, China's system of higher education has come to exhibit a clearly hierarchical structure.

This transformation process was also linked to structural shifts in fund allocations. While the massification and marketization of higher education in China progressed simultaneously, institutes of higher education found themselves in circumstances where they had to reduce their dependence on government funds and diversify fund-raising channels. However, the National Key Universities policy that intensively directed limited amounts of funding for higher education toward National Key Universities not only brought about large gaps between National Key Universities and general universities, but also created gaps even among National Key Universities. Furthermore, the fishing process, intended to pull in funds from local governments to boost universities located in their regions through the use of central government projects, squeezed funds out of local governments, threatening educational funding for universities administered by local governments, which had contributed to the quantitative expansion of higher education, as well as for other levels of education. This helped further widen the gaps between universities administered by local governments, and also apparently made National Key Universities more vulnerable to the levels of economic development in the regions where they are located. It is true that the intensive investments made in National Key Universities since the 1990s significantly transformed the campuses, facilities and equipment at a small number of selected universities, and helped raise the levels of research and international recognition of these institutes in a relatively short span of time. However, there does remain room for doubt regarding the degree of achievement of policy objectives by these massive investments in terms of enhancing the levels of education and research. Even when the attainment of policy objectives can be reasonably expected, if the initiatives led to the undermining of the balanced development of higher education between universities and between regions, these should be examined and assessed in terms of both what has been gained and what has been lost.

Up to now, public concern has focused on the quantitative expansion of education in China, and has not necessarily paid due consideration to aspects of equal opportunity and fairness in education. Educational policies have also tended to give greater weight to efficiency. By international standards, the massification of higher education did expand opportunities for higher education, but at the same time brought about various social problems which have the potential to develop into a social crisis. Drawing on the experiences of Japan, higher education expanded rapidly in the 1960s against the backdrop of high economic growth, but a string of problems subsequently emerged, including the deterioration of the quality of education, the widening gap in opportunities for higher education, and the deteriorating job market for university graduates. These problems in part triggered a wave of university disturbances in the 1970s. Needless to say, the great expansion of higher education in China has produced a massive number of university graduates, and an oversupply of university graduates in the labor market has already surfaced as an issue. In addition, inequities in higher education opportunities are generated by greater gaps in economic development between regions and between cities and rural areas, disparities in incomes between high-income and low-income urban residents, and sharp rises in university tuition fees. At the same time, with economic development and diversification of information sharpening the sense of equal opportunity in society, the long-running practices of preferential enrollment allocations are spawning growing complaints about systemic inequalities. Furthermore, strong pressures for direct economic incentives and keener competition within universities have given rise to organizational and individual moral problems at universities. However, the more important problem is the deterioration of educational conditions and the quality of education at a large number of universities. Under these circumstances, the measures for excessive selection and concentration of fund allocations for universities are further intensifying the problems cited above. However, influential scholars who should be responsible for calling attention to such problems are not always forthcoming in bringing about rapid social recognition of these issues, partly due to the fact that they themselves are beneficiaries of the vested interests created by the measures.

In order to overcome the distortions brought about by the rapid growth of higher education, Japan in the mid-1970s underwent a shift to a policy of checking unrestrained expansion, and in an effort to narrow the gaps between institutes of higher education and improve the quality of education, the government began to subsidize privately-funded universities, tightened the reins over private universities and took steps to develop short-term institutes of higher education. In recent years in China, the

government has also moved to control the speed of expansion in higher education and maintain the quality of education through evaluation of higher education, and has also taken certain steps regarding social fairness and equal opportunities in education. However, these measures have as yet been insufficient to deal comprehensively with the problems cited above. Needless to say, each country is faced with a different set of problems associated with the massification of higher education. However, it is important for China to learn from the experiences of industrialized countries in order to detect and make efforts to solve problems at an early stage.

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