An Analysis of Higher Education Expansion and Financing in China from 1996 to 2002

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Abstract: This paper reports on an analysis of higher education expansion and financing in China from 1996 to 2002 and find out that the average education spending per student in higher education during the years of expansion was not decreasing, among which tuition fee is compensating the loss of weight in government appropriation. The author also calls on the sensible allocation of the financing support from the government.

Keywords: expansion and financing in China; higher education; tuition fee

1. Introduction

In China, there was a rapid enrollment expansion in higher education from 1996 to 2002. Total numbers of student enrollment in regular higher institutions of education was around 3,000,000 in 1996, but soared to 11,000,000 in 2003, which is almost 4 times the number in 1996. The first year of expansion was at 1999, from 1,080,000 in 1998 to 1,560,000 in 1999, which is almost a 50% increase.

The direct motivation behind this movement was to increase domestic demand. The Asian Finance Crisis in 1998 influenced China's economic growth. China experienced a decreasing demand the economy. The GDP increasing rate at 1999 was 7%, the lowest from 1996 to 2003. The decision of the expansion of higher education enrollment at that year was a short notice, several months before the actual enrollment date. The government's aim is to raise the gross enrollment rate in higher education (including both regular and adult) to 15% in 2010. The enrollment expansion brought lots of issues and debates. The expansion in higher education has its validity since it can help increase domestic demand in the short run (Tang, M, and Zuo, X, 1999, Ding, X, 2000).

The higher education in China itself also has excess demand. Some research says that a major motivation for urban domestic savings is to finance the children's higher education (Min, 2001). Assuming the age for higher education is 18 to 21 years old, there will be an increasing trend of those people before 2009 with a rate of 4% every year (Ding, 2000). Also, the private rate of higher education has been increasing. The latest Mincer rate is close to 10% for higher education in China (Ding, 2005), which is higher than 4.5% in 1988 (Li and Li, 1994), and 6.58% in 1996 (Chen and Min, 1999). The residents

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4 From an interview with Yuan, Liansheng, a visiting scholar at TC from Beijing Normal University.
have excess demand for the higher education (Ding, 2000). Also, the expansion could help release some pressure off the labor market by holding those new students at school for several more years (Ding, 2000).

However, rapid expansion also could bring lots of problems. The expansion of higher education must be in agreement with the economic development so that enough funding can be pooled to support the expansion in higher education. Debates also happen in areas of cost-sharing issues. Since China is a developing country, it must consider economic development as a priority. It is impossible for the government to provide free higher education as it did before the year of 1985. Over the years, government appropriation in higher education as a percentage of total funds for institutions of higher education has been decreasing from 80% in 1996 to 50% in 2002, and tuition is providing a greater share of the total funding of higher education. This will create a problem of inequity, because the poor cannot pay for the high tuition.

An alternative for gathering enough funding is to charge more tuition and fees from the students, which actually was what has been adopted. Higher Education has a high private return and a low social return. It is arguable for a cost sharing between the society and the individual. However, this is a sensitive strategy since China is a socialist country. Socialism avoids inequity of the society, whereas charging more tuition means increasing the social gap, which already exists in China. When institutions of higher education are served as a vehicle for social mobility, those who cannot afford the tuition will have less chance of improving their social status.

Other than the cost-sharing issues between society and individual, did the higher education really experience a decrease in funding supply? Has there been any obvious change of the patterns in higher education financing in terms of sources? This paper will analyze and explore the suggestions for these questions.

Other than exploring the issues about financing; it is also meaningful to explore ways of efficient resource allocation. I wish I could have more nation wide data nation wide available at the university level so that I could do an OLS analysis about categorical expenditure and student performance study. However, it is not too bad as long as I have student level data from one university. I am interested in using this data to explore the influence of the enrollment expansion at this university, and how the university behaves to solve the problem, such as: have the student experienced a deteriorating quality of education? What we can say about Student: teacher ratio, teacher degrees, etc as indicators of quality education? Does rapid enrollment hurt student performance in school? Is it possible to draw relation between student academic performance and teacher degrees, Student: teacher ratio, etc?

2. Key Research Questions and Data Sources

This paper is an exploratory analysis of enrollment expansion and trends of financing patterns in higher education of China from 1996 to 2002.

In the paper, data used is from China Statistical Yearbook from 1996 - 2004. Information after 2002 is supplied because some data are not available till two years later. The data are gathered and processed so that a pattern of how the education funding over the years of expansion can be analyzed. First, the enrollment expansion will be addressed and analyzed with change of student: teacher ratio over years. Then it is an analysis about components of the funding in higher education: Government Appropriation for Education, Budgetary Government Appropriation for Education, Funds of Social Organizations and Citizens for Running Schools, Donations and Fund-raising for Running Schools, Tuition and Miscellaneous Fee,

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1. After 1985, the government made policy such that some students could be admitted to college with scores lower than those students who were offered free higher education; however, such students had to pay for tuition by themselves (Min, 2001).
and Other Educational Funds. At last, strategies will be discussed with findings from previous literatures.

3. Enrollment Expansion during 1996 to 2002

In 1996, there were 1,000,000 new students enrolled in regular institutions of higher education in China. Until the year of 1998, there was slow increase rate of new enrollment lower than 4%-8%. However, in 1999, the number soared to 47%. The number of new student increased from 1,084,000 in 1998 to 1,597,000. Though the increase rate slowed down after 1999, the average still was around 30%. The number of student enrollment in higher education in 2003 was 11,086,000, which is four times of the student enrollment in 1996.

It is arguable that the rapid increase in enrollment expansion will cause a shortage of teachers, i.e., a higher student: teacher ratio, because the supply of teachers cannot increase as fast as the enrollment of students. This is true. The following chart describes the trend of student: teacher ratio indeed has been increasing since 1996, from about 5 to 15 in 2003. This is actually not a bad trend. From another perspective, we might utilize the resources more efficiently. Per student cost of higher education in China was about 35% higher than other developing countries. The increase in student: teacher ratio could make full use of the full-time teachers so that education funding can be used on capital construction investment or other categories of operating expenditure to accommodate the increased students.

Another issue with expansion of enrollment is about how the per student education funding and per student government appropriation change.
Over the years, total funds for institutions of higher education as a percentage of total educational funds have been increasing, from 15% in 1996 to more than 25% in 1998; this is in agreement with the increase in enrollment and also in agreement with the fact that the per student expenditure was not experiencing a serious decreasing. It is useful to find out how the source of funding changed over the years. By observing and analyzing these patterns, we can find implications for effective sources of financing for higher education. First let’s look at a figure.

This figure shows the components of education funding for higher education from 1996 to 2002. There are several interesting trends that can be observed from the graph.

First, since 1997, tuition ad miscellaneous fee had taken the majority of the fund over government appropriation.

Second, the component of other educational funds also took a larger share. It was larger than government appropriation in 2002.

Third, it is interesting to observe that donations and fund-raising for running schools were actually decreasing over the years. This probably is due to the fact that the cost of higher education is so high that it is not profitable, so no one wants to run an institution of higher education.

Now let’s look at how each category changed as a source of higher education funding.

5. Government Appropriation
From 1996 to...
2002, government appropriation as a percentage of total funds for institutions of higher education has been decreasing. However, the share of total government appropriation for education is slightly increasing, from 15% in 1996 to 21% in 2002 (figure). This tells us that the government actually tried to put emphasis on higher education, but it was pressing the total expenditure on education (figure), which made the effort not so obvious.

If we compare per student funds for institutions of higher education with per student government appropriation for institutions of higher education, we will find a similar pattern, while the funding for each student was not decreasing over the years. Government appropriation was decreasing after 1999, probably because of the shrink in government effort concerning education.

The government had financial constraint due to low fiscal capacity. From the figure below we can see that has been increased to 17% in 2003 (while country such as France and Germany could have more than 35 percent of GDP), and the total budgetary deficit was getting large over time. However the government appropriation for education as a percentage of total budgetary expenditure was decreasing. Again, it is probably due to the larger expenditures which were pushing the economy.

6. Tuition and Miscellaneous Fee
Tuition and miscellaneous fee were the largest parts of education funds. While government appropriation was decreasing, tuition and fees have been increasing to keep the education fund afloat. The figure shows that the government appropriation is moving towards cost sharing. Individuals are sharing more cost for their own education by paying higher tuition.

The following figure shows the trend of three other minor funding sources.

The trend for Donations and Fund-raising for Running School was oscillating over the years. The peak is in 1999. This is probably related to the rapid increase of enrollment of that year, but the share is very small and unreliable as well.

Fund of Social Organizations and Citizens for Running Schools have been increasing, but account for a very slight percentage of the total funds for institutions of higher education.

Funds from other sources have been increasing; though the trend was not
that obvious in recent years.

After an analysis of all the sources of funds for higher education, we know that two major components are government appropriation and student tuitions and fees. The cost is gradually shifting to the individual side. This is possible because the private return is high for higher education not only in other country such as the US, but also in China. A person who receives a higher education has an advantage in earning more than others (Chen and Min, 2000).

Also, by looking at the chart below we know that the income of residents are increasing and the Engle index is going down as well, which indicates the ability to pay more for education.

7. Implications and conclusion

From the analysis of the higher education expansion and financing in China from 1996 to 2002, it was surprising to find out that the average education spending per student in higher education during the years of expansion was not decreasing. After analyzing the trend of each component of the funding source we found that tuition is compensating the loss of weight in government appropriation. Tuition will probably continue to be an important component in the future, since it is not very likely for the government to share more cost for higher education when the government is shrinking the overall expenditure on education. What's more, China is a developing country; emphasis should be put on economic development. Secondary education is also very important to China, it is not good if the country focuses on higher education only and neglects the development of its basic and secondary education.

Also, when we think about individual universities, we cannot rely on the data we see from the national level, because the government is not averaging the appropriation for every university. Some local universities and colleges get a little finance support from the central government because their administrative bureau is local government. However, these universities and colleges train talents for the whole society, not only for the local area. It is unfair to allocate funds based on the administrative bureau of a university or college. Fortunately, the situation has been changed in some provinces in China. In Jiangsu province and Guangdong province in China, all universities and colleges get the same treatment from their provincial government. The rapid development of the higher education in the two provinces in China demonstrates the precision of the strategy.

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