

Diversifying Funding Sources for Public Higher Education in China during Massification

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Abstract

China has provided the world with a new distinctive higher education financing model that emerged out of its unique socio-political conditions. This article investigates the fluctuation of revenue sources during the process of China's higher education massification. Based on abundant data from Chinese official yearbooks and an extensive analysis of policy documents, the article explores the changes in each revenue source of Chinese public universities. It concludes that as Chinese higher education expanded, its financial system shifted from a single funding channel that relies solely on government to various funding channels. Of these, government funding and tuition together provide the largest share of revenue for public higher education. The proportion of funding derived from entrepreneurial activities, philanthropy and donations is increasing, but still relatively low. The article reveals that the operating revenue of public higher education still depends largely on government funding, which reflects Chinese wisdom about the relationship between government and the market. In China, the diversification of funding sources is closely linked to higher education governance reform. On the whole, cost-sharing means that more

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market-related fundraising mechanisms and stakeholders are brought into higher education.

Keywords: higher education finance; public higher education; funding sources; massification; China

Introduction and Background

While higher education is generally a high priority in boosting economic development, the public budget for sustaining the expansion of higher education systems is still limited globally (Bray 2000; Johnstone, Arora, and Experton 1998; Vossensteyn 2004). For many countries worldwide, including China, this is the case. Public funding in nearly all countries simply cannot rise fast enough to keep up with the rapidly rising costs and revenue demands of higher education (Sanyal and Johnstone 2011, 168). There are two factors that contribute to this pervasive austerity. The first is the sheer technical difficulty and expense of collecting taxes on property, commercial transactions, and incomes (Sanyal and Johnstone 2011, 161). The second is the pressure on universities caused by increasing student demand for higher education in combination with increasing revenue demands (Zha 2009, 51). This fiscal stress creates an impetus for governments to develop various strategies to meet the growing demand for money in higher education.

Since the 1990s, the discrepancy between the inadequate supply of higher education and the growing demand for higher education has been the dominant theme in China's higher education development. In order to adapt to the rapidly increasing demand for higher education, the Chinese government implemented a strategy of higher education massification in 1998. In the past 20 years, enrolment in Chinese higher education institutions has increased substantially in both absolute and relative numbers. Since 1998, there has been an unprecedented increase in the number of new enrolments as well as total enrolments and participation rates. From 1998 to 2018, enrolment in tertiary education has grown enormously from 3.4 million students to 38.3 million, increasing at a rate of 51.2% per year. Enrolment numbers have increased by approximately one million every year. In 2003, China achieved a gross enrolment ratio (GER) of 15%, which propelled higher education into a massification phase. The process has continued to accelerate. In 2018, the GER rose to 48.1% (MoE 2019). It is foreseeable that the higher education sector will continue to expand in the future. Changes in the scale of education will inevitably require appropriate changes in the financing of education.

Like other countries, China has been facing fiscal austerity in higher education during the process of higher education massification. Areas of public demand, such as basic education, public infrastructure, healthcare, environmental stability and recovery, maintaining public order, improving transportation, and meeting the needs of the poor, all compete over the increasingly scarce available public revenue derived from taxpayers (Johnstone, Arora, and Experton 1998, 4). What is more, the rapid expansion of the scale of higher education has further exacerbated the shortage of funds. Higher

education has become costlier, and the increase in cost per student and the surge in enrolment have driven the costs and revenue needs of colleges and universities up at rates well in excess of prevailing inflation rates (Johnstone 2016, 33). National tax revenues cannot keep up with higher education's already high and rapidly rising annual revenue needs. Governments are becoming unable to afford all the expenses for higher education and proportionally maintain their share of increase in costs. Thus, higher education must turn to non-governmental revenues to supplement the increasingly insufficient revenue available from governments.

With the continuous expansion of higher education, the fundraising system in China's public higher education sector has attracted much attention from academics. However, not much research has synthesised the revenues generated from all the sources funding China's higher education sector or provided a comprehensive review of the funding system as a whole. A more thorough survey regarding the university financing system and its social background and a more comprehensive assessment of all revenue sources for China's public higher education sector are needed in order to answer the following questions: First, what characteristics and trends have emerged in terms of the composition of the funding structure? Have funding sources diversified during the process of higher education massification in China, and if so, to what extent? Second, what changes have occurred in each specific source and how did these changes come about? Third, does the multi-source financing mechanism work, and if so, does it work as well as it is supposed to? The relevant research has not given sufficient attention to these questions.

Literature Review

The literature review provides an overview of higher education revenues generated from government funding, tuition and fees, entrepreneurial activities of higher education institutions, philanthropy and donations, respectively, illustrating the role that each source has been playing in the higher education fundraising system since the 1990s in China.

Government Funding

Although universities in China have been diversifying their revenue sources since the 1990s, governmental revenue has always played a dominant role (Yang and Zhao 2012, 167). Revenue from the government, including appropriations, grants, and contracts have represented about 50–60% of the total revenues in the past two decades (Fang and Liu 2018, 81). Although the ratio has reached the level of developed English-speaking countries, the money expended by higher education institutions and students as a percentage of the country's gross domestic product (GDP) has stabilised at around 0.85% over the past decade. In contrast, in Organisation for Economic Co-operation and Development (OECD) countries this ratio is usually higher than 1.2% (Chai 2018, 43; Fang and Liu 2018, 80).

As the problem of relatively inadequate financial support from the government has emerged, more and more scholars have focused their attention on this field. Scholars such as Chu, Fan, and Huang (2008) and Min (1991) proposed that limited government funding was at the centre of many challenges that universities have experienced in fundraising. The central and local governments were not as financially capable as universities expected. Chen and Xue (2012, 34) also pointed out that universities competed with each other for limited amounts of government funding and this resulted, to some degree, in a waste of money, which further exacerbated the shortage of financial resources for higher education.

Since annual governmental expenditure is of vital importance to the nation's economy and the people's livelihoods, Sun, Wang, and Cheng (2009) argued that it is difficult to make any radical change in a short period of time. Besides, establishing a rational and practical public resource allocation mechanism at the national level is, and will be, much more difficult than people may think.

Tuition and Fees

Previous research has found that tuition fees have represented the second largest source of revenue to meet higher education costs in China since 1997 (Yang and Zhao 2012, 167), when the legislature confirmed that students and their families were responsible for sharing the cost of their own university education, and China implemented universal university tuition across the country (Mok 2002, 263).

University tuition is closely related to each student's public higher education expenditures (Wang 2001, 209). Previous academic research mainly focused on two practical issues: first, calculating the cost per student in the real world; second, determining the appropriate proportion that students should share in their higher education cost. The government established that it would not cover more than 25% of the education cost for each student by comparing China with developed countries such as the United States (US), which guided the series of national policies launched during the 1990s (Mok 2002, 263).

Undoubtedly, tuition is important, but viewpoints on whether university tuition should keep soaring vary greatly among scholars. Liu and Hu (2005) opined that there is limited capacity to further increase university tuition since the financial burden on students is already at a high level. However, there are also proponents of tuition increases. For example, Chai (2018, 45) indicated that students have great potential to share more of their higher education costs in the future.

What most relevant studies agree upon is that university tuition is not affordable to every student, and there is a large gap in financial resources available among them. In China, the Student Loan Schemes emerged as part of the student aid package associated with the introduction of tuition fees in all public universities in 1997. However, there are

some difficulties that prevent low-income students from benefiting from the financial aid system. These barriers include a cultural reluctance to borrow money, a lack of funding, and defaults resulting from the requirement that students repay loans by the time they graduate, among others (Johnstone, Arora, and Experton 1998, 13).

Entrepreneurial Activities of Higher Education Institutions

Not much research has focused on universities' entrepreneurial activities in China. Since the 20th century, universities were supposed to receive revenues from the sale of non-instructional educational products and services as well as from auxiliary enterprises (Mok 2002, 265). Educational activities here might include laboratories and other testing services, demonstration schools, theatres, and numerous other academic activities that create goods or services for sale to the general public (Goldstein 2012, 48–49).

Entrepreneurial activities have been considered as another great potential source of university revenue by scholars. However, according to relevant data, the contributions of school-run auxiliary enterprises to the total higher education costs have gradually decreased in recent years, indicating bleak prospects. Entrepreneurial activities accounted for nearly 15% of the total income in 1992, 10% in 1995, 1.8% in 2000, and 1.1% in 2004 (Guo 2004, 50). This data demonstrates a miserable downhill trend for this sector. Furthermore, universities' enterprises were expected to contribute not only to universities but also to society as a whole by boosting employment, promoting scientific research and increasing government tax revenues (Gao 2003, 162; Guo 2004, 52). But in reality, a handful of top universities with strong research capabilities and high brand value have dominated in the area of entrepreneurial activities and earned the most money in this sector. Peking University, for example, has integrated entrepreneurial activities for extra funds to support its teaching and research. Tsinghua University has also run factories and business firms for years. Many faculty and staff of Tsinghua University have established a close link with the industrial sector, fulfilling either a consulting or a managerial role in some enterprises (Mok 2002, 265). However, this revenue source is unlikely to provide immediate help to mid- or low-ranked schools (Gao 2003, 163).

Domestic and Foreign Philanthropy and Donations

Other than students, philanthropists and big donors have also contributed substantially to ease higher education costs through private funding. Sources of private funding include foundations, corporations, community groups, and individuals, such as alumni, entrepreneurs, and other interested citizens. The resources can range from gifts, grants, and bequests to contributed services and contracts in support of research (Goldstein 2012, 46–47).

In recent years, although China has introduced several laws and policies to encourage private funders to contribute more to universities, the share of social donations to higher education costs has remained extremely small, and has even declined each year. Donations as a percentage of the higher education sector's total income fell from 2.3% in 1999 to 1% in 2004, and since then this figure has not exceeded 1% (Yang and Zhao 2012, 168). Although Chinese universities had received more than 40 billion yuan in total from social donations by 2017, this amount was disproportionately spread among a few top schools, which meant that this revenue source did not benefit the majority of ordinary schools in China (Ao and Mo 2019, 30).

Social donations have been considered a massive potential source of revenue for the higher education sector. However, previous research has indicated some major culprits that have militated against this source of funding: limited government policies that support and encourage people to donate to education, a lack of favourable tax treatment for charitable contributions, a flawed system of educational foundations that does not guarantee the uses of funding, and schools' inability to attract private investment from society (Johnstone, Arora, and Experton 1998, 30; Lin and Luo 2018, 60). In addition, successful philanthropy requires a charitable tradition, as Johnstone, Arora, and Experton (1998, 19) found in US higher education, and an ethos of public service and contribution. These changes do not come easily or quickly.

The Funding Structure of Public Higher Education

With regard to the funding structure of public higher education in China during the process of massification, academics in China currently hold two opposite views on the diversification of higher education funding sources. One view holds that Chinese higher education funding sources are not diversified. Those who adopt this view maintain that China's higher education funding is based on the dual pattern of government funding and tuition fees (Guo 2004; Liu and Hu 2005; Wang 2006). However, proponents of another point of view assert that since 1998 China has formed a multi-source financing system in higher education, and government funding is no longer the only source of finance and the percentage it contributes toward the total revenue has dramatically declined since 1999 (Zheng, Du, and Dong 2014). This article considers it necessary to study and clarify the divergence, and to restore the facts through data collection and analysis.

Limitations of Previous Studies

Although relevant resources on the subject are abundant, limitations still exist. Few research works synthesise the revenues generated from all the funding sources of China's higher education sector. Similarly, few studies analyse how the contributions of each source fluctuate over time, particularly during the period of higher education massification in China. That is, although almost every single source of university revenue has been reviewed in the past, the most prominent gap is the lack of a

comprehensive review of the entire funding system as it operates in Chinese universities. Every single part that has been delved into, respectively, is insufficient to depict the scope of the structure as a whole. Besides, previous studies have paid inadequate attention to the interaction between universities' financing systems and the socio-political conditions of a country.

Framework of Analysis and Data Collection

The analytical framework adopted in this article is the cost-sharing theory in higher education. This theory was first put forward by the famous American education economist Donald Bruce Johnstone in his article "The Finance and Politics of Cost Sharing in Higher Education", published in 1986. Since then, through international comparisons of higher education financing, he has continuously improved and developed this theory and made great efforts to promote its implementation in many countries. Cost-sharing is a term used to describe higher education costs that are shared among multiple parties, such as governments (or taxpayers), universities, students, and philanthropists. It could be seen as a type of zero-sum game, where the loss of funding from one source calls for an increase from one or more of the other sources (Sanyal and Johnstone 2011, 160). It also refers to the worldwide trend of a shift in the burden of higher educational costs from exclusive or nearly exclusive reliance on government or taxpayers, to some financial reliance upon parents and/or students, either in the form of tuition fees or "user charges", to cover the costs of formerly governmentally or institutionally provided room and board (Johnstone 1986; 2004). This theory has been widely accepted by governments and academia in many countries. In the context of higher education massification, the national financial budget is overwhelmed, and this shortage of funds for higher education has become a common problem faced by almost every country in the world. Hence, the cost-sharing policy of higher education proposed by Johnstone has become an inevitable choice for many countries working on developing their higher education.

China's higher education financial reform was partly inspired by Johnstone's cost-sharing theory in the late 1980s. It has been widely applied in practice since then. In 1998 China initiated the process of higher education massification. Because of the shortage of funds for higher education, the government had to seek other sources of funding. Currently, cost-sharing in higher education has become a hot topic that causes widespread social concern. It is urgent for higher education theorists and managers to carry out research on cost-sharing in higher education, explore reasonable cost-sharing ratios, establish cost-sharing models, and study the impact of cost-sharing on educational equity.

Based on China's own national conditions and context, the classification of funding sources of higher education is slightly different from that in Johnstone's cost-sharing theory. In Johnstone's cost-sharing theory, the costs of higher education in all countries are viewed as being borne by four principal parties: (1) the government or taxpayers,

(2) parents, (3) students, and (4) individual or institutional donors (Johnstone 2004, 404). In China, the core mechanism for financial reform during the process of higher education massification was called multi-source funding. The revenues of higher education come from the following funding sources: (1) appropriations, grants, and contracts from different levels of government, (2) tuition and fees from parents, (3) entrepreneurial activities of higher education institutions, and (4) donations, gifts or endowments from philanthropists or donors.

This article tries to answer its research questions using the framework of cost-sharing presented by Johnstone. To fill the identified research gap, the article examines each source of higher education funding in detail, including government funding, tuition and fees, entrepreneurial activities, and philanthropy and donations, and explores the factors related to the contributions from each source. Using rich data and numerous policy documents, it depicts the higher education sector's overall funding structure in China during the process of massification.

There are no ready-made charts or figures available for this article in China. The researchers collected abundant data mainly from three kinds of Chinese official yearbooks published from 1996 to 2017. They are *China Educational Finance Statistical Yearbook* (MoF 1996–2017), *China Statistical Yearbook* (National Bureau of Statistics 1996–2017) and *Educational Statistical Yearbook of China* (MoE 1996–2017). The yearbooks cover the data from 1995 to 2016. The scope of the data selected for this article includes general higher education, vocational higher education, and adult higher education. In the process of data collection, we found that tuition fees are included in the institution-run industry and social service income in *China Educational Finance Statistical Yearbook*. This article separates it from raw data for research and analysis. The classification of other sources, including government funding, entrepreneurial activities, philanthropy and donations, is the same as Johnstone's.

Changes in Funding Sources of Public Higher Education Since 1998

Overall Higher Education Expenditure

Since China launched the process of higher education massification, investment in overall education and higher education has increased rapidly in absolute value. In 1998, the total investment in higher education amounted to 58.7 billion yuan; in 2016, it equalled 902.5 billion yuan, which is 15.4 times higher than in 1998 (MoF 1996–2017, 1999; 2017).

As far as the percentage of higher education investment relative to overall education investment is concerned, it experienced a sharp rise at first and then a gradual decline. In 1998, investment in higher education accounted for 21.2% of the total investment in

education; in 2005, the share increased to 31.6%, and in 2016 it decreased to 26.0% (see Figure 1).

With the process of higher education massification, national higher education fiscal funds as a percentage of GDP have risen gradually in general. In 1998, it was only 0.3% (MoF 1996–2017, 1999; National Bureau of Statistics 1996–2017, 1999). However, over the next 18 years, this ratio increased rapidly from 0.3% in 2005 (MoF 1996–2017, 2006; National Bureau of Statistics 1996–2017, 2006) to 0.9% in 2012, and then stabilised around 0.9% (MoF 1996–2017, 2013; National Bureau of Statistics 1996–2017, 2013). In the past decade, the Chinese government’s investment in higher education has accounted for an average of 0.7% of the GDP (National Bureau of Statistics 1996–2017). In contrast, since 2010, OECD countries and 22 European Union governments have invested 1.1% of their GDPs in higher education (Fang and Liu 2018).

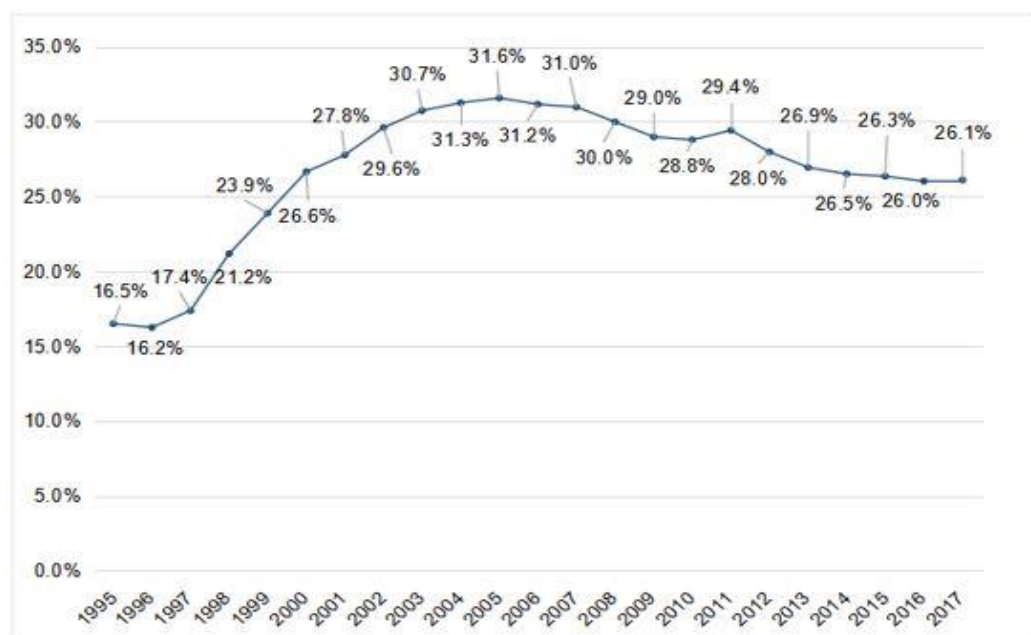


Figure 1: The percentage of investment in higher education in relation to total education investment from 1995 to 2016 (MoE 1996–2017; MoF 1996–2017)

Government Funding

In the late 1980s, government funding was nearly the only source of higher education funding, accounting for more than 90% of the sector’s expenditures. From 1998 to 2016, the absolute value of government funding increased continuously. In 1998, it added up to 36.3 billion yuan, while in 2016, it almost reached 610 billion yuan, which is 16.8 times that of 1998 (MoF 1996–2017, 1999; 2017). Compared with the situation in the

late 1980s, the percentage of government funding allocated to the overall higher education expenditure has changed significantly from 1998 to 2016. It experienced a gradual decline in the first eight years and a gradual increase in the following 10 years (see Figure 2). In those 18 years, the lowest percentage was 44.7% in 2005, and the highest was 67.7% in 2015.

However, compared with the sharp increase in the absolute value of the government's overall funding of higher education, the average growth in the expenditure per student in public higher education was not obvious. Some years have even seen a decline. In 1995, the total budgetary expenses for higher education were 20.5 times that of primary education. In 2003, this ratio reduced to 6.2, and it continued to decline to 1.99 in 2017 (MoE 1994–2017, 2004; 2017). The main reason for this change is that the increase in China's investment in higher education still lags far behind the growth rate of higher education enrolment. In addition, over the past few years, China's education investment has been more inclined toward basic education and secondary vocational education, which has greatly restricted the investment in higher education.

The change in government funding is not only reflected in the amount invested, but also in the transformation of funding models. Prior to 1985, the government's business expenses for higher education institutions were allocated in accordance with "base plus development". After 1985, China adopted a new allocation model called "comprehensive quota plus special subsidy". The "comprehensive quota" refers to the standard quota for per capita education expenditure formulated by the Ministry of Finance or the Ministry of Education. Different quota standards are set for different levels and types of tertiary education students. "Special subsidy" refers to funds allocated based on the special needs of colleges and universities, which should be used exclusively for their intended purpose. The 985 Project, which was launched in 1998, is a striking example of the fact that the government's special subsidy for universities has been continuously strengthened. The increased higher education funds are mainly used to cultivate quality educational resources and support high-level institutions such as research universities. To this end, performance and other forms of incentive-sensitive budgeting have been introduced.

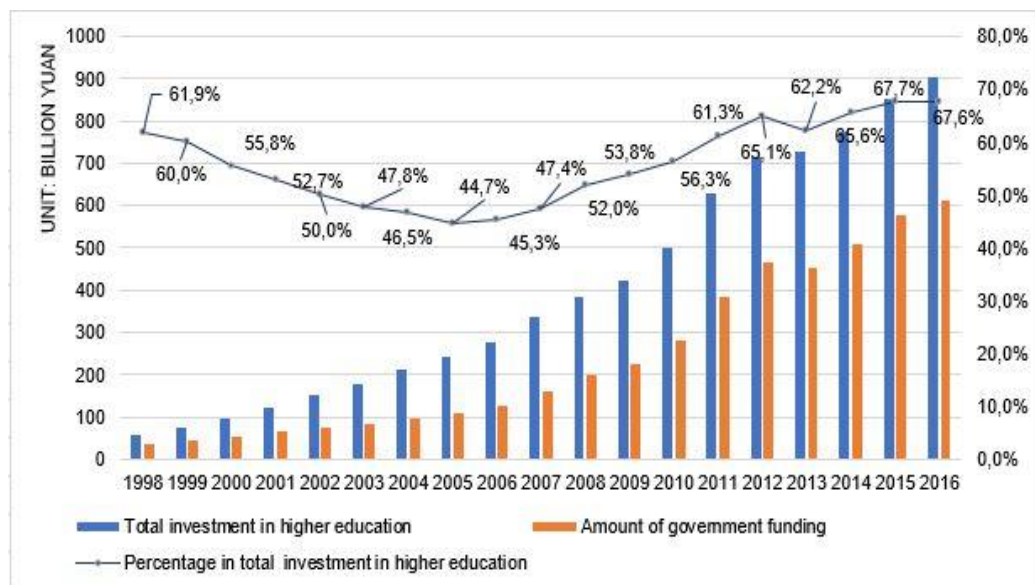


Figure 2: Government funding for higher education from 1998 to 2016 (MoF 1996–2017)

Financial Decentralisation in Different Levels of Government

The change in government funding is also reflected in the division of responsibilities and powers between various levels of government. Since the 1980s, China has moved from a highly centralised system of governance to substantial degrees of decentralisation. In the higher education sector, there has been a clear decentralisation of power from the centre to the local regions. The relationship of financial distribution between the central and local governments has undergone major reform, the goal of which is to implement a local government fiscal system to manage its revenues and expenditure. After China launched its “tax-sharing” financial reform in 1994, the state’s funding for higher education was managed by two different levels of government: the central government’s financial system is responsible for the financial expenditure of higher institutions affiliated to the central government, and the local governments’ finance systems are responsible for the financial expenditure of those institutions affiliated to the local governments. In general, the total expenditure on higher education by local governments grows faster than the expenditure by the central government. This is mainly because local higher education institutions grow much faster than central ones in size and number. Financial decentralisation has significantly stimulated the enthusiasm of local governments to invest in higher education and ultimately has provided more sources of funding for higher education development.

Nevertheless, due to fiscal decentralisation, the proportion the central government contributes to the education budget as a whole has decreased. From 1998 to 2016, the proportion contributed by the central government to the entire education budget had fallen from 59.8% to 33.6%, whereas the proportion contributed by the local governments had risen from 40.2% to 66.4% (see Figure 3). Local government has assumed greater fiscal responsibilities in the development of higher education.

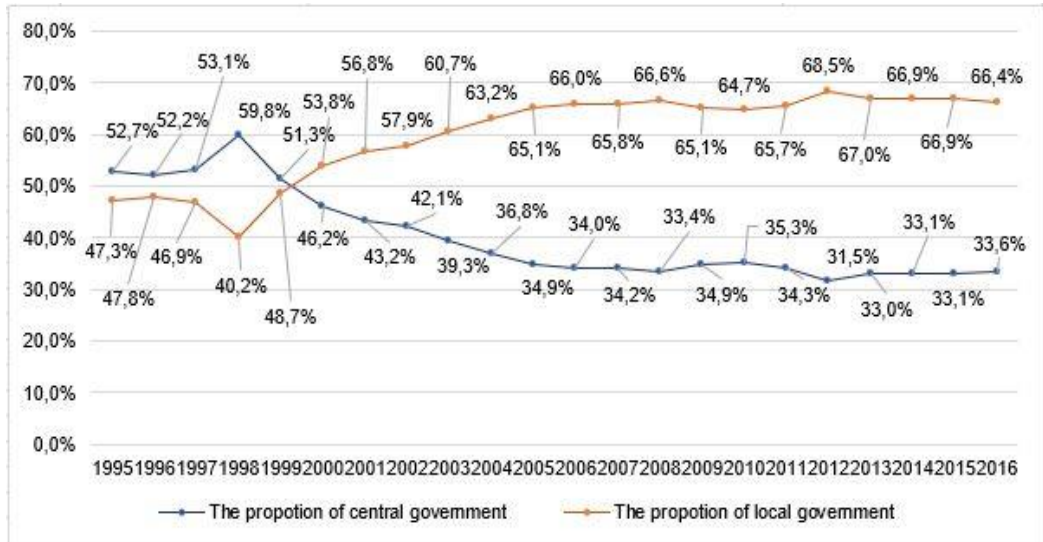


Figure 3: The change in the proportions of higher education expenditure by central and local governments from 1995 to 2016 (MoF 1996–2017)

Tuition and Fees

From 1949 until the early 1980s, all higher education costs in China were nationally financed and students did not have to pay any tuition fees. It was not until 1985 that this situation began to change. In 1993, in the outline of *China's Educational Reform and Development Programme*, the State Council officially announced that China would “charge tuition and fees for non-compulsory education students” (State Council 1993). This announcement ushered in the end of the era of free higher education in China. In 1998, China began to implement universal university tuition across the country.

In general, the proportion tuition fees contribute to overall higher education costs has undergone a process of gradual increase and then steady decline. From 1998 to 2005, the proportion quickly rose from 14.6% to 34.3%. After 2005, this proportion began to decline steadily. In 2016, it was reduced to 15.7% (MoF 1996–2017). This change was related to the tuition policy formulated by the Chinese government. Since the government implemented the charging system in colleges and universities, tuition fees increased year by year. From 1995 to 2005, average tuition in Chinese universities increased from 1,225 yuan to 5,071 yuan per year (MoE 1996–2017, 1996; 2017). The

increase far exceeded the financial means of ordinary families, especially those families living in rural areas. In 2002, average tuition fees amounted to as much as 45.5% of per capita GDP (see Figure 4).

Subsequently, the Chinese government began to implement a policy of tuition growth control. From 2001 to 2006, the Chinese government issued a notice every year emphasising that “the tuition and accommodation fees in colleges and universities should follow the standards of 2000, and should not be raised” (Yijie 2014). Since then, the Chinese government has been trying to control the increase of tuition fees in order to ensure that students from remote areas and poor families can access education at higher institutions.

Although the Chinese government has made efforts to control increases in tuition fees, the huge gap between urban and rural households in terms of those who can afford tuition fees is still a problem that cannot be ignored. For example, from 1999 to 2007, tuition fees on average amounted to more than 100% of rural residents’ disposable income per capita. The ratio of tuition fees to disposable income was at its highest in 2002, reaching 171% (MoF 1996–2017, 2003; National Bureau of Statistics 1996–2017, 2003). After the introduction of the tuition fees regulation policy, this ratio has gradually declined. In 2016, it fell to 15.2% in urban cities, and in rural areas it fell to 41.3% (MoF 1996–2017, 2017; National Bureau of Statistics 1996–2017, 2017).

In order to ensure that the children of poor families are not excluded from the higher education system due to financial difficulties, China has gradually established and formed a student financial support system with the main intention to provide “awards, assistance, loans, work, remissions and subsidies”. This system provides additional education funding to disadvantaged and underrepresented groups. For example, since 2000, China has implemented a student loan system for higher education. In 2009, 26 provinces provided loans to students and approved 816,000 new loans, amounting to 4.66 billion yuan, which effectively assisted students from poor families to pay for tuition fees (Chen and Xue 2012).

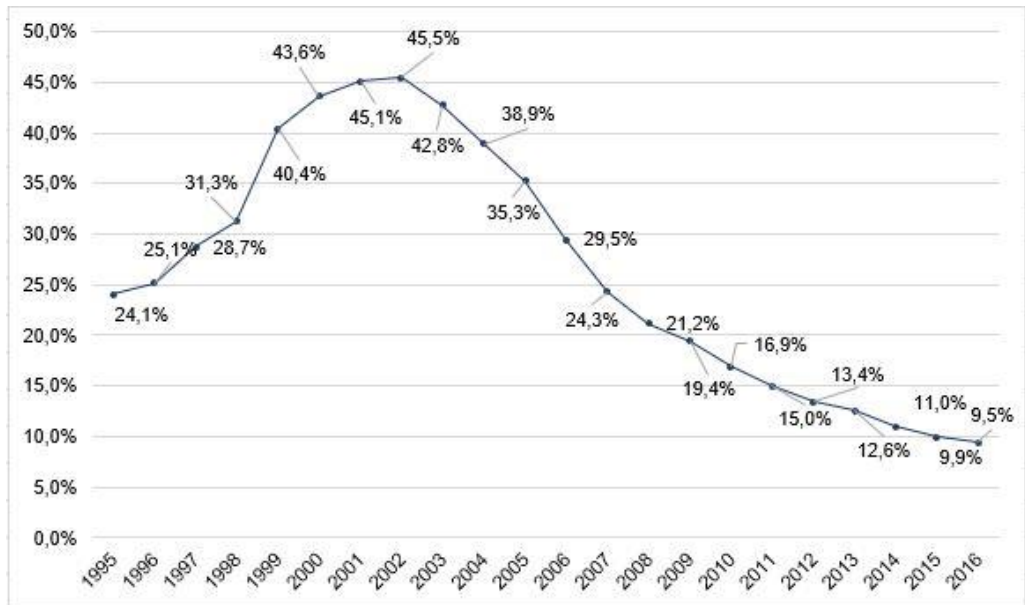


Figure 4: The proportion of average tuition fees for higher education in relation to per capita GDP in China from 1995 to 2016 (MoF 1996–2017; National Bureau of Statistics 1996–2017)

Entrepreneurial Activities of Higher Education Institutions

The entrepreneurial activities of higher education institutions have been another important source of funding for public higher education during the process of massification in China. Revenue supplementation as an alternative to cost-cutting and as a preferred route to financial viability may take the form of faculty and institutional entrepreneurship, such as selling specialised and marketable teaching or scholarship, renting university facilities, or commercialising research discoveries (Johnstone 2009).

Before 1980, Chinese colleges and universities lacked the autonomy to use or raise funds. With the education reform introduced in 1985, colleges and universities obtained financial autonomy for the first time. In order to encourage higher education institutions to generate funds by themselves, in 1993, the outline of *China's Educational Reform and Development Programme* (State Council 1993) clearly stated that “tuition and fees, school-run industries, high-tech enterprises, social services, social donations and financial credit means were some of the primary measures used to raise funds other than the national funds for education” (State Council 1993). Although public higher education institutions are still dependent on annual state subsidies to cover most of their operating expenses, they are now free to implement entrepreneurial activities, that is, to enter into contracts with outside agencies and businesses, provide training and educational services for society, receive and own assets, hold and dispose of real property, charge fees, accept gifts, borrow and incur debt and so on.

During the process of massification, the entrepreneurial activities of higher education institutions have become another important source of funding for public higher education. As far as the absolute value is concerned, the revenues higher education institutions receive from entrepreneurial activities keep rising at a rapid pace. It increased from 8.9 billion yuan in 1998 to 98.3 billion yuan in 2016. Over 18 years, revenues increased by a factor of 11.1 (see Figure 5).

There are two main entrepreneurial activities that generate revenue for higher education institutions. One is the income from industries affiliated to higher education institutions and social services, which includes income from affiliated hospitals, profit from logistic services, and so on. This kind of entrepreneurial activity developed rapidly at the end of the last century. Since 2000, the contributions of institution-run industries to total higher education costs has gradually decreased. The second source of income is generated through teaching and research activities, including technology and patent transfers, sales of teaching products, access to research funds, continuing education, and so on (Guo 2004). In general, the latter source of income of higher education institutions shows a gradual increase. From 1995 to 2016, the corporate income of colleges and universities increased from 0 yuan to 95.9 billion yuan (MoF 1996–2017). Currently, this source of income contributes the largest portion to institutional self-financing revenues and is maintaining a rising trend.

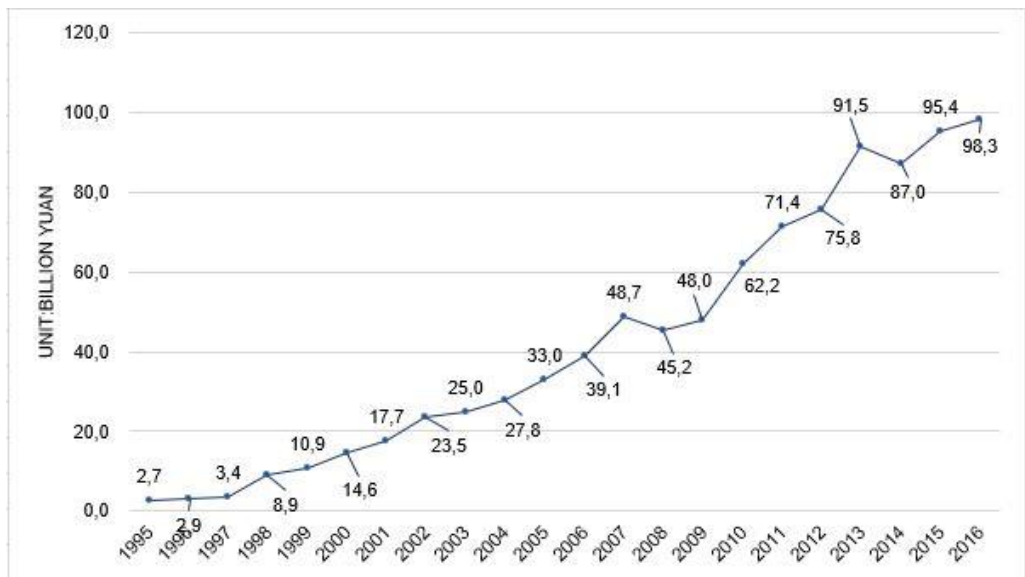


Figure 5: Revenues generated by higher education institutions through entrepreneurial activities from 1995 to 2016 (MoF 1996–2017)

Domestic and Foreign Philanthropy and Donations

Although China has a tradition of benevolence and charity, it does not have a tradition of donating to higher education. During the process of higher education massification, the Chinese government attached importance to the role of social donations in higher education cost-sharing and introduced a number of laws and policies to encourage it. Article 60 of *Education Law of the People's Republic of China* (National People's Congress 1995) stipulates that “the State encourages domestic and overseas social organizations and individuals to donate money for education”. In 2004, the Chinese government (Ministry of Finance and the State Administration of Taxation 2004) issued the “Notice of the Ministry of Finance and the State Administration of Taxation on Education Tax Policies”, which pointed out that higher education donations should be granted full tax exemption.

As far as the absolute value is concerned, philanthropy and donations to higher institutions have risen slowly from 1998 to 2016. In 1998, it amounted to 1.2 billion yuan, while in 2016 it reached 4.4 billion yuan, 3.8 times that of 1998 (see Figure 6). According to the “China University Social Donation List” published in 2018 by the China Alumni Association Network, from 1980 to 2017 the total amount of local and international donations received by universities reached 77.3 billion yuan, of which 25.1 billion yuan was donated by alumni, accounting for 32.5% of the total amount (Lin and Luo 2018).

However, the geographical distribution of institutions receiving large donations is extremely uneven. Institutions in the southeast and coastal areas receive more donations than institutions in the central and western regions. Moreover, donations are mainly concentrated in the top universities in the country. According to Cuaa.Net, the top five universities are Tsinghua University, Peking University, Shantou University, Zhejiang University and West Lake University, and respectively they cumulatively received 12.3 billion yuan, 9.1 billion yuan, 4.9 billion yuan, 4.8 billion yuan, and 3.5 billion yuan in social donations (Cuaa.Net 2019). But for lower-ranked institutions, which represent the majority of universities, philanthropy and donations are practically negligible in comparison.

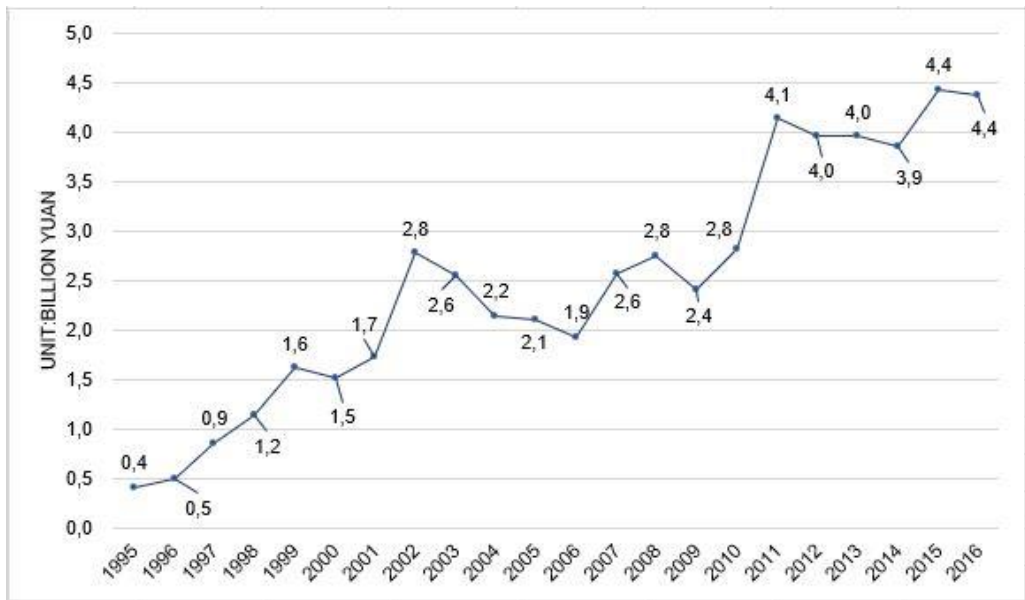


Figure 6: Donations made to higher education institutions from 1995 to 2016 (MoF 1996–2017)

Changes to the Public Higher Education Funding Structure

In the past two decades, considerable changes have been made to the funding structure of public higher education. The changes can be roughly divided into two periods: 1998 to 2005 and 2006 to the present. During the first period, the source of higher education funding clearly shifted from the nation-based model to the market-based model. Due to the influence of neoliberalism, higher education marketisation took place in China. It can be clearly seen that the share of funding contributed by the government experienced a dramatic decrease from 61.9% in 1998 to 44.7% in 2005, while the share contributed by tuition fees rose sharply from 14.6% in 1998 to 34.3% in 2005, coming close to equalling the proportion of funding provided by the government. However, from 2006 to the present, the situation shifted in the opposite direction. The government has resumed its responsibility to provide financial support for higher education. Therefore, the share of government funding increased rapidly from 45.4% in 2006 to 67.6% in 2016, while the share of funding contributed by tuition fees declined sharply from 32.6% in 2006 to 15.7% in 2016 (see Figure 7). In short, the last 12 years have witnessed a change from a market-based model to a nation-based model.

However, the proportion that entrepreneurial fundraising initiatives of institutions contributed to total revenues is relatively low, showing an unstable trend of development. During the process of massification, the share of revenues provided by higher education institutions' entrepreneurial activities experienced a sharp increase at first and then a gradual decline. In 2016, it accounted for 10.9% of the total higher education revenues (see Figure 7). In contrast, the proportion of funds generated by

higher education institutions' entrepreneurial activities in America has basically remained above 20% (Wang 2012, 40). This shows that the incentive for higher education institutions to raise funds is extremely limited in China. Given the situation in which government funding dominates, colleges and universities still lack the motivation to explore new ways to generate revenue.

Additionally, the share of funding provided by philanthropy and donations to China's universities has comprised the smallest portion of total revenues for many years, far below the level in the United States. As can be seen from Table 1, from 2014 to 2016, the index number for social donations is 484, which is the smallest compared with government investment, tuition fees, institutional self-financing and other sources during the same period. According to data presented in Figure 7, from 1998 to 2016, its share in total higher education funds fell from 2% to 0.5%. Moreover, the figure demonstrates that the proportion of revenue provided by philanthropy and donations to higher education funding has shown a descending trend for a number of years. In general, the capacity of colleges and universities to seek donations by themselves is still very weak.

Table 1: Changes in the index numbers of different funding sources of Chinese public higher education from 1996 to 2016 (MoF 1997–2017) (Unit: Thousand yuan)

Year	Total Investment (Averaged over three years)	Index Number	Government Investment (Averaged over three years)	Index Number	Tuition and Fees (Averaged over three years)	Index Number	Institutional Self-financing (Averaged over three years)	Index Number	Social Donation (Averaged over three years)	Index Number	Other Sources (Averaged over three years)	Index Number
1996–1998	44922949	100	29116808	100	7140680	100	5070739	100	873405	100	2721338	100
1999–2001	97780102	218	54374366	187	22233545	311	14402679	284	1638810	188	5130702	189
2002–2004	180320016	401	86429737	297	55635559	779	25431227	502	2510673	287	10312820	379
2005–2007	286967336	639	131944826	453	91113341	1276	40260624	794	2225736	255	21422810	787
2008–2010	435040393	968	235788568	810	114722036	1607	51775746	1021	2698221	309	30055822	1104
2011–2013	689692486	1535	433862052	1490	134730103	1887	79553096	1569	4050218	464	37497017	1378
2014–2016	843447365	1878	565024023	1941	137455915	1925	93555336	1845	4230963	484	43181128	1587

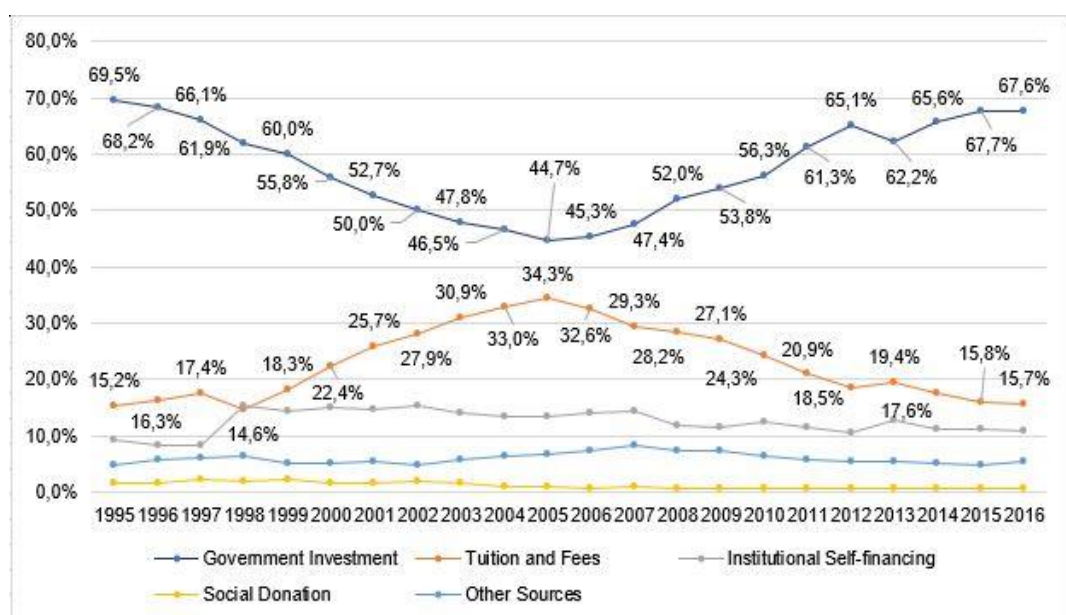


Figure 7: Changes in the proportions of different funding sources of Chinese public higher education from 1995 to 2016 (MoF 1996–2017)

Conclusion

The diversification of higher education funding sources in China has attracted the attention of many scholars, but the focus and perspectives of existing studies are quite different from the research presented in this article. We use China's higher education policies and data from the Ministry of Education and the Ministry of Finance on education funding to investigate the changes in funding sources for public higher education during the process of massification. We conclude that as higher education expanded, its financial system shifted from a single funding channel that relied solely on government to various funding channels. Chinese higher education funds now come from four important channels: government funding, tuition fees, institutional fundraising initiatives, and philanthropy and donations. The latter three non-traditional channels have become fixed funding sources. Currently government funding remains the most prominent source when the proportions contributed by these four funding sources to total higher education costs are compared. Tuition fees have evolved into another pillar of financial resources and is the second largest source of funding after government funding. These two sources bear most of the costs of public higher education, while the remaining smaller portions come from institutional fundraising initiatives as well as philanthropy and donations.

In general, we could not conclude that China has formed a very comprehensive higher education cost-sharing system. Its funding model is quite different from those in many Western English-speaking countries. Contrary to the worldwide tuition-dependent trend, currently in China the financing of public higher education remains substantially dependent on government funding. The diversification of funding sources has not divested the government of its responsibility of being the main funding source for public higher education. It is undeniable that China has provided a new financing model for the world with its own characteristics due to its unique socio-political conditions. This uniqueness reflects Chinese wisdom about the relationship between government and the market. During the period in which China had a planned economy, education was regarded purely as a welfare necessity and its economic value was seldom mentioned. With the reform of the socialist market economy system, the nature of higher education as a commodity began to be recognised. In the higher education sector at present we can see the dual influence of government regulation and market readjustment. However, on the power continuum between government and the market, the government still dominates. Complying with characteristically Chinese socialist ideology, China's market economy has remained state-controlled. This highlights the value of higher education for national, societal, cultural, and economic well-being. Public service provision in the field of quasi-public goods is considered an indispensable responsibility of the government. The diversified model of higher education funding sources ultimately depends on the government's institutional arrangements and policy adjustments. For example, the change in the ratio of government funding to tuition fees reflects the government's outlook on the relationship between financial investment and education equity. The market serves as a new form of resource allocation to increase the

funds for higher education. The original purpose of introducing the market into the funding structure was to reduce the government's financial burden, ensure the effective use of public resources, and improve the competition-based efficiency and quality of tertiary education. As Johnstone (2016, 19) states:

On the alignment along a political-cultural continuum of economic policy orientation, ranging from aggressive market capitalism to welfare capitalism to market socialism, China belongs to the countries of market socialism, which tend to be more accommodating of high taxes, governmental regulations, and universities as state agencies rather than public corporations.

China's higher education funding diversification is closely linked to reforms in higher education governance. With the introduction of the multi-channel financing system, a new governance model with the participation of multiple stakeholders has come into being. Students, parents, alumni, private sectors, and the university itself are now engaged in higher education governance. This verifies the relevance of power division and resource allocation. As additional stakeholders invest more money into higher education, they demand more power in education decision-making and management. A corresponding shift toward market solutions, deregulation and decentralisation of functions and social involvement has been clearly seen. The Chinese government has gradually changed its role in the governance structure from that of a direct monetary provider to a market manager, using different forms of supervision such as targeted and performance funding schemes (Han and Xu 2019).

However, it should be noted that the governance structure of universities at this stage may be a fundamental problem that hinders the diversification of funding sources. Since the essential powers are still tightly held in the hands of the state (Han and Xu 2019), the problems encountered with institutional fundraising initiatives, philanthropy and donations will be difficult to solve in the short term. Because the government is the most important source of higher education funding, for higher education institutions, catering to the government rather than adapting to society has become the most realistic choice. The varied needs and requirements of alumni associations, private foundations, enterprises, and companies cannot be well met. As a result, institutions may encounter huge challenges getting financial support from them.

Even though China's cost-sharing policy has faced many challenges, queries and criticisms, its positive effects mean that this model of higher education financing will continue to be used in the future (Li 2012). Academics agree that the higher education sector needs a diverse pool of resources with which to fund its operations. The key for institutional success is having a diverse mix of revenues, with reduced reliance on any one source. Although a broad approach to funding diversification, as seen in the US, has not been adopted entirely, there is an undeniable tendency toward more diversified revenue sources for universities in China (Zha 2009). In July 2010, the National Medium and Long-Term Education Reform and Development Plan was announced, which stated the targets of substantially increasing education revenues by raising funds

through various funding channels: “In higher education a multi-channel financing mechanism should be implemented. The educated is expected to reasonably share the costs. Higher institutions are expected to set up funds to receive social donations” (MoE 2010). The Higher Education Law of the People’s Republic of China, as revised in 2015, made the same statement in the first paragraph of Article 60 (NPC Standing Committee 2015).

The funding sources of higher education constitute a research area that many researchers may find interesting due to its significance and complexity. Research on the proportional changes within China’s higher education funding structure is merely the tip of iceberg, and there will certainly be many sub-areas calling for more future research. To start with, as public universities in China have received much attention, future studies could shift the focus to the fundraising structures of private universities, which are expanding rapidly but are often underrepresented. As it has been shown that each channel of higher education funding has experienced fluctuations over the years, future research could explore these changes and find out whether the shifts in funding have been reactive to or exogenous from each other.

In addition, more research could be done in the direction of education equity. For example, there has been a huge gap in per student cost for higher education among different provinces. For example, in 2019, the average per student cost nationwide was nearly 40,000 yuan (MoE 2020), but that cost barely exceeded 19,000 yuan in Guizhou province. The regional gap is getting even wider as a result of government appropriations that are allocated to universities. China’s top 10 universities in the east received more than 10 billion yuan each from the government, which vastly overshadows the amount received by all universities in Yunnan, a southwestern province where few schools received more than 1 billion according to Shanghai Ranking (2020), a think tank. Future research could thus further analyse the causes and possible effects of uneven resource distribution in higher education from the perspective of education equity.

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