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Economic Reform and Higher Education in China

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China's Economic Reform: An Evolutionary Transition

To most foreigners, China is a miracle: it not only survived the most disastrous "Culture Revolution" (1966-1976), but also successfully solved the problem of food shortage, by feeding 22 percent of the world's population with less than 7 percent of world's farm land. For the economic reform, rather than clinging to ideological debates on the differences between socialism and capitalism as it did before, China opted towards a market-oriented strategy to achieve its economic goals. In the last 15 years, the market economy in China has maintained a fast growing pace. In 1988 the annual GDP growth rate was 11.8 percent, in 1993 the annual growth rate was 13.4 percent, in 1997 it was 9.0 percent,¹ and in 2002 it was 7.8 percent.² The average growth rate for the last 25 years was at a robust aggregate of 9.4 percent. The lofty goal to quadruple the 1980 GNP by the year 2000 was more than realized.

Economists marvel at how China was able to maintain this extraordinary developmental pace while other regions of the world experienced stagnant growth, frequented by economic recessions. Joseph E. Stiglitz, Vice President of the World Bank, offers one possible answer in his comparative study between different strategies employed by the Soviet Union and China in their dealings with economic reform. He found that

rather than focusing on the privatization of existing enterprises, [China] focused on the creation of new enterprises. While the standard theorems of economics argue that a successful market economy requires both property rights and competition, the strategy followed in much of the rest of the world focused on the former; China focused on the latter. While strategies followed in much of the rest of the world paid little attention to institutions, to what I have called the organizational/social capital, China embarked on an evolutionary transition, which transformed much of the existing institutional structure.³

Stiglitz's conceptualization of China's economic reform is quite accurate: to transfer an economy on the verge of bankruptcy after the ten-year political turmoil required not only talent and courage but also strategy.

China's economic reform first started in the countryside, where a de-collective approach was adopted by leasing farming land to farmers to increase agricultural production. During nearly 30 years of collectivism, agriculture had been under heavy government regulation. Farmers had neither the autonomy to decide what to grow nor did they have a say in where to sell their products. The agricultural reform movement was

silently started in a small village in Anhui Province where the farmer secretly signed a contract that leased the land to the farmers who were required to give a fixed amount of grain to the state and keep the extra for themselves, regardless of how much they produced. This greatly stimulated the farmers' enthusiasm for increasing productivity, and in the first year their production was more than doubled, and the farmers for the first time had more than enough to eat. This simple but effective policy was soon implemented to the entire Anhui Province and thence nationwide. Since about 80 percent of China's population lived in rural regions, if there was a real change in the national economy, it had to begin with the farmers and focus on self-sufficiency.

During this same period, the policy to develop rural, non-agricultural sectors by transferring some of the labor force from the agricultural-based industries to local community enterprises was implemented. In 1980s, the rural non-agricultural sector was the most dynamic component of the Chinese economy. As Samuel Ho notes, in Jiangsu Province, "millions of rural workers have shifted from farming to non-agricultural activities and in the process have transformed the structure of Jiangsu's rural economy."⁴ The practice of land-leasing and the transformation of farmers into non-agriculture sectors proved to be very successful. For the first time since the establishment of the People's Republic of China, the country not only had enough food to provide to its own people, but also could export some of the produce to other countries. It was recorded that in 1983, China's share of total United States imports was about 1 percent, and foreign trade in 1984 was more than USD \$25 billion. Though comparatively speaking the 1 percent of share in U.S. imports and the 25 billion of dollars in trade may not mean much now, at that time, it was a significant milestone. The success provided the necessary underpinnings to build upon—China could achieve its goal to compete on a global level. In the United States in the early 1990s, there was a big debate on who is going to feed the hungry Chinese. Such a debate is worthwhile for problem awareness, but for actually solving this problem, leasing public land to the farmers can be considered as an initial step for individual self-reliance. This practice immediately liberated farmers from the bondage of collectivity, and greatly increased agricultural productivity.

Similarly, in the industrial sector, a reform was first started in employment and personnel management by smashing the so-called "Iron Rice Bowl" in the early 1980s. The phrase "Iron Rice Bowl" is a metaphor used to indicate that once one was employed in the industrial sector, whether he was productive or not, nobody could fire him and he could have his job forever like an iron bowl that cannot be broken. In the years when emphasis on productivity was considered as equivalent for developing a capitalist economy, efficiency was not a concept in the administration and management as long as everything was under central control. But when productivity and efficiency became core elements for economic growth, a strategy was adopted to separate Party functions from day-to-day operation to a kind of macro-governance. This practice led to the

decentralization of decision-making in a traditionally centrally planned industry. In recent publications, some Western scholars have used the term “recentralization” to describe the nature of evolutionary reform in different sectors of the country.⁵ But what should be recognized is that whether it is decentralization or recentralization, the administrative structure at the local- and central-governmental level has already experienced a great change, which is quite different from what it used to be. In industry, business, and education, top administrators have been given the right of hiring and firing, an authority that had never been granted before.

The decentralization process involved different aspects of the country’s economic reform. First, there was a shifting of priorities for development from heavy industry to light and service industry. This adjustment soon proved to be vital in improving the overall quality of life on a national level. Those people who visited China in the late 1970s may still remember that everyone on the street wore gray clothes, which indicated a life plain and simple. Lack of supply was a common phenomenon, and even in the early 1980s, one had to use coupons for every-day consumption such as grain, oil, sugar, cotton, cloth, pork, even soap and detergent! But since the mid-1980s, coupons were gradually phased out and by the early 1990s all coupons were gone. China entered a stage when supply of almost everything was equivalent to or larger than demand. Second, private sector in the early 1980s came into being with Deng Xiaoping’s famous expression that “no matter white or black, the cat that catches the mouse is the best.” With Mr. Deng’s new economic policy, for the first time on China’s grocery market in 30 years, one could rent a corner or simply put a table on the street to sell boiled-eggs or “big-bowl tea” without being criticized for developing capitalism. With the development of the private sector in business and industry, there was also an effort to transform state industries and enterprises by contracting the state firms to “trusted individuals” in order to improve efficiency and increase productivity. Of course, there were many problems in the practice of transforming those state industries. How do deal with low-performing workers was the most obvious concern for social stability. Workers for the first time faced layoffs and unemployment. Once the reform movement had been set in motion and with such far-reaching changes, it was virtually impossible to turn back.

Following the implementation of China’s Open-Door Policy, foreign individuals and businesses were encouraged to invest and stimulate the country’s economy. By 1993, China’s cumulative foreign investment totaled USD \$313.8 billion in contract terms and USD \$135.6 billion in actual utilized terms. The number of foreign-invested enterprises in China had reached 168,000, including 108,000 joint ventures, 26,000 corporations, and 34,000 completely foreign-owned firms.⁶ Foreign investments and businesses have provided the foundational springboard toward an economic revolution. When McDonald’s opened its first restaurant in Beijing in 1992, it not only brought to Chinese people hamburgers and Coca-Cola, an exotic food that Chinese people never had before,

but it also set up an example to the Chinese food industry about how to run fast food restaurants to meet the needs of a changing pace of life. Now, there are probably more McDonald's restaurants in Beijing than in many American cities.

The impact of economic reforms on higher education is multi-dimensional, because foreign investments and enterprises brought in not only employment opportunities for young graduates, but also created a great demand for personnel with competence and versatile skills. There arose a great need for knowledge and technology acquisition to further innovation. How Chinese higher education has changed in response to the demands of the recent economic reforms is the question this paper will now address.

Higher Education Expansion and Economic Reform

Higher education and economic reform are two dynamic forces that affect the development of each other. As Suzanne Pepper observed,

Change in the education sector thus did not need to await the Third Plenum of the Eleventh Central Committee in December 1978, which officially inaugurated Deng Xiaoping's reform administration. By that time, almost all the decisions necessary to recreate the regular education system in its pre-1966 state had already been announced, and implementation was well under way.⁷

In the winter of 1977, of the 5.7 million people who took part in the national college entrance examination, only 273,000 students were admitted to attend higher education. Compared with the number of eligible participants, the number of students admitted was only a fraction (4.8 percent of those who sat for the exam). The potential opportunity to attend higher education sent out a message to millions of young men and women, whose lives were stagnated on the labor farms and in the countryside, with a hope for the improvement of their future lives. It also sent out a message to the whole country that economic development should first start from the preparation of human capital and knowledge should be recognized as important.

The importance of education in economic reform has been emphasized again and again. In the 1980s, the most important initiative from the central government was to change the State Ministry of Education to the State Education Commission in order to strengthen the ties between the central government and the education sector. In the 1990s, due to organizational structure change of the central government, the State Education

Commission was changed back to State Ministry of Education. Instead of granting State Ministry of Education with higher status, a strategy was adopted to give priority in the development of education. The 14th Central Communist Party (CCP) Congress in 1992 announced that “to develop education is the first priority to the realization of the four modernizations.”⁸ The 15th CCP Congress in 1997 reemphasized the strategy of reinvigorating the country with science and education and the strategy of sustainable development should be the two most important means for China to build a socialist market economy with Chinese characteristics. Of these two strategies, the development of education is of prime importance because one cannot expect a brand new economy with an old education system, as the mismatch would definitely hinder further development of the economy. And in 1998, the announcement of building world-class universities further emphasized the importance of knowledge and education in the nation’s economic development.

Many researchers on Chinese higher education have observed that the Chinese higher education system has changed a great deal and many changes are shaped and reshaped by the market needs. Vilma Seeberg notes that “reform in the educational systems has accompanied the economic and political changes throughout the former state-socialist world. The changes have been tailored largely to respond to market needs.”⁹

In responding to market needs, Chinese higher education first experienced a system-wide expansion. After six years of suspension, in 1972 Chinese universities were reopened with a different student selection system and a shortened curriculum in combination with a strong ideological element. In 1976, there were 392 higher learning institutions in the country. The educational goal was to train leadership both with specialized knowledge and political trustworthiness. In 1978 when the Open-Door Policy was announced and the decision for economic reform was made, higher education had to be expanded as fast as it could. So in the early 1980s, upgrading colleges into universities was a common phenomenon. A three-year traditional Chinese medicine college could be upgraded into a four-year university and a two-year vocational school in engineering could be upgraded into a three-year professional college. Between 1976-1985, 618 such institutions were upgraded into colleges or universities. In 1985, the total number of public higher learning institutions was 1,010. Most of the upgraded colleges and universities related with medicine, law, economics, science and technology. For example, in 1977 there was only one institute in economics and finance, in 1987 there were 74 of them. In 1977 there was only one university of politics and law, and by 1987, there were 25 such universities.

This rapid expansion of the higher education subsector made parents and secondary school graduates happy because it not only increased the access to higher

education, but also provided more choices for postsecondary education. Faculty members in those institutions were happy because once their institutes were promoted into colleges and universities, there would be an increase of salaries and status change. And school administrators were also optimistic because there were more resources and students available for higher education. To be a university president meant higher prestige than that offered at leading a professional or vocational school. But the problem is that academic and scholarly work could not be upgraded by good intentions or overnight. Lack of qualified faculty to fill the teaching and research positions became the number one issue for institutions to offer quality education.

Besides system expansion, several other factors contributed to the problem of lacking qualified faculty in colleges and universities. First, after Deng Xiaoping's visit to the United States in 1978, many young Chinese went to study abroad. Between 1980 and 1998, there was the phenomenon called *chu-guo-re* (enthusiasm for studying abroad). In about 20 years, 300,000 Chinese studied overseas, and a large number of them were young faculty from universities. Second, due to the disparity between low salary policy and open market economy, many young men and women in the 1980s and 1990s left their faculty positions to look for opportunities in business and international trade. A new term for describing the phenomenon called *xia-hai* was used, meaning many educated young men and women jumped into the sea of business with uncertainties. Of course, to those young men and women who did join the business sector, some were very successful and others failed. Third, the old professors, who had wasted ten years in "political cadre training schools," were reaching the age of retirement.

In order to keep those excellent graduates to teach in colleges and universities, many universities offered a kind of on-job training program to employees in acquiring master's degrees. That is, the young instructors could start their master's degree program as an instructor with a half-time teaching position for one or two years to finish the course work and a full-time teaching position while writing their thesis. At the same time, special policies such as university-provided housing and research funds were introduced to encourage students abroad to return. Some universities even offered faculty who studied abroad leave with pay for four years in order to get them back, but the return rate was only one-third in 1999.¹⁰

With a limited number of institutions, limited enrollment and a planned economy, higher education was free to everyone for the first 30 years of the People's Republic of China. Whoever was fortunate enough to pass the national college entrance examination, would be guaranteed an education free of tuition. Admitted students also received a government subsidy for living expenses and under the centrally planned system, graduates from colleges and universities were all assigned a position according to the respective needs of the country. But with the system expansion and the development of

modern technology, higher education became more expansive than ever. The establishment of costly teaching and research labs on university campus with hi-tech facilities only amplified the situation. Under these circumstances, it became apparent that higher education could not always remain free of charge.

Also in the late 1980s, when the labor market was gradually opened up with more foreign investment, joint venture business and *minying* (people-operated or privately owned) firms, many job opportunities were created. Though students were guaranteed a government-assigned position after graduation, in many cases, they were unwilling to accept the assignment. For with government's job assignment, graduates were more likely to be sent to the most needed companies and business in the public sector with lower pay. What they were required to do often had no direct relationship with what they were trained for.

On the other hand, though higher education had continuously expanded, there was still a shortage of supply to meet the individual need for higher education and the market need for qualified personnel. What is more obvious is that there was a mismatch between current available programs in universities and the dynamic needs of a market-oriented job market. For instance, there was a great demand for MBAs in the business sector, but no such program existed in Chinese universities until the late 1980s.

Given these problems in higher education, "The Decision of the CCP Central Committee on the Reform of the Education System" was published in 1985. For this decision, Mr. Deng pointed out: "Following the system reform of economy, there is an urgent need for the reform of the system of science and technology and the system of education. The central government should discuss these issues and make relevant decisions."¹¹ The "Decision" emphasized that "Education must serve the socialist construction, and the socialist construction must rely on education." But how higher education could best serve socialist construction and meet the need of an opening market were serious questions both for decision-makers and practitioners. Then a series of strategies were adapted for change in the higher education subsector.

The Development of *Minban* Higher Education

Reviewing what happened over the past 25 years of Chinese higher education, one realizes that it is no longer a simple public system under the governance of the central government. The most significant change in this process is the development of *minban* higher education institutions since the early 1980s. *Minban* here means civil- or people-operated. In Chinese official documents, it was categorized as "non-state" higher education institutions in contrast with the regular "state" higher education institutions. In

the West, Chinese *minban* colleges and universities are classified as “private”, but it is not exactly the case. For Chinese *minban* institutions are quite different from the Western conception of “private” in the way they are organized, governed, and financed. For example, most of the Chinese *minban* institutions are financially supported by students’ tuition and fees only; there is not much private donation. Some *minban* universities or colleges have a kind of affiliation with local government institutions, though they do not have any financial support from the local government. Currently there are 1,381 such *minban* institutions in China. Among them, some institutions are organized by different parties (China has eight minor political parties known as democratic parties who also participate in the government and cooperate with the CCP), some are organized by various social organizations, and some are organized by overseas enterprises.

In Chinese education history, there used to be different kinds of private institutions. In the early Twentieth century, there were missionary universities sponsored by foreign churches and private universities by individual businessmen. In 1952, those private universities were either merged into the public system or simply closed. Thirty years later, the first *minban* university was opened in Beijing in 1982, which was called *Zhonghua Shehui Daxue* (Chinese Social University).¹² Soon thereafter more than 100 such higher learning institutions were established across the country.

The development of *minban* higher education institutions in China was not an easy one. Here is a story told by the director in an educational cooperative enterprise in Ningpo when the author visited her university. The director of the educational enterprise used to be a CCP director in a technical school. During the early 1980s, no students were willing to study in the technical school because there was no technology in the school curriculum, which was badly outdated. Students from local high schools either chose to go to colleges and universities elsewhere or simply open individual businesses themselves. At that time the city of Ningpo had the most developed economy in the country. The school faced the situation of being shut down or adapting to the needs of the market economy. In order to create higher education opportunities for the local community, this CCP director signed a contract with the city government to rebuild the school under the condition that she would not have a penny from the city government, but she could use the campus and the facilities on the campus. Former teachers and staff should be transferred to her payroll instead of staying on the city government’s payroll. For the sake of survival, she first opened an international boarding school with a curriculum heavily emphasized on language training with high fees. She later opened a kindergarten by offering a language program. When she had accumulated enough money, she opened a four-year *minban* university. At the time of the author’s visit, she had constructed a brand new campus for the university. On the campus, there are newly built teaching and research buildings, dormitories and computer labs. There are athletic facilities and swimming pools. The campus was well designed, landscaped, and is

renowned for its attractive presence in the community. Perhaps most important is that there were more than 3,000 students attending the campus at the time. With this exemplary case of hard work and success, she declared to the audience that the university is not hers and it is not part of her enterprise either; rather it is the local government's. She used her talent and money to build it and run it.

However, not all of the *minban* higher education institutions have such a story of success; some could barely survive, and others went bankrupt. There was also criticism that *minban* schools were merely for-profit business ventures, though this may not always be the case. In 1987, a document called "The Provisional Regulation on Social Forces Running Schools" was published to regulate certain issues of *minban* institutions. The regulation requires local governments and education administrators to solve the problems of disorders in the governance and the irregularities in conferring of diplomas in *minban* colleges and universities. As Ka-ho Mok and David Chan note, during 1987 and 1991, central educational authorities became more prudent in handling private higher educational affairs and the regulations and provisions as implemented were not conducive to the development of private higher education institutions.¹³ This position could be more easily understood if one took the political situation in the late 1980s into consideration.

Given the criticism, many *minban* institutions started to act for self-regulation. In 1989, more than 70 presidents held a meeting in Wuhan. Instead of establishing *minban* schools based on for-profit motives, they emphasized that programs and admission should serve social needs and evaluation of education quality should be based on social effects. But they also asked for the government's subsidy with equal job opportunities and treatment for students.

In order to hold *minban* colleges and universities accountable, in 1993, the provisional regulations for the establishment of *minban* colleges and universities was published. It further specified the governance of *minban* universities and colleges on legal basis. And in 1998, the country's first "Law of Higher Education" passed through the National People's Congress. Article 6 in the law clearly states that "in light of the need of economic and social development, the State formulates plans for the development of higher education, runs higher education institutions and promotes higher education in various ways." It continues, "The State encourages all sectors of society, including enterprises, institutions, public organizations or groups as well as individual citizens, to run higher education institutions in accordance with law and to participate in and support the reform and development of higher education."¹⁴ On December 28, 2002, a law on promoting the development *minban* education was published. Article I, Item V of the law states that *minban* and public schools have the same legal status. And the sponsors, presidents, faculty, staffs and students will be protected with their legal rights. With all of

these regulations and laws, Chinese *minban* institutions seem to prosper. In 2002, there were 1,381 such institutions in China with an enrollment of 1.18 million students.

Besides the development of *minban* higher education institutions in China, more attention was also given to the development of the adult higher education system and the development of national self-study programs. Adult higher education is mainly for those who require on-the-job training, but since regular higher education could not meet the need of all the students, adult education is also open to young students who have lost the chance to go to regular higher education institutions. It is a system that provides a flexible schedule for students to finish three years professional education and five years general education. In 2000, there were 772 adult higher education institutions with a total enrollment of 1.1million students.¹⁵

Economic Structure Change and the Birth of Professional Schools

Beginning from 1977, more than 10 million college graduates have entered the labor force. Most of these graduates currently hold important positions at middle- or upper-level management in private, public, and joint venture organizations.¹⁶ But putting Chinese higher education in a larger perspective, one finds that Chinese higher education is still a relatively an elite system. As mentioned earlier, in 1977 nearly 6 million young men and women took the nationwide college entrance examination, and only 273,000 students were lucky enough to be admitted into colleges and universities. And even after the system expansion and diversification, the gross enrollment rate was only 5 percent in 1988 and 8 percent in 1998 of the total eligible population. This elite system has deprived many intelligent young men and women of higher education.

Due to severe competition among high school students to get access to higher education, many “college-track” schools and “college-track” classes in ordinary high schools were created. After school programs, weekend programs and summer sessions were also added to the already over-loaded secondary school curriculum. All of these extra-curricular academic programs were geared towards helping students prepare to pass the national college entrance examination. In order to high school students’ study load, the Ministry of Education simply ordered to officially ban these programs. But these programs still exist in a form of underground education.

How to reform the secondary education curriculum, as well as to increase accessibility to higher education, are questions frequently discussed nationwide. But there does not seem to be a feasible way to accomplish these goals without the government’s

increase in spending. Actually, the government's spending on higher education decreased in the 1990s in comparison with GNP growth, a point that will be discussed later. With an increased pressure for accessibility in 1998, the State Ministry of Education made the decision to enlarge the college and university annual enrollment by 30 percent. As a result, in 1998 the total annual enrollment was 1.08 million and in 1999, the annual enrollment was 1.69 million and in 2000, the enrollment reached to 2.2 million. It is always a good thing for the nation to have more students educated. By the three years of increased enrollment, the gross enrollment rate in Chinese higher education reached 13.1 percent in 2002 with a total enrollment of 6 million students studying in state regular universities and 4 million more in other forms of higher education. But when colleges and universities were ordered to take more students without proper funding for facilities and spaces, dormitories, and classrooms became even more crowded.

At the beginning of 2001, there was a loud cry for quality control, largely because it was recognized that some students were not well prepared for college education according to the traditional standard. The problem of articulation, which once happened in the United States in the process of universalizing higher education, was repeated in China. Even now, there exist discussions of how to improve the quality of higher education. And according to a prominent professor's view, there should be a difference in quality between elite higher education and mass higher education, and one should not use the elite standard of higher education to measure the quality of mass higher education. Such an argument is really worth further discussion, for we need to define the difference of quality in elite and mass systems of higher education. Last July, at the Forum of Chinese and Foreign University Presidents, the Minister of Education in China was considering launching a five-year program nationwide for quality evaluation, and some foreign experts were more than ready to offer their practical advice concerning the issue. But given the vast difference in understanding about quality and evaluation in higher education of the two cultures, there seems to be a need to clarify terms first.

The growth of foreign investment and international trade, the expansion of joint ventures and *mingying* enterprises have not only changed the country's economic structure, but also changed the country's labor market. Some professions that were traditionally considered to be unnecessary now became very important. For instance, in 1986, there were only 3,000 judges in China with a population of over one billion and there was no such thing as private lawyers.

Even if there were qualified personnel to assume those essential positions, supporting staff and employees may not be well qualified. In the banking and finance industry in China in 1987, only 25 percent of employees had undergraduate and graduate education background, 20 percent had some college education experience, and 39 percent of the employees' education background were below the level of high school. Lack of

qualified employees seriously affected the effectiveness of the country's legal and financial system.

So for higher education, the problem is not simply to expand the system and to enlarge the number of students in colleges and universities. What higher education programs and what kind of curriculum is necessary to meet the market needs are the two issues policy-makers must consider. When a Shenzhen businessman conducted his interviews for new employees in Beijing, he was disappointed that none of the interviewees seemed to be qualified. At first, someone thought he was too picky. But when one carefully examined the existing university programs and curricula, one discovered that though the labor market had changed dramatically, universities tended to lag behind with little or nothing new to offer.

In order to provide a guide for program and curriculum reform in universities and colleges, in 1987, the State Commission of Education reclassified the fields of study and specialties for undergraduate education. The goal of these adjustments was to put more emphasis on those traditionally neglected disciplines and to make specialties wider and more inclusive so as to provide a kind of general education. Originally, there were 1,200 specialties for undergraduate programs; after the reclassification, there were only 249 specialties. In 1995, the Ministry of Education carried out another activity to reclassify disciplines. After the reclassification, law was separated from political science, becoming its own discipline. Table 1 shows the ratio of student distributions in different disciplines at the undergraduate level in 1978, 1988 and 1998.¹⁷

Table 1. Disciplines and Enrollment Percent by Year

Discipline	1978	1988	Discipline Reclassification	1998
Humanities	10.2	5.4	Philosophy	0.1
Agriculture	6.3	4.5	Agriculture	3.5
Teacher's Training	29.2	25.7	Education	4.1
Political Science and Law	0.2	2.1	Law	4.0
Medicine	13.2	9.3	Medicine	8.3
Science	7.5	5.3	Science	10.5
Economics and Finance	2.1	10.0	Economics	14.9
Engineering	33.6	35.2	Engineering	39.7
Forestry	0.9	1.0	History	1.5
Physical Education	0.7	0.8	Literature	13.3
Art	1.1	0.8		

Before 1993, law was classified with political science, which caused a lot of misunderstanding of the status of the legal system in the country. Making law its own discipline obviated this problem after the discipline reclassification in 1995. The most important shift was in the field of economics where relatively not attention was given previously. Because of its link to the rapidly changing environment in China, it became one of the most sought after disciplines, second only to engineering. Student enrollment ratios in different disciplines somewhat reflect the market needs for labor. In 1998, there were 1086 graduates in philosophy and in 2000 there were only 916 student graduates in the same discipline. While in engineering, there were 28,030 undergraduates in 1998; in 2000 there were 35,429 undergraduates.¹⁸

Even though the number is small, students with a philosophy degree always have a hard time finding employment. As an alternative, many students in philosophy choose to go to graduate school. Then there is the question about what university should do with less wanted disciplines in social science and humanities. As it is commonly accepted, a famous university should always have a balanced development in all fields and areas of study. But actually it is not a real story, even in very famous universities in China, philosophy and history departments have a hard time finding the right fit for their current students striving to advance in a market-oriented economy.

As mentioned earlier, in 1992 and 1993, foreign investments in China had reached record high. How to use these investments and who should manage them are problems needing to be addressed immediately. When Premier Zhu Rong-ji delivered his speech at the Massachusetts Institute of Technology in 1998, he emphasized that China's policy is "to invigorate the country with science and education, and between science and education, education is the base." He also mentioned that China is in great need of qualified personnel, especially in management.

For training of professionals, in 1991, the State Council made a decision that universities should offer professional programs in law, business, public administration, agriculture extension, MD program, education, architecture, vet medicine. Based on this decision, Peking University first established Guanghua School of Business Management in China in 1992 to take up the responsibility of training professionals in business management. Now 56 universities in China can offer MBA degrees, 22 universities can offer master's degrees in law, 29 universities have established professional degree programs in education, and twelve universities have professional programs in architecture.

Even now, there are still some debates in universities like Peking and Tsinghua about the university's role in professional training. Critics argue that these well-known research universities should pay more attention to scientific research and the development of research programs in training scientists and leaderships rather than wasting limited

resources on developing professional schools. In a given context, the criticism seems to be acceptable, but if one looks at the development of Chinese professional schools historically, one may conclude that Peking University and Tsinghua University are the right place to offer professional degrees. Both universities have developed very strong Ph.D. programs in almost every discipline, except agriculture and physical culture. Both universities are the first to offer Ph.D. degrees in China in the 1980s, when the regulation for degree programs was published, and both have the ability to attract international human resources to open those professional schools.

Change for Educational Resources and for Creativity

While economists look for indicators and figures to see how the country has been performing financially, educational researchers would look for relationships between economic growth, policy change, and educational adjustment. China has a population of 1.27 billion, with an average education level of eight years. If China wants to reach a middle level income country by 2025, there should be at least a very well educated and productive labor force. The kind of education which universities can provide will definitely affect the development of economy and the development of the nation as a whole. A socialist market economy with modern technology not only requires people with specialized knowledge, but also the ability to adapt to constant shifts of the labor market, to be creative, and to be able to engage in life-long learning. As knowledge and innovation become more and more critical for the country's economic development, questions such as "Why are Chinese students not as creative as their counterparts in developed countries?" and "What is wrong with Chinese higher education?" are frequently asked.

In 1952, China adopted the Soviet model of higher education. Since then, Chinese universities focused on training professionals and specialists instead of offering liberal education. In order to establish specialized universities, the medical department and engineering department of Peking University were removed from the university. While the medical department became a medical university, the engineering department of Peking University was transferred to Tsinghua University. Then Peking University was made to specialize in science and humanities, while Tsinghua University became more focused on engineering and architecture. At the same time, other new specialized colleges and universities were established. When one reviews the names of Chinese universities, one would find such names as foreign language university, forestry university, agriculture university, railway university, textile university and so on.

The worst part of this model is that universities and colleges are narrowly specialized according to the projected manpower needs, which sometimes did not match what was really needed after four or five years training. Since each university was specialized in a certain area of study, it could not provide a wide scale of knowledge for students to be creative and innovative. For instance, Beijing Light Industry College, Beijing Geology College, and Beijing Petroleum College all specialized in the area as indicated by their respective names. With a segmentation of the disciplines among universities, Chinese students were equipped with a well structured knowledge in their specific areas, but they lost their ability to integrate the specialized knowledge into other disciplines. In most cases, they did not know how to carry out research by using the knowledge they acquired from books. A typical phrase was used to describe the situation as *lilun-tuoli-shiji*, which means the separation of theory from practice.

Another problem is that scientific research was separated from the universities after 1952 since most research was conducted in the newly established Chinese Academy of Science. There were only a few research labs in some eminent universities, and most universities and colleges simply became teaching institutions. There were no research initiatives in universities, which led to a loss in knowledge advancement and academic status as well. Instead of producing new knowledge, curriculums in universities and colleges were all fixed, and faculty members were merely instructors, having no way to update their own knowledge or to bring in new knowledge.

Given all of these problems, “The Outline for the Reform and Development of China’s Education” was published in 1993. It states that in the 1990s, Chinese higher education must be geared to the needs of the accelerated reform and the modernization drive. New approaches should be explored to enlarge the scale of higher education, to further rationalize its structure, and to improve quality and efficiency. In order to achieve the goal stated above, great efforts have been made in the reform of the administration system both at the government and institutional levels in higher education.

For the reform at the governmental level, one eight-word policy was adopted to describe the process. The eight words (Chinese characters) are *gong-jian*, *he-zuo*, *he-bing*, and *hua-zhuan*. *Gong-jian* means to build higher education with both the central and local governments’ efforts; *he-zuo* means higher education should cooperate with other sectors such as enterprises and institutions for development; *he-bing* means to merge the specialized universities together to build comprehensive universities; and *hua-zhuan* means to transfer the administrative responsibility of some institutions from different ministries in the central government to local government. With the eight-word policy, local governments at the provincial level or at the municipal level are given the chance to share responsibility in financing and governance of universities. The sharing of governance in higher education between local and central government also provided

some flexibility to local authorities for the reform of higher education according to local economic development needs.

Based on this eight-word policy, many universities and colleges merged together. For example, Beijing Medical University was merged into Peking University in 1998. Four universities in Zhejiang Province merged together to become the new Zhejiang University in 1996. In Changchun, the capital of Jilin Province, six universities were united to become the new Jilin University. The purpose of merging universities was to eliminate over-specialization, to reduce repeatedly established programs among university, and to make full use of the limited resources, but how effective it will work remains to be seen.

The practice of merging universities also led to some structural change within university. In Chinese universities, the organizational structure used to follow the two-level model: university and department. Now, a three-level model is widely adopted: university-college-department. That is also the organizational structure of Peking University, although there are still some departments under the university's direct administration due to historical reasons. In addition, there are faculties or divisions, which mainly take care of some academic activities, but have no administrative power. Currently Peking University has five faculties: humanities, social sciences, medicine, natural science, and engineering. The rational for academic organizational structure change is that the university administration will have "macro-level" control, such as setting up policies and long-term developmental objectives of the university, while the colleges or schools will perform the function of real academic administration. After the merging and undergoing significant internal structural change, most Chinese universities are now in the process of curriculum reform to provide students with general education rather than specialized education, and such programs are already under experimentation in some universities.

Can higher education function in a centralized way with a decentralized economy? The answer is of course not. Economic diversity not only leads to the structure change of the country in leadership, it also leads to some kind of autonomy in university governance. But the concept of autonomy could take on a different meaning in different cultural contexts. Even in the same cultural context, autonomy itself could mean different things. For example, in Robert Berdahl's definition, there are two kinds of autonomy: substantive autonomy and procedural autonomy. Substantive autonomy relates with the power of the university or college in its corporate form to determine its own goals and programs, it indicates "what of academe." Procedural autonomy refers to the power of the university or college in its corporate form to determine the means by which its goals and programs will be pursued, it relates to the "how of academe."¹⁹ In the Chinese context, what has been asked for relates more with Berdahl's procedural autonomy. While the

goals and missions of higher education are clearly defined by the central government, how to carry them out should be the decision of universities.

Actually in the eight-word policy, the phrase *fang-quan* is used to indicate the central government's willingness to grant the university autonomy in certain area of governance. With this *fang-quan* policy, an individual institution can recruit students according to contracts between the institution, employers, and tuition-paying students. The employers and students are additional to the state's plan; make adjustment on the major fields of study and choose textbooks for their students; cooperate with other industrial and research organizations to conduct research projects and to establish teaching, research and production entities; appoint and remove university's vice-presidents and lower-level administrators and faculty members; and tap other sources for investment, in addition to governmental grants.

As mentioned previously, with system expansion and the increase of enrollment in higher education, the central government is no longer able to fully sponsor the system. Statistics show that government spending on higher education was a bit more than 15 billion RMB in 1993 and it increased to more than 32 billion RMB in 1997. In four years, the real spending on higher education was doubled, but in relation to GNP, it was 3.2 percent in 1985 and reduced to 2.54 percent in 1993 and 2.49 percent in 1997. In comparison, the average ratio for developing countries was 4 percent and for developed countries 5.7 percent. In China, spending on higher education in relation to GNP was not only lower than the average of developing countries; it also shows a sign of decreasing annually. In order to alleviate the financial pressure and strengthen institutions' capacity for self-reliance, there was a change of policy on the finance of higher education in the early 1990s. The policy *gong-jian*, which means to build universities by the central and local governments together, was adopted to encourage local government's participation in supporting higher education.

At the same time, the new policy encourages universities and colleges to generate extra revenue through research and consultation, commissioned training programs, establish school-run enterprises, and provide other services to industry and communities. Universities may also receive social contributions and even private donations. Because of this policy, many universities have established school-run enterprises based on university research and technology innovation. In addition, fund-raising programs were introduced and educational foundations were established in some universities.

In combination with all of those strategies, tuition and fees were gradually introduced into the whole system of Chinese higher education in 1996. The program was first started in 47 universities in 1994 as a kind of experiment. Now all universities charge fees and tuitions with government's subsidies of universities in agriculture,

forestry, teacher training, and ethnic minority studies. Tuition for state institutions are fixed by the Ministry of Education, and tuition for *minban* universities are also under the guidance of the Ministry of Education. Due to differences in disciplines, there are some variations for students' tuition. Generally speaking, for teachers' training colleges, agriculture and forestry universities the tuition for one academic year is about 1,500-2,000 RMB, for other regular institutions, it is about 4,000-5,000 RMB. Boarding expenses are approximately 400-500 RMB per year. But for performing arts, tuition could be as high as 20,000 RMB annually. Still, fees and tuitions only cover about 15-20 percent of the real cost for each student. Following the introduction of fees and tuitions, the job assignment practice was also abolished. For lower socioeconomic students who cannot afford to pay tuition and fees, scholarships, work study programs, and government and commercial loan programs have been introduced to make certain that students do not drop out of higher education because of financial limitations.

Develop Research Capacity for Knowledge Economy

The Chinese economy has become more sophisticated and diverse after 25 years of reform, traditional intensive labor and mass production has gradually given way to technology and innovative industries. At the beginning of the new millennium, there was a clear vision that for further economic development, a direct link between university research and knowledge transformation must be established. The recent development of university scientific research and technology innovation parks in Beijing, Harbin and Jiangsu makes universities more like an enterprise than an academy. The knowledge economy and globalization are two of the most frequently discussed concepts in public media and at national conferences. In order to strengthen research capacity in Chinese universities, "Project 211" was first established in 1992. The purpose was to develop 100 world-class higher education institutions that can compete on a global level during the Twenty-first century. For these 100 universities, the state has and will continue to provide core funding, and they will be under the administration of the Ministry of Education. The remaining state universities will be under shared-governance and co-sponsorship with the local governments, different state departments and the central government.

In 1995, in order to further emphasize the importance of education and knowledge for the development of the economy, a decision was made to "invigorate the country with science and education." Because of this decision, higher education was put in the forefront of the nation's development. At the same time, there was a structural reform of the Chinese Academy of Science with some basic research transferred into universities. And recently, there are also some basic research institutes from Academy of Science transferred into universities. "Project 211" and the reform of the Academy of Science is

a way to optimize limited resources to strengthen the development of core universities, and it simultaneously created competitions among universities. These include competitions for best faculty, best students, most innovative research, and for more financial resources. This competition among universities creates a natural quality assurance mechanism and increases the internal efficiency of the system. But there are also problems. For instance, great global changes occurred simultaneously with China's economic reforms in the past quarter century. We witnessed the end of the Cold War. This power shift in global order provided a great opportunity for China both politically and economically. After 20 years of negotiations, China finally joined into World Trade Organization, a special recognition for China's role in the world's economic affairs. Inside the country, globalization and internationalization are two developmental dynamics that also interacted with China's economic reform. How to raise the nation's capacity of competitiveness in world trade is the question not only asked by economists but educators too. It is true that in 1990s, the importance of basic research has been emphasized, and some basic research institutions from the Academy of Science were transferred to universities to strengthen research capacities in higher education. But the funding for fundamental research in higher education remains very limited. And also when one looks at the research capacity and the number of Ph.D. student training programs among the current 83 universities (only 83 universities are currently part of Project 211), there is a great disparity. In order to further optimize limited resources and to raise the country's capacity in a more competitive world, in 1996, Peking University proposed to build world-class universities. And in 1998, President Jiang Zemin openly expressed his support for the proposal at the Centennial of Peking University. A decision thus was made to allocate 1.8 billion RMB in three years to Peking University and Tsinghua University respectively for the effort of building "world-class" universities. This sent a clear message to Chinese higher education that there is a need for further diversification of the system and Peking University and Tsinghua University should be up to the international standard as amongst the leading universities in the world.

With this fund, the two universities were able to retain those faculty members who were about to leave, to recruit well-known scholars and to make possible internal academic structure reform for national and international cooperation in research and academic affairs. Also because of this extra funding, the two universities have been under considerable pressure or criticism for relevance with government funding in research, productivity and elitism in student selection. Many of these criticisms come from those who do not understand the nature of building world-class universities. Now the two universities are very fragile in a way that they need to comply with different needs of society, to hold themselves accountable with the administration of the central government while simultaneously increasing the research and development in those identified areas of academe that require global publishing standards. Recently the two universities have been under a lot of internal academic organizational structural changes as well as changes in

internal governance and management. The most challenging question is how the two universities will become world-class in a given period of time. Tsinghua University has already set the goal for it to become world class by 2011 when it celebrates its centennial. There is a need for tremendous effort.

In recent years, the two universities have provided high-level personnel for the sophisticating economy. Peking University is the first university to offer Ph.D. degrees in 1983. Graduate education in China was not a new thing, but for degree programs, it started in the era of economic reform. When the People's Republic of China was established in 1949, there were only 242 students in no-degree graduate education programs. From 1950 to 1965, there were also 22,700 students in non-degree graduate study programs. Most of the professors who had academic degrees were educated abroad. And in 1978, 63,500 students participated in the examination for graduate study, and 10,700 students were admitted.²⁰ Just before the graduation of these graduate students, "The Regulations for Degree in the People's Republic of China" was issued. It specified three levels of academic degrees: bachelor, master's and doctoral degrees in philosophy, economics, law, education, literature, history, science, engineering, agriculture, medicine and military. In the history of modern Chinese higher education, this was the first time to offer such academic degrees. As it was a new event in China, the former State Education Commission and the Academic Degree Committee of the State Council formulated a series of regulations and rules in accordance with its provisions: a Ph.D. program can be granted if there are three full professors in a given discipline in a key university. That means that not all of the Chinese universities qualify to have Ph.D. programs. Also only full professors after two years of promotion can have students in Ph.D. programs. Another thing that needs to be pointed out is that adult institutions and most of the *minban* institutions cannot offer academic degrees. Though some of the requirements in the regulation seem to be out of date, there is a need for amendment as it is still in practice. Now among the 1,071 state universities, only 33 universities have been given the permission to establish graduate schools.²¹ And Peking University is the first to have established its own graduate school.

Up to 1999, 665 universities in the state system could offer bachelor degrees; 537 universities and 148 research institutions could offer master's degrees; 276 universities and 47 research institutions could offer doctoral degrees. In the last twenty years, a large number of students have acquired their master's and doctoral degrees. During the period of 1981-1997 nearly 36,000 doctoral degrees were granted and 380,000 master's degrees were awarded. In 2000 alone, 11,004 doctoral degrees and 47,565 master's degrees were conferred. Among the 11,004 doctoral degrees, 2,408 were in science, 4,611 in engineering, 1,520 in medicine, and 701 in economics, whereas there were only 38 in literature and 48 in agriculture. Most people in advanced personal training are in science, engineering, medicine, and economics disciplines.

When knowledge and economy are so closely connected, higher education faces a crucial turning point. It is not only expected to provide qualified personnel to fill high-level scientific, technical, professional and managerial positions, it is also expected to be the engine for the country's economic growth. Given the success of American research universities and their contribution to the country's national defense, public health, and the development of the entire country, the establishment of Chinese research universities is also on the agenda. In order to promote the development of research universities, China has established R&D funds to support research initiatives in universities. Currently, there are three categories of funding established: Natural Science Fund, National Social Science Fund, and the High-Technology Development Plan (863 Plan). In 1986, the first key national research lab was established at Peking University, and by now there are 55 such national research labs under the Ministry of Education, with sixteen located on the Peking University campus. Now research and the production of knowledge in universities have become more emphasized than ever before. The term "publish or perish" for faculty is no longer the property of American universities. In China, some universities even go to the extreme—professors must publish a set number of papers in international journals annually in order to get promoted or a salary increase. At Peking University, faculty members are offered unparalleled flexibility to their responsibilities among teaching and research. At the same time, the university has expanded its function by transforming research findings and discoveries directly into productivity. Now Peking University has six enterprises and ten teaching hospitals. In 2001, there were 5,039 university enterprises in China, and among them 39.44 percent are high-tech related. In Beijing in 2001, university enterprises' sales income was 26 billion RMB.²² The future development of university enterprises is among current academic debates. To some people, university and industry are two different kinds of organizations; they are different in relation to the goals of knowledge production and application. If universities are heavily involved with industry, there must be a drift in universities' missions, goals, and resources to cope with this involvement. But there also seems to be a positive side as well. First, universities can transfer knowledge directly into production, a practice that reduces time and money for knowledge transformation. And second, university enterprises can be used as research nodes for students, of which solved the problem of a lack of student research labs. For the pros and con of university enterprises, it will still take time to see the result. But this academic business venture legitimizes the question many faculty on campus are faced with, "If a university is heavily involved in industry, where is the position of academic research?"

Conclusion

Since 1978, higher education reform in China has been driven by economy and market forces. With any kind of change in the country's economy, higher education has to make adjustment. Immediately following its membership into the WTO, a heated debate arose on the industrialization of higher education. Some people even suggested putting higher education under total market control. Now the problem becomes even more obvious—What is the proper relationship between the economy and higher education? In responding to a growing economic and market need, Chinese higher education has experienced a system wide expansion, diversification, decentralization, program adjustment, and operational autonomy. But all of these reforms adapted a “top-down” or “outside-in” approach. Lack of initiatives for change from “bottom-up” or “inside-out” approaches raises the question of effectiveness or efficiency of the reform process. Would it be better or more effective if a bottom-up approach were adopted?

It is true that China's economy is strong in development. The sudden outbreak of Severe Acute Respiratory Syndrome (SARS) will not stop this inevitable trend of growth. But as mentioned earlier, most of China's economic growth is still in labor-intensive industry. For instance, on the US market, one can frequently find low-price shoes and cheap toys made in China, meanwhile China's import of hi-tech products almost cover the whole spectrum of human life from medicine to hi-tech equipments. This indicates that China is in great need of more advanced knowledge. Meanwhile, there are clearly urban, rural, and regional disparities in economic development because most foreign-based companies and trade are located in along the costal urban centers such as Beijing, Tianjin, Shanghai, Guangdong, and Hainan. The average GDP for a person was 34,547 RMB in Shanghai in 2001, whereas in Guizhou Province of the far southwest, it was only 2,662 RMB. Between the two, a person living in the urban areas of Shanghai earns twelve times what a person on Guizhou Province does annually. Similarly in rural Shanghai, the average GDP for a person was only 5,597 RMB, much lower than that of person in urban Shanghai.²³ The development of the costal area and major cities has attracted millions of people from the poor western provinces and the countryside to look for opportunities in the southeast coastal regions. This has not only created a problem of instability, but also added to the brain-drain dilemma in the less developed areas.

The process of shifting from heavy industry to light and service industry, together with the application of advanced technologies in factories and enterprises, created an 18 million person surplus of labor in the urban centers of China. If those floating farmers were included in this figure, there would be more than 100 million people in need of permanent employment. What is even more distressing, farmers moving to the cities not only request for employment, but also require much needed transportation, housing, education, and medical facilities. As a result, cities have become even more overcrowded. Besides the unbalanced economic development between urban/rural, East/West, there is

also a tendency of widening the gap between the rich and the poor in China, which contradicts the socialist ideology of general welfare.

While there is an economic unbalance in development, there is also educational disparity regionally. For instance, in Beijing, there are over 50 state universities and colleges and a substantial number of *minban* and adult higher learning institutions. In Qinghai Province, there are only three state universities and colleges. Furthermore in China, one can seldom find a university or college in the rural regions. This further deprives economic development in the rural regions for lack of knowledge and information acquisition. At the conclusion of this discussion, it is worthwhile to ponder how Chinese higher education can reach out and to provide knowledge to poor rural areas within China's borders. What specific missions and roles will higher education play in independent judgment, development of cultural and ethical values of society, besides economic development? And finally, in what way will higher education accomplish its tasks in capacity building of the nation and at the same time provide equitable access? It is projected that the next 20 years is critical for China's economic development. No doubt there will be an essential role that higher education will play in this crucial time period. The close tie between economic growth, education development, and knowledge production, is provided under the rubric of higher education. Yet, higher education must also maintain the responsibility in promoting equality, and cultural and ethical values of the nation.

Notes

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⁴ Samuel Ho, *Rural China in Transition: Non-Agricultural Development in Rural Jiangsu, 1978-1990* (Oxford: Clarendon Press, 1990).

⁵ John N. Hawkins, "Centralization, Decentralization, Recentralization: Educational Reform in China," *Journal of Education Administration* 38 (5):442-454.

⁶ Ding.

⁷ Suzanne Pepper, *China's Education Reform in the 1980's: Policies, Issues, and Historical Perspectives*, (Berkeley: Institute of East Asian Studies, University of California at Berkeley, 1990).

⁸ For more information on this see the China Education and Research Network's website at www.edu.cn.

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¹⁰ The Ministry of Education of the People's Republic of China, *Fifty Years of Education in the People's Republic of China* (Beijing: Beijing Normal University Press, 1999), p. 601.

¹¹ *Ibid.*, p. 71.

¹² See Ka-ho Mok and David Chan's "Privatization or Quasi-Marketization," in M. Agelasto M and Bob Adamson (eds.) *Higher Education in Post-Mao China*. (Hong Kong: Hong Kong University Press, 1998), pp. 281-298

¹³ *Ibid.*, p. 283.

¹⁴ Ministry of Education of the People's Republic of China (ed.) *The Laws on Education of the People's Republic of China* (Beijing: Foreign Languages Press, 1998), p. 87.

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¹⁸ *Yearbook of Chinese Educational Statistics*.

¹⁹ Robert Berdahl, "Co-ordinating Structures: The UGC and US State Co-ordinating Agencies in M. Shattock (ed.) *The Structure & Governance of Higher Education* (Guildford, Surrey: Society for Research into Higher Education, 1983), pp. 68-107.

²⁰ Ministry of Education of the People's Republic of China, *1949-1999: 50 Years of Education in the Peoples Republic of China*.

²¹ China Education and Research Network (www.edu.cn).

²² *Ibid.*

²³ Changjun Yue, "The Influence of Regional Economic Development Differences to Educational Resources Allocation," Unpublished Paper, 2002.