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From Manpower Supply to Economic Revival: Governance and Financing of Chinese Higher Education

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Abstract
With an introduction to the overall underdevelopment of higher education in China compared with the American counterpart, this article briefly examines the main trends of over two decades of development of the governance and financing systems of China's higher education sector. This article analyzes the resource allocation from governments and revenue generation in institutions under the reform policies of administrative decentralization and financing diversification. The new "Great Leap Forward" in higher education in 1999 and beyond, i.e., the radical and, to a certain extent, desperate mass higher education policy and practice of expanding enrollments in order to spur domestic consumption, is critically analyzed. By examining the ongoing institutional merging and "co-building" and the most recent enrollment expansion, the writer points out the economic significance for higher education of overcoming diseconomies of scale and inefficiencies. However, the long-range outcomes of the seemingly exciting investment in and consumption of mass higher education are difficult to predict.

Introduction

The significant issues such as reform, privatization, access, efficiency, equality, and equity are closely related to Chinese higher education administration and financing systems that are experiencing radical changes and restructuring[2]. (Note 2) In this article, I try to make a brief macro analysis of the case of Chinese higher education in the reform era from 1978 until the present primarily from the perspectives of governance and financing. From meeting modernization manpower requirements and producing technically qualified and politically correct human resources for about two decades, higher education in China now orients itself to stimulating investment and consumption, primarily on the demand side, in order to help the state revive the slumping economy.

First, I introduce Chinese higher education by comparing it with the well-known practice (e.g., long history, large scale, and high-level development) of American higher education. Second, I examine the main policy shifts of a more than two-decade development and general governance and financing operations in higher education. Third, I analyze the resource allocations of governments and revenue generation of institutions under reform policies of administrative decentralization and financing diversification. Fourth, I critically introduce and analyze the recent appearance of radical policy and practice to expand enrollment. Through stimulating the nationwide family investment and consumption of higher education, the state decision-makers hope that the move of mass higher education will help reinvigorate domestic consumption and help regain the state's sustained economic growth. In conclusion, by reflecting on institutional merging and "co-building" and the most recent radical enrollment expansion, I emphasize the economic ramifications of overcoming diseconomies of scale and inefficiencies of higher education for the development of Chinese economy. Meanwhile, I point out the results of the ongoing radical policies and practices of mass higher education remain very difficult to predict.

Overall Underdevelopment

For about two decades since the late 1970s, higher education in China has been experiencing tremendous changes and reforms. The reforms such as policy shifts toward decentralization of administration and diversification of financing have resulted in a great development in a number of fronts in the higher education sector. The rapid expansion in enrollments, reported to have increased to about 10 percent (Plafker, 1999) at the end of the century, was hailed as transition toward mass higher education (Hayhoe, 1993)[3]. (Note 3) However, compared with the general practice in the American higher education system[4], (Note 4) the first impression of the Chinese higher education system appears, among others, small in scale, short in history, and immature in development.

There were only 1,000 public regular colleges and universities in China, with a total enrollment of less than four million before 1999, which is the start of what I call the new "Great Leap Forward" in higher education when the enrollment ratio reached 10 percent. According to most recent Chinese official statistics, the number of these public institutions with an enrollment of 5,000 or more is less than one-seventh (CSSB, 1996, pp. 112-113). The average enrollment increased from 2,927 in 1996 to 3,112 in 1997 (CEY Editorial Board, 1998). Obviously, there exist diseconomies of scale in the higher

education sector.

In terms of history, the first university (now Peking University) in the modern sense was established in 1898. After that, sociopolitical instability and turbulence in China in the first half of twentieth century largely precluded serious development of higher education[5]. (Note 5) After the founding of the People's Republic in 1949, the higher education sector, though it soon gained great development under strong influence of the Soviet model, was nearly abolished during the most radical years of Cultural Revolution (1966-1976) (Cleverly, 1985; Lofstedt, 1980). After 1978, the American model of higher education was the one copied in China (Pepper, 1996).

Still in a stage of immature development, the higher education system in China is now more likely to be hyperpoliticized and ideologized even in the reform era. The typical examples are the nationwide compulsory three-month- to-one-year military education for students in colleges and universities in the years after the 1989 student movement and the alleged school-organized student demonstration after the NATO bombing of the Chinese Embassy in Belgrade in 1999. In addition, still struggling to grow out of the political control and command plan, higher education institutions are not well prepared for either the opportunities or the challenges of the free market. Besides, most institutions do not have clearly defined missions, performance-based management, or financing mechanisms. Few institutions have long-range institutional development goals. Internal and external inefficiencies and resource waste are still prevalent. Furthermore, after the policy of tuition and fees was applied in all public regular institution in 1996, effective and adequate financial aids from governments are generally unavailable, nor is the perfect market available where students and parents of poor families can obtain loans to invest in higher education. It is very difficult for students from poor families to obtain equal higher educational opportunities.

Compared with the fully developed American counterpart, higher education in China, to a certain extent, is still fumbling toward institutional autonomy, academic independence, and professional development. Chinese higher education institutions are making efforts to overcome inefficiencies, inequities, and underdevelopment (World Bank, 1997) through, for example, obtaining World Bank loans and following its recommendations. The new "Great Leap Forward" in the enrollment expansion in 1999 is the radical move that the policy decision-makers deem as a new way to develop higher education and, more importantly, to help revive the nation's economy (Note 6).

Development Trends

It is known that social and private benefits and monetary and non-monetary returns help drive the development of higher education (McMahon, 1974; Leslie & Brinkman, 1994). In addition, politicization of education has a special role in Chinese educational development, which is marked by hyper-politicization, politicization, and de-politicization at different periods of time (Sautman, 1991). Social and private benefits and monetary and non-monetary returns are also the driving forces for higher education development in China. In the reform of the 1980s, however, the state's manpower requirements for modernization and the pressure for international parity were among the immediate driving forces to expand, reform, and develop higher education.

Since the new state development policies of reform and "opening to outside world" were

implemented in 1978, the Chinese government has placed top priority on education, in particular on higher education in order to produce urgently needed skills and talents for economic reform and national modernization. Two major measures were taken in the higher education sector to achieve these goals: enrollment enlargement and institutional multiplication.

The period between 1978 and 1985 witnessed a rapid growth in the number of enrollments and institutions (Table 1). Most of the growth in the number of institutions occurred between 1982 and 1985. The total number of institutions grew from 715 in 1982 to 1,016 in 1985 (Cheng, 1993, pp. 201-214). In 1985, the central government promulgated the "Resolution on Education Reform," which became the Education Act in 1996, initiating sweeping reform in all education sectors including higher education. In 1993, to speed up the reform and transformation from a planned economy to a market economy, the central government enacted new policy guidelines, namely "Guidelines of Chinese Educational Reform and Development." These new legislation and policies advocated decentralization of institutional administration and management, and diversification of educational financing while the central and upper level governments maintained managerial oversight and policy regulation (Lewin et al., 1994).

Reforms in the higher education sector after 1985 featured a rapid increase in enrollments and with a growing effort to participate in market economy, rationalize specializations, and restructure curriculum and instruction, among others. But the total number of institutions did not increase significantly. In addition, the higher education sector has since been evidencing Westernization and globalization. The American model of a higher education system is gradually replacing the Soviet model for Chinese colleges and universities (Pepper, 1996).

Table 1
Development in Institutions and Enrollments, 1977-2000

Year	Institutions	FTE Enrollments[a] (In millions)	Annual Increase (In thousands)
2000	<1,020	>4.90	>331
1999	<1,020	4.50	>=331
1998	1,020	3.41	58
1997	1,020	3.35	167
1996	1,032	3.18	115
1995	1,064	3.05	120
1994	1,080	2.93	290
1993	1,065	2.64	360
1992	1,053	2.28	150
1991	1,064	2.13	-30

1990[b]	1,075	2.16	-20
1989	1,075	2.18	0
1988	1,075	2.18	100
1987	1,063	2.08	90
1986	1,054	1.99	200
1985	1,016	1.79	340
1984	902	1.45	140
1983	805	1.31	130
1982	715	1.18	-120
1981	704	1.30	130
1980	675	1.17	130
1979	633	1.04	173
1978	598	0.86	242
1977[c]	404	0.63	

Note. From Asian Times (1999); CEY Editorial Board (1997; 1998); Ministry of Education (MOE) Department of Development and Planning (1998); China State Statistic Bureau, Education Statistics Yearbook of China, 1992-1995; World Bank (1997); Zhao (1995).

[a] FTE Enrollments in associate, bachelor and graduate degree programs. Inconsistent statistics may be found in different official Chinese sources.

[b] 1990 and 1991 enrollments shrank from previous years probably because of the negative enrollment policy in response to the 1989 nationwide student movements.

[c] The Higher Education Entrance Examination System, which was abolished for several years during the Cultural Revolution (1966-1976), was reinstated in 1977.

As reported in Table 1, public regular higher education institutions increased to 1,080 in 1994. In 1995, the number of institutions decreased to 1,054. In 1996, 1997, and 1998, the numbers of regular public colleges and universities are 1,032, 1,020, and 1,020, respectively. According to Zhao (1995), the ongoing remarkable trend of institutional merging and amalgamation and establishment of cross- institutional consortia has resulted in a decrease in the total number of institutions. The merging trend in Chinese higher education is in sharp contrast with difficulties in institutional merging in the United States. In 1997, 162 colleges and universities merged into 74 institutions (CEY Editorial Board, 1998). Zhao (1998) explored institutional merging and amalgamation as a remarkable aspect of restructuring Chinese higher education, but could not adequately explore this phenomenon. The merging and amalgamation actually were accompanied and facilitated by policies that upgraded institution's rankings in the higher education hierarchy and increased their share of resources. In addition, institutional merger and amalgamation were the only option other than closure for institutions owned by several central ministry-level departments that were cut off during Premier Zhu Rongji's bold governmental restructuring and downsizing in 1998. The merging is still going on, and I

believe it will further reduce the numbers of colleges and universities.

In 1999, the central government decided to increase enrollment by 44 percent over the previous year (Liaowang News Weekly, 1999, p. 33), making the enrollment incidence as high as 10 percent for the first time in Chinese history. It was hoped that this radical enrollment expansion would satisfy the longstanding high demand for college education by families and students. More importantly, after many other attempts to revive the national economy proved unsatisfactory, decision makers hoped that the expected large-scale consumption and investment in higher education by households would stimulate domestic economic development (Plafker, 1999). Enrollments will continue to increase by 300,000 or more each year beyond 1999 according to the education authorities (Asian Times, 1999). Thus, the average unit cost in higher education is expected to be lower with the production of a larger volume of graduates, services, and research. Economies of scale in Chinese higher education sector are being sought.

Governance and Financing Systems

Higher education institutions are vertically administered and financed by one of the three types of administrative authority: (a) The MOE (Ministry of Education, which was renamed the SEC, State Education Commission in 1985, and renamed MOE in 1998), (b) the non-education ministry-level departments in the central government, and (c) provinces and province-level municipalities. The institutions of MOE and the central ministry-level governments are funded with budgetary allocations from the Ministry of Finance through MOE. Generally, the financial allocations are based simply on head-count enrollments, plus irregular, special-purpose funding. The provincial institutions are funded by the department of finance in each province and province-level municipality through MOE's provincial branches, plus irregular "encouraging" funding from the central government.

In 1995, there were 36 national "keypoint" universities funded through the SEC, with enrollments accounting for 11 percent of the total (Table 2). The average size was about 6,680 students. There were 331 ministry-funded institutions with enrollment taking 34 percent of the total. The average size was only about 2,100 students. There were 687 provincial and municipal institutions with enrollments of 55 percent of the total. The average size was about 1,600 students. In 1997, the average enrollment size of the three types of higher education institution grew to 3,112. All of the colleges and universities (except for a few recent amalgamated ones such as the Zhejiang University and the Sichuan Union University) are similar to very small U.S. colleges, according to American higher education enrollment numbers. But because of their diseconomies of scale, excessive high unit costs, ineffective organization structures, mismanagement, high student subsidies, and limited revenue sources (Hartnett, 1993), Chinese colleges and universities lack the economic efficiency, academic vitality, professional development, affirmative action, and democratic participation apparent in colleges and universities in the U.S.A.

Table 2
Number and Enrollment in Regular Colleges and Universities, 1995
(Enrollment in 1,000)

	# Institutions	Undergrad. enrollm.	Short-cycle enrollm.	Total enrollm.	Undergrad. enrollm.	Total enrollm.
SEC/MOE	36	223	47	269	15%	11%
Central Ministries	331	629	328	956	41%	34%
Provincial or municipal authorities	687	666	907	1573	44%	55%
Totals	1054	1518	1282	2799	100%	100%

Note. From China State Statistics Bureau (1996, pp. 112-123) and World Bank (1997), with the author's modification.

Of the total enrollments in these public regular institutions, 52 percent were enrolled in degree-earning undergraduate studies, 44 percent in short-cycle (associate degree) programs, and 4 percent in postgraduate studies in 1995. These institutions employed 1.04 million staff, of whom 38 percent were faculty, 44 percent were administrative and supportive staff, and 18 percent were employed in organizations and companies affiliated with the institutions. Of the total faculty and staff, only 2 percent had a doctoral degree, 19 percent a master's degree, 49 percent a bachelor's degree, and 30 percent held short- cycled diplomas or equivalent educational attainment (World Bank, 1997, p. xiii).

In 1997, the total enrollments in colleges and universities reached 3.35 million. The higher education sector employed 1.0315 million staff, of whom 405,000 people, about 40 percent were faculty, all others were administrative and supportive staff, and employees in organizations and companies affiliated with the institutions (CEY Editorial Board, 1998). The number of faculty is slowly increasing while the number of administrative staff is decreasing. Despite the fact that student numbers in both regular public and adult higher education institutions were included, the officially published student-faculty ratio increased from only 8.91:1 in 1995 to 9.81:1 in 1997 (CEY Editorial Board, 1997, 1998).

It should be pointed out that some central ministries, for instance the Ministry of Finance and the Ministry of Foreign Economic Relations and Trade, are more powerful and richly funded than other ministry-level departments. Some provinces and municipalities, in particular those in the east and south coastal regions, are much more economically developed than those in the hinterland. Consequently, there exist inequalities in allocation of financial resources among institutions from the three types of authority.

In recent years, in order to mobilize resources to better manage and finance institutions and improve institutions' internal and external efficiencies, MOE has encouraged gongjian ("co-building") colleges and universities in collaboration with provincial and municipal governments and/or industry. Collaborations between MOE and other ministries, between MOE and provinces, between universities and corporations, and among different institutions have been increasing greatly in hopes of achieving better management and financing of colleges and universities. In 1997, 100 universities had

officially announced their "co-building" partners ranging from provincial governments, and central level ministries to corporations. In all, 228 colleges and universities had signed official collaborative contracts with "cooperators" and "partners" including provincial governments, central ministry-level departments, and other institutions. For instance, a total of 129 employers and organizations participated in the "co- building" of, or in cooperation with, the Inner Mongolian University in north China (CEY Editorial Board, 1998, pp. 155-180)

Resources Allocation and Generation

China has experienced sustained economic growth for about two decades in the reform era since 1978, with an impressive average growth rate of about 9 percent per year in real terms. In recent years, economic growth has slowed because of multiple reasons. Given domestic economic growth and the perceived international parity, spending on education in China is a mixed picture. Great progress has been achieved but there is great room to improve.

Because a market economy gradually replaced the rigid centralized planning, and localities and employers could retain much of their earnings without including them for taxes, the growth of government revenues fell far behind that of GDP, increasing at an annual average of only 2.6% (World Bank, 1997). However, government expenditures increased at 3.3% per year higher than revenue, resulting in budget deficits almost every year. Public expenditure on education increased by an annual average of 10 percent between 1978 and 1994, far exceeding the growth rates of the total government revenues and expenditures. Though overall public spending decreased over the years, public spending on education in proportion to total government spending rose from 6.2 percent in 1978 to 17 percent in 1994 (World Bank, 1997), and stayed about 16 percent during 1995-1997. Yet, public spending as a percentage of GDP rose from 2.1 percent in 1978 up to 3.1 percent in 1989, fell to 2.2 percent in 1994, and gradually fell to 2.47 percent in 1996, and then rose to 2.54 percent in 1997 (MOE Department of Development and Planning, 1998). This level of spending is very low in comparison with the average of 2.8 percent of least- developed countries, 4.1 percent of developing countries, and 5.3 percent of developed countries (UNESCO, 1995, pp. 2- 28). Some researchers have criticized this low level of public spending from international parity (Tsang, 1994). Spending on education as a percentage of GDP would probably be slightly larger if the community's support for education at village and township levels were taken into account. It is very hard to calculate the nationwide local and community contribution and investment in education in both physical and financial resources.

The public allocation to higher education grew by an annual average of 9.7 percent between 1978 and 1994. Public spending on higher education rose from 20 percent of the total expenditure on education in 1978 up to 29 percent in 1984, then fell to about 17 percent between 1989 and 1992, and rose to 19 percent in 1994. The budgeted public allocation accounted for 95.9 percent in 1978, 86.9 percent in 1990 and 81.8 percent of the total revenues in the higher education sector in 1992 (Table 3). Given a very low enrollment ratio in higher education, pubic spending in higher education was high in comparison with its Asian neighbor countries. Asian countries and regions including Japan, Korea, Malaysia, and Taiwan spend only 11 to 17 percent of total public education expenditures on higher education (World Bank, 1997). Unlike Japan, the United States, and many other countries, China has not sufficiently utilized private

resources to support public higher education. Though booming in 1990s, private higher education in China is still under strict governmental control and scrutiny. The reasons for this practice stem from the government's political and ideological considerations, the profit orientations and the low quality of education in private colleges and universities.

In 1990, public spending per student in higher education was 193 percent of GDP per capita. Public spending per student in secondary education was 15 percent, and in primary education was five percent. In 1994, public spending in higher education was 175 percent, still considerably higher than the average of 98 percent in East Asia (World Bank, 1997, pp. 41-42). In other countries in East Asia and the United States with mass higher education, the large sizes of enrollments and efficient utilization of resources result in the economies of scale and reduced unit costs.

Table 3
Financing Sources: Public Allocation from Governments and Revenue Generation in Institutions

Sources:	**1978**	**1988**	**1990**	**1992**
1. Total Budgeted Allocation	95.9%	87.7%	86.9%	81.8%
Recurrent Expenditure	74.8	64.9	65.3	61.4
Capital Expenditure	21.1	22.9	21.6	20.4
2. Total Institution-Generated Revenues	4.1	12.3	13.1	18.2
Total of 2.1 and 2.2	4.1	10.5	11.4	13.6
2.1 Revenues from institution funded activities		10.3	10.7	12.8
From institution-affiliated enterprises		2.8	3.1	3.7
From commissioned training		2.1	1.9	2.3
From education services		0.9	1.1	1.1
From commissioned research and consulting		1.0	1.2	1.3
From other funded activities		2.7	3.0	3.7
2.2 Donations and Gifts		0.2	0.7	0.8
2.3 Student tuition and fees		1.8	2.9	4.6
Total	100%	100%	100%	100%

Note. From Chen Liangkun (1994) in (World Bank, 1997), p. 46, with the writer's modification. The published data for most recent years are not available.

Under the centralized command plan system before the reform started, higher education institutions were exclusively financed through governmental appropriation according to budgetary planning. The previous year's allocation was used as basis for the next year's allocation, with possible incremental adjustment according to the situations of the institution and the whole sector. Unused funds, if any, had to be returned to governments by institutions at the end of the year. The centralized, tightly controlled budgetary system

did not provide incentives and initiatives for efficient utilization of funds and institutional efficiency improvements.

The higher education financing system has been restructured through educational reforms. The major financing restructures include the following. First, along with decentralization in administration and management, decentralization in financing has been achieved. The central government delegated financing responsibilities to provinces and central ministries to finance institutions. Second, institutional autonomy and a simple formula-based approach (i.e., head-count of enrollment) were introduced in funding institutions. The institutions are given autonomy in spending money, and the governance authorities exercise the supervisory functions to hold institutions accountable in addition to overseeing their political correctness. The institutions are not required to return the unused funds at the end of the budgetary year. Third, financing is diversified in order to mobilize resources. The institutions are encouraged to generate and mobilize resources in any possible way.

As for diversification in financing, generally the following principal sources of financial resources have been tapped and expanded: (a) Institution-affiliated economies such as enterprises and companies, which accounted for 3.7 percent or more of total higher education revenue in 1992 and beyond. It is the largest share of the generated revenues (Table 3). (b) Commissioned training for companies, which accounted for 2.3 percent of total higher education revenue in 1992. (c) Research and consulting services, which accounted for 1.3 percent of total revenue in 1992. (d) Donations and gifts, which accounted for only 0.8 percent of total revenue in 1992 compared with zero in 1978. (e) Tuition and fees, which account for an increasingly large portion of revenues since 1996, though published official statistics are unavailable.

Again, there exist different types of inequalities. Inequalities exist between institutions in cosmopolitan areas and small cities, between market-oriented and traditional departments, between liberal arts institutions and institutions of engineering and business, and between key institutions of large alumni and new local institutions with little bases for attracting donations and gifts. In addition, the enthusiastic pursuit of revenues in many institutions has resulted in the phenomenon of "running schools, running business," and negatively affected learning, teaching, and research (Kwong, 1997).

Special mention should be made of tuition and fees. Before 1978, college students paid no fees and were assigned jobs upon graduation. The 1985 education reform allowed institutions to admit students outside state plan but sponsored by enterprises or self-financed. Institutions have charged a low level of fees to students under the state plan since 1989. In 1992, students in the state plan were charged an annual tuition fee of 300-600 RMB, or $36-72 USD, and room and board of 100-200 RMB, or $12-24 USD. There are regional and sub-sector disparities in fee levels. In 1994, the distinction in fee level among students under the state plan, enterprise-financed students and self-financed students was abolished. In 1995, the tuition fees for students in most institutions were about 1,300 RMB, or $157 USD per student per academic year. Some institutions could charge more but were ordered not to exceed 2,700 RMB, or $324 USD (World Bank, 1997). Students in teachers' institutions were exempted from tuition fees because of the chronic shortage of teachers. In 1996, the MOE required all public regular institutions to charge tuition and fees. The MOE fixed the price of tuition in regular programs at 1,200

RMB, or $145 USD per student per academic year, with 10 percent adjustment by local higher education authorities based on local economic conditions (CEY Editorial Board, 1998). According to visiting professors from five Chinese universities at the University of Illinois at Urbana- Champaign that I have interviewed, tuition at their universities was in the range of 2,700-3,100 RMB per student in 1999-2000 academic year, far exceeding the MOE regulated prices.

Tuition and fees were the very important components of private participation in investment in higher education. However, sufficient and diverse financial aid, in particular the financial mechanisms to adequately take care of students from poor families, were not available. The poor would be denied higher education opportunities because of their inability to pay the growing tuition and fees. Because of the imperfect market, it is very difficult for the poor to borrow money to invest in higher education.

A new student loan program was launched by the MOE, the Ministry of Finance, and the People's Bank of China with the endorsement of the State Council (Guangming Daily, 1999a). It was reported that in September 1999, the Commercial Bank of China would provide loans to college students with the subsidy of five percent interest from the government. My interviews with visiting professors from the five universities revealed that this program had not been implemented at their universities in early spring 2000. They responded that a few banks under the encouragement of local governments did try to make loans to students from poor families, but in very small amounts, usually several hundreds of RMB. What was worse, banks required borrowers to pay the loans before their graduation for fear that lenders could not reach borrowers after their graduation.

New "Great Leap Forward" in Higher Education

According to the Chronicle of Higher Education, in July 1999, MOE officials and the State Development Planning Commission announced that China's public regular colleges and universities would be allowed to enroll a total of 1.53 million new students, or 331,000 more than originally planned. The move started in 1999 was another attempt by the Chinese government to find new ways to revive the slumping economy. As pointed out, the perceived economic significance of family consumption and investment in higher education by the central authorities would help facilitate the pursuit of economies of scale in the higher education sector. But policy-makers' expectations to help reboot economic growth are the direct driving force for higher education to radically expand enrollments.

Calculating that the typical Chinese student spends some 10,000 RMB, or about $1,200 USD each year on tuition, housing, and expenses, it was expected the move would generate a wave of domestic consumption worth an estimated $400 million USD to the Chinese economy (Plafker, 1999). In 1999, 450,000 more university freshman students than the previous year were admitted than originally planned. This constitutes a 44 percent increase over the new enrollment in 1998 (Liaowang News Weekly, 1999, p.33). In addition, recruitment to adult higher education institutions increased by 100,000 above the previous year. Some regarded the new enrollments in the whole higher education sector as the largest increment since 1949 (China Youth Daily, 1999). The proportion of high school graduates going on to post- secondary education grew from 1.4 per cent in 1978 to 9 per cent in 1997. The figure in 1999 was about 10 per cent, which the government hoped to gradually increase to 15 per cent by 2010 (Plafker,

1999).

The China Education Daily (1999b) reported: "Enrollment in higher education will further increase next year, MOE has announced that higher education institutions will recruit 3 million freshmen in the year of 2000, an increase of nearly 10 percent over the 2.8 million admitted in 1999." The numbers of new enrollments in 1999, including the new enrollments of regular public, adult and private higher education institutions, are probably larger than previously thought. Many cities and provinces made their own enrollment expansion plans. For instance, Shanghai has planned to enlarge access to higher education and to raise the gross enrollment to 40 percent of the age cohort (China Education Daily, 1999a), an unprecedented higher education enrollment ratio in Chinese history.

In my interviews, visiting professors from Chinese universities expressed unanimously that their universities enrolled more students than expected. Presidents of colleges and universities, professors, as well as students and parents, were excited about the news of enrollment expansion. But as higher enrollment quotas were assigned to each institution, presidents and professors knew there would be difficulties in absorbing the unexpected increase. One professor from a university in north China said that, to his knowledge, in the provincial enrollment meeting with the governor and education officials in late summer 1999, presidents had to agree to enroll the given quota before the conference could be dismissed.

An MOE official explained that the effect of the increase on the economy is three-fold. First, the enrollment of more students in universities creates a demand for more buildings and equipment, which, in turn, will stimulate the development of some relevant sectors of the economy, such as construction and service industries. Second, there is a shift of over 300,000 high school students to tertiary education institutions each year (in the expansion). This will relieve pressure on the employment sector (by over 300,000 positions) at least for the next three or four years. Third, household money savings will flow out of the banks as more university students pay their tuition fees (Asian Times 1999). Obviously, the expanding enrollments is intended to immediately stimulate consumption and reinvigorate domestic demand.

Many questions arise about the radical enrollment expansion. First and foremost, is there any significant empirical evidence to support the hypothesis that radical enrollment expansion will stimulate economic growth? After careful studies by Professor Wei Xin (1999) and his research group at Peking University, conservative answers were provided. On the side of supply of higher education, regular higher education institutions do not have the potential for expansion to the degree that policy-makers assumed. Nevertheless, it is almost impossible for the private institutions to expand enrollment under the current strict control of state regulations and rules. On the side of demand, the ability of the general public to pay tuition and fees is questionable. The total number of household bank savings in China with a population of about 1.2 billion reached 5,300 billion RMB, or about $640 billion USD at the end of 1998. However, the money was not equally distributed among households. The richest 20 percent of the households owned over half of the total household income. The Gini coefficient in China increased from 0.288 in 1995 to 0.388 in 1998, and over 0.400 in 1999. What is more important, it is difficult to expand the capital infrastructure of colleges and universities. If one million more students are admitted each year and if the MOE institution infrastructure standards are

followed, a total of 100-300 billion RMB will be needed to invest in infrastructure construction within the four-year cycle. Currently, it is almost impossible for the governments to make such a huge investment. If this financial burden is transmitted to students and families through rising tuition and fees, higher education then becomes even more unaffordable for the low-income majority.

Second, what about the quality of education after colleges and universities expand their enrollments, some even beyond their capacities? The visiting professors from China that I interviewed expressed their concerns by comparing their own tutoring experiences and the educational achievements of their students before and after the enrollment expansion. Education authorities also worry about the deteriorating quality of education. According to China Education Daily (1999c), the Department of Higher Education of the MOE has issued a directive to require colleges and universities to ensure the quality of teaching and learning after the expansion of enrollments in 1999. To improve teaching and learning is a challenge for all institutions. For instance, specialized colleges normally offer 2-3 year certificate courses. But with the expansion of higher education in 1999, many 2-3-year colleges that are allowed to offer certificate courses are also providing bachelors degree courses. Guangming Daily (1999b) warned that this trend would threaten the quality of education.

Third, what about employment after four years of education? The National Coordination Workshop for Employment of University Graduates 1999 stated that the employment situation was not satisfactory in some ways because of the aftermath of the Asian financial crises and downsizing of governments and state-owned enterprises. MOE urged the relevant government agencies to offer opportunities to new graduates and it also asked universities to encourage students to enter non-government organizations and self- employment enterprises (Southern Daily, May 23, 1999). After three or four years, when the graduates are ready for employment, can the unemployment pressure be relieved? Can the economy recover and labor markets be reinvigorated to take in the large number of college graduates? Without other cautious and compatible prevention measures, it is possible for Chinese university graduates to repeat the unemployment or underemployment experienced of higher education graduates in some developing countries such as Sri Lanka and India.

Conclusion

Large numbers of small institutions are one characteristic of the Chinese higher education system for over two decades. In addition, Chinese higher education has relatively low internal and external efficiencies. The low efficiencies are typically represented by the under-utilization of personnel and physical resources, and over-specialization and rigidity in instructional programs. Rationalization of specializations and units within the institution, joint production of neighboring institutions, institutional merger or consolidation, and increasing the size of institutions are the four ways for Chinese higher education to help overcome diseconomies of scale (Tsang & Min, 1993).

Fortunately, recent trends and practices evidence the following: curb the institutional multiplication, encourage merger and amalgamation and "co-building," increase enrollments without growth of institution numbers, rationalize institutional programs and management, and other types of reform measures. These trends and practices are

aimed at achieving economies of scale and efficiencies of higher education.

The new "Great Leap Forward" in higher education expansion in 1999 and beyond, on the demand side, satisfies families' strong desire for higher education for their children, and, indeed, stimulates household consumption of and investment in higher education in the short run. Yet, such a radical move also brings questions and concerns about its impact on student achievement and the quality of education, on graduates' employment, and on economic growth in the long run. Chinese political and educational authorities should look to both international experiences and domestic educational and socioeconomic realities in implementing the new "Great Leap Forward" policies, before it is too late.

Notes

1. I wish to acknowledge helpful comments from Professor King Alexander of the Department of Educational Organization and Leadership at the University of Illinois at Urbana- Champaign, who carefully read the first draft. I wish to thank the EPAA Editor and anonymous referees for their helpful advice and comments.
1. In this article, I concentrate my discussion and analysis on mainstream higher education in China, i.e., regular public higher education. Adult higher education and private higher education are two other types of higher education. The former is part-time, aimed at upgrading educational attainment of workers, teachers, and other groups in the workforce who wish to seek higher education without interrupting their employment. The latter appeared after the education reform that was officially initiated in 1985. Though many applauded the appearance and quick expansion of private education, only 20 private colleges and universities had been accredited by the central educational authorities as of 1997 (Zhang, 1997). In 2000, there are only 37 non-governmental private colleges and universities that are authorized to issue associate degrees (China Youth Daily, 2000). The development of private higher education cannot maintain its momentum. The major reason, perhaps, is the lack of governmental subsidies, which leads to institutional autonomy and independence but, meanwhile, hinders the communication and cooperation between the policy decision-makers and the private institutions. Furthermore, the lack of governmental subsidies leads the private institutions to seek quick investment returns at the expense of satisfactory and healthy institutional growth.
2. For these issues, see, for example, K. Lewin, A. Little, H. Xu, and J. Zheng (1994), J. Henze (1984), pp.93- pp153, M. Tsang & W. Min (1992), and World Bank (1991; 1996; 1997).
3. Hayhoe (1993) predicted that the higher education enrollment rate in China would reach 10 percent at the end of the century. From what was reported by Plafker (1999), Hayhoe was correct in her prediction. Plafker reported that the total number of higher education institutions was 1,032 in 1999. Actually, that was the number of institutions in 1996. In 1999, the number must have been smaller because of increasing institutional mergers.
4. For the American higher education system and financing policy shifts, see, for example, M. Mumpher (1996) and P. M. Callan, and Finney, J. E. (1997).
5. It should be noted that mission colleges and universities, of which many were established by American missionaries, experienced most impressive progress and development between 1910-1937 (Deng, 1997, pp. 67-90). These mission

institutions meanwhile also stimulated, directly or indirectly, the development of Chinese national colleges and universities before 1949.

6. For the "Great Leap Forward" in education, the hyperpoliticized, frenetic, radical, and unrealistic education expansion movement in 1958, see, for example, J. Kwong (1979).

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