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Cost-sharing reform of tertiary education in China and its equity impact

*Catherine Yan Wang**

Abstract: China has made huge strides in expanding access to higher education since the 1980s. The main approach to achieve mass higher education was cost-sharing reforms of tertiary education. This article examines the policy reforms that affected tuition, fees and subsidies for tertiary students since the end of the 1980s and looks at the effects in terms of equity and access. It also examines institutional responses to the various policy changes as they competed for state funds. Using relevant literature, officially published statistical data and results from the related surveys, it identifies the patterns of inequality among four disadvantaged groups. Finally, it analyses the major determinants/contributors to inequality of access to higher education including state and institutional policies and practices, and tuition-related and student-support related factors.

Keywords: higher education, policy, China, equity

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Introduction

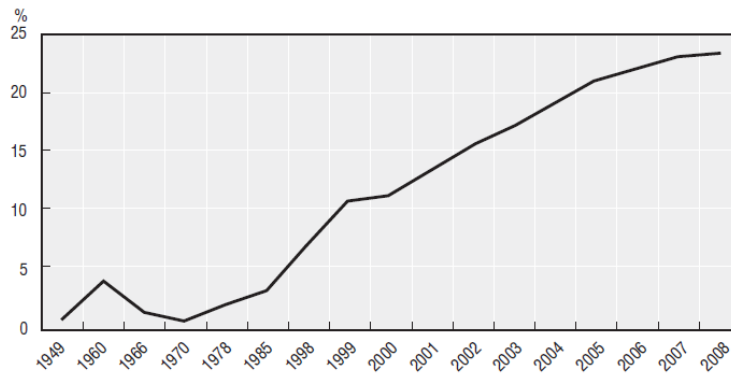
China has made huge strides in expanding access to higher education since the 1980s. Over a span of less than 20 years, the number of students in tertiary education doubled that of the United States and became the largest body of tertiary education students in the world (UNESCO Institute for Statistics, 2011). During this time, China shifted from a system of free tertiary education to a cost-sharing system. The shift to cost sharing, however, altered the demographics of students, thus changing equity.

This article first places education reforms in historical context and then outlines the history of education policy reforms since the early 1950s, and discusses how these have affected equity. It examines the major determinants/contributors to inequality of access to higher education by looking at state policy changes regarding public funding schemes, the changing costs and increased demand, HEI practices, and public and private mechanisms to aid in educational costs.

Historical context

After the foundation of the People's Republic of China, the tertiary education system focused on restructuring universities and colleges and building new public institutions. Nonetheless, tertiary enrolment progressed slowly in the 1950s and 1960s and even stalled during the Cultural Revolution (1966-1976). Tertiary education development gathered momentum after the government repositioned the role of education and higher education in economic and social development and launched the strategy of revitalising the country through science and technology and education in late 1978, parallel to the initiation of the "opening and reform programme". The university entrance examination was reinstated in 1978. The competition for limited places in universities and colleges, especially prestigious ones, intensified after 1978. Eagerness grew for children to attend university with the introduction of the one-child policy. At the beginning of the 1990s, the government was committed to advancing higher education by building first-class universities and expanding enrolment, thus tertiary enrolment increased drastically (Figure 1).

Figure 1. Increased enrolment in tertiary education institutions (1949-2008)



Source: Yang, D. and R. Zhang (2011), “60 nian lai zhongguo gaodeng jiaoyu dazhonghua jincheng”, [The development of mass higher education in China for sixty years], in *Zhongguo Jiaoyu Kexue 2010 [China Education Science 2010]*, China Education Society (Ed.), People Education Press, Beijing, p. 377.

The entry rate at the tertiary level was 1.2% in 1980 and by 2009 it rocketed to 24.2%, with an annual average growth rate of 9.1% between 1978 and 2009 (Yan, 2010). In terms of numbers, the tertiary student population grew from 856 000 in 1978 to 21.447 million in 2009 (Table 1).

Figure 2. Scale of tertiary education institutions by type, of institutions (2009)

	Number of institutions	Enrolments	Full-time teachers
Colleges	1 090	9 648 059	896 013
Regular Higher Education (Undergraduate)	1 215	11 798 511	395 016
Adult Education Institutions	384	2 014 776	50 402
Non-governmental Institutions	812	4 461 395	222 008

Source: Department of Development and Planning, Ministry of Education (2010), *Educational Statistics Yearbook of China 2009*, People’s Education Press, Beijing.

At the same time, China shifted from a planned economy to a market economy. Market forces penetrated, to a significant degree, into every lifestyle (Lieberthal, 2004, p. 290). Fee charging was introduced into primary, secondary and tertiary education by the government to compensate for declining government education expenditures, which were lagging behind growing enrolment.

Market forces also changed the nature of relationships between the state and individuals (Lieberthal, 2004, p. 290). Before the reforms, tertiary graduates were assigned a job by the state and allotted an urban residence (hukou in Chinese, which is linked with urban welfare and implicit social status) and the fringe benefits of status as “state’s cadres” – comparable to the status of public servants. After the reforms, tertiary graduates lost this status and employment and living quarters became the responsibility of individuals.

Reform of tuition fees and subsidies

The reform on public subsidies for tertiary students in China is parallel to the reform on tuition and fees. Through sixty years of reform, China has shifted from a system of free higher education to a cost-sharing system with a range of student support schemes. A summary of each era of reform highlights the changes and achievements that have led to the present mass high enrolment in HEIs in China and how this has changed the equity demographic.

- 1952-1970s: Free tertiary education and universal student grant (“People’s Grant” period)
 - public HEIs exclusively funded by the state;
 - no fees, state covers all costs;
 - state-planned enrolment numbers;
 - students receive a monthly grant (allowance);
 - accommodation supplied by the state; and
 - upon graduation, students were assigned to work at various “units” (employers).
- Mid-1970s – 1984
 - increased enrolment led to declining government funds to maintain the People’s Grant;
 - living standards rose, giving way to increased demand for higher education;
 - the state limited the People’s Grant to students from low-income families on a means tested basis; and
 - the intended recipients of the People’s Grant reduced from 75% students to 60%.

- 1983-1988: Inception of fee-paying students and abolition of student grant
 - structural reform in 1985 led to three admissions schemes:
 - i) state-planned enrolment,
 - ii) contracted enrolment with employers, and
 - iii) fee-paying enrolment.
 - the People's Grant was abolished and replaced by the "people's scholarships" in 1986, which went through several schematic changes through the end of the 1980s;
 - student loan scheme introduced by the state; and
- 1987 marked the commencement of a new system that was dominated by scholarships and loan aids, complemented by subsidy to a small proportion of student with financial difficulty (Wang, Y., 2010: 50).
- 1989-1993: Development of three enrolment schemes and decentralisation of fee charging:
 - fee charging started in all tertiary institutions based on a 1989 policy document that mandated charging all tertiary students tuition and boarding fees (with the exception of those enrolled in teacher education programmes);
 - three enrolment schemes emerge, each with a different cost-sharing responsibility component:
 - i) state-planned scheme – students admitted by the state-planned enrolment scheme pay tuition while the university provides accommodation and food tickets on monthly basis;
 - ii) contracted scheme – employers responsible for tuition and miscellaneous institutional fees for students enrolled under contract with employers; and
 - iii) fee-paying students' scheme – students pay all educational costs, including tuition and fees specified by the higher education institutions (Xiong, 2010: 101).

After these changes, the era of free higher education formally ended in China and all students were responsible for paying either portions or all of their university education.

During this time, tuition fees rose, increasing the burden on students and state resources. The government created new funding channels more in line with the development of a socialist market economy (Wang, 2010, p. 50; Brandenburg & Zhu, 2007). In addition, fees were largely decentralised, and the provincial level governments set their own rates and standards.

Unsurprisingly, the higher tuition fees in combination with the rising prices increased the financial burden faced by tertiary students, which led to another era of change.

- 1994-1997: Unification of three enrolment schemes and universal fee-paying system
 - introduction of government pilot scheme to unify the 3 admission schemes and fee standards in 37 ministry-affiliated universities and extended to all HEIs by 1997 (Xiong, 2010, p. 100);
 - fee-charging standards were set on the basis of actual education costs of different higher education institutions, taking into account the economic development of the local region, the conditions of the higher education institutions; and individual affordability factors;
 - tuition and fees kept rising, at an annual growth rate of 20% on average between 1990 and 1997;
 - the percentage of the government allocation in higher education expenditure decreased; and
 - the contribution of the tuition and fees from students increased progressively.
- 1998-2012: Rapidly expanded enrolment and development of student support systems
 - rapid expansion of tertiary education after state policy changes to stimulating economic growth after the Asian financial crisis; tertiary enrolment rose about 47% to 1.56 million from 1.08 million in 1998 to 1999;
 - gross enrolment increased from 9.8% in 1998 to about 23% in 2009 (Table 2); and
 - tuition and fees charged by HEIs rose to make up for resource shortage due to insufficient public funding (Figure 2).

Although new forms of subsidies (scholarships) and grants were introduced in the 1980s and 1990s after the abolition of the People's Grant, public subsidies available to students were few and inconsistent. Moreover, the total amount relative to expenditure on tertiary education was minimal.

Table 2. Rapid expansion of higher education system (1978-2009)

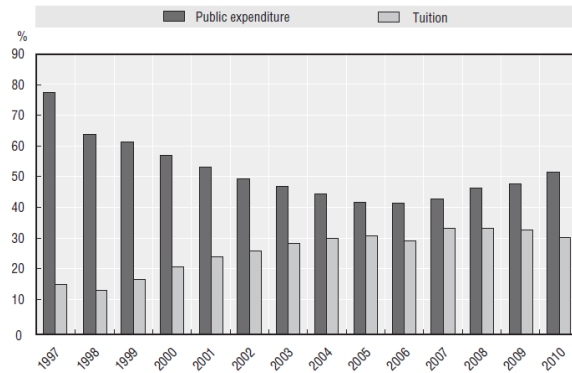
	1978	1980	1985	1990	1995	2000	2005	2007	2009
<i>Number of regular HEIs</i>	598	675	1 016	1 075	1 054	1 041	1 792	1 908	2 305
<i>Total undergraduate enrolment (millions)</i>	0.856	1.144	1.703	2.063	2.906	5.561	15.618	18.850	21.447
<i>Gross enrolment rate for ages 18-22 (%)</i>	1.56	1.2	2.80	3.4	7.2	12.5	21.0	23.0	24.2

Source: Development and Planning Division, Education Department (2010), *Educational Statistics Yearbook of China*, People's Education Press, Beijing, <http://tongji.cnki.net/overseas/engnavi/HomePage.aspx?id=N2012010030&name=YZKRM&floor=1>

It was not until the beginning of the 21st century that a wide choice of student-assistance schemes were developed through a mix of a public loan funds, commercial banks and grants (OECD, 2010, p. 42). The system essentially comprises five components:

1. Scholarships: Scholarships sponsored by the state, the institutions, and private entities and individuals. The former two are funded by governmental allocation.
2. Loans: Includes commercial and public loans. The former are provided by the commercial bank (lender) for profit-making purpose, and the latter are provided or issued by the government for assisting students from low-income families to complete their higher education.
3. Work-study programmes: Teaching, research, administration posts or other logistics offered by HEIs for students from low-income families.
4. Means-tested grants: Funds earmarked by the central and local governments to support students with financial difficulties, including interim and regular grants for living costs.
5. Tuition exemptions: Reducing, exempting or deferring payment of tuition and fees by qualified students (this includes students in special programmes, low-income families and those intending to work in remote areas after graduation).

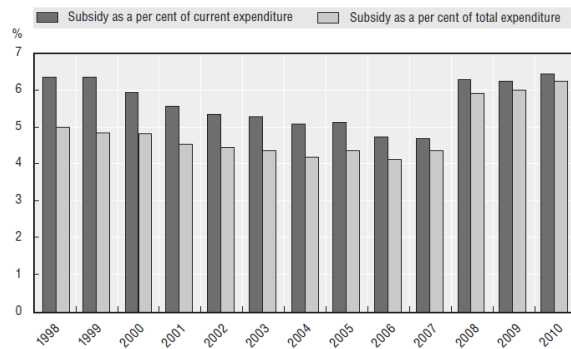
Figure 2. Share of tuition and public expenditure, as a percentage of total education expenditure (1998-2010)



Source: Social and Technological Department, National Bureau of Statistics of China (2010), *China Educational Finance Statistical Yearbook*, China Statistics Press, Beijing, <http://tongji.cnki.net/overseas/engnavi/HomePage.aspx?id=N2011050043&name=YZZJJ&floor=1>.

Since 2001, the government has increased the amount of earmarked funds for scholarships and grants, from USD 24 million in 2002 to USD 122 million in 2005, and then to USD 2 billion in 2007 and further to USD 4.5 billion in 2009.

Figure 3. Student subsidy, as a percentage of current education expenditure and total education expenditure in tertiary education institutions (1998-2010)



Source: Social and Technological Department, National Bureau of Statistics of China (2010), *China Educational Finance Statistical Yearbook*, China Statistics Press, Beijing, <http://tongji.cnki.net/overseas/engnavi/HomePage.aspx?id=N2011050043&name=YZZJJ&floor=1>.

The expenditure on grants and scholarships for students maintained at a level of about 6% of current expenditure of tertiary education institutions.

Patterns of inequality

As the economy advanced in China, social disparities also widened, in terms of income inequality, rural-urban income gaps and the growing disparity between highly educated urban professionals and the urban working class (Dollar, 2007). The tertiary education reforms have also decreased access and thus, reinforced social and economic disparity among economically and culturally disadvantaged groups. This section examines the impact of HEI policy changes on four disadvantaged groups: lower-income families, women, minorities and people living with disabilities.

Students from lower-income families

Financial barriers prevent many students from lower-income families from accessing tertiary education. The percentage of students from lower-income families, as a percentage of the total enrolment, has decreased since the initiation of cost-sharing reforms. In contrast, the proportion of students from higher-income families has increased (Xiong, 2010: 101).

Students from farmers' and workers' families accounted for 45.2% (20.2% and 25% respectively) of the total enrolment in 8 tertiary education institutions in Beijing in 1980, falling to 21% by 1990 (Yan, 2010). Table 3 illustrates the distribution of tertiary students among various social groups.

Table 3. The percentage of offspring as tertiary students among various parental livelihood groups

Parental livelihood	The proportion in total employment (%)	Offspring in total tertiary enrolment (%)
<i>Farmers</i>	80.77	15.56-31.4
<i>Workers</i>	8.3	20.8-32.86
<i>Technicians</i>	4.16	12.7-16.58
<i>Public servants, military personnel, company employees and others</i>	6.77	35-35.1

Source: Li, W. (2008), *Zhongguo Gaodeng Jiaoyu Ruxue Jihui de Gongpingxing Yanjiu* [The Equity of the Entrance to the China's Higher Education], Peking University Press, Beijing, p. 104.

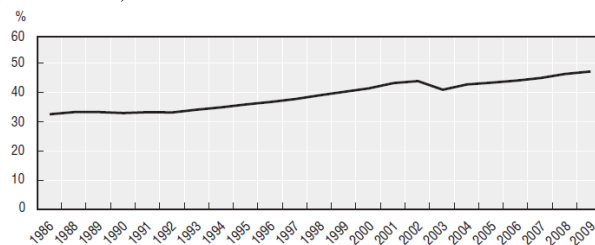
Socio-economic background also affects access to popular programmes with superior employment prospects. A survey of 37 institutions across the country in 1998 shows that students from higher-income families were concentrated in better fields of education and more prestigious institutions, while the students from low-income families were more likely to be admitted into less popular programmes associated with lower fees and in mediocre institutions (Yan, 2010; Fan, 2005).

Students from low-income families attending HEIs often face financial difficulties, which limit their academic performance. For example, engaging in paid work while a student to cover costs reduces time and energy to devote to studies, thus outcomes may suffer (Jing, Sun & Liu, 2010).

Female students

Women and men are equal according to Chinese laws and regulations and therefore should have equal education opportunities. Female students often perform better than male students in secondary school, which would suggest that it should lead to greater chances of success in university entrance examinations. Statistics show, however, that the proportion of female tertiary students increased gradually, up to a level of male students in 2009 (Figure 4).

Figure 4. Proportion of female students, as a percentage of total tertiary enrolment (1986-2009)



Source: Development and Planning Division, Education Department (2010), Educational Statistics Yearbook of China, People's Education Press, Beijing, <http://tongji.cnki.net/overseas/engnavi/HomePage.aspx?id=N2012010030&name=YZKRM&floor=1>.

Nonetheless, female graduates have a lower chance of success in employment compared with their male counterparts. While the demand for

skills in the labour market diminished and the tertiary graduates' first-time success rate in job hunting decreased, the employment of female graduates upon degree completion is lower than male graduates with the same educational attainment (Liu, 2011).

Apart from better employment opportunities, male graduates also earn higher starting salaries. According to a survey of 34 tertiary education institutions in 16 provinces covering the east, middle and west of China in 2005, there was a significant disparity in starting salaries between female and male graduates. Female graduates earned the equivalent of USD 184 to male graduates USD 199.1 – a discrepancy of USD 15.

Students from minority groups

Students from minority groups in China (e.g. non-Han Chinese) can choose to enrol at specialty higher education institutions established for minorities or regular HEIs. Since 1950, China has established fourteen higher education institutions targeting minority students. For those going to regular institutions, students may choose to study either special programmes for minority students or regular programmes.

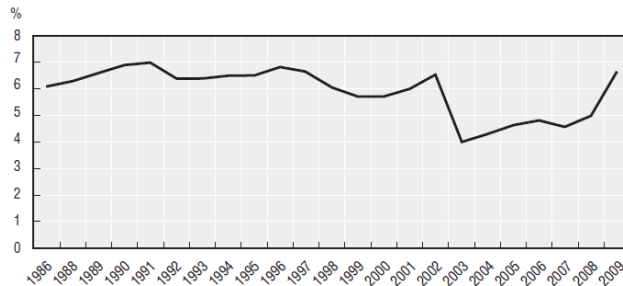
Affirmative policies to improve access to tertiary education for students from minority groups have existed in one form or another since the education reforms began. As a result, the percentage of the minority students has risen from 0.93% in 1950 to about 6% in the late 1980s, and maintained the same level until 2009 (Figure 5).

The proportion of minority entrants relative to the total entrants of tertiary education should be no less than the proportion of the minority population relative to the total population mandated in a 1981 policy document. Table 4 shows the proportion of minority students against the proportion of minority population from the six national censuses. It shows that the proportion of minority students kept rising and remained stable since the turn of the century in spite of a slight drop that occurred after the universal fee-paying system was instituted in 1997.

Minority students are less likely to go to prestigious urban universities. In many cases, the number of entrants admitted into such HEIs from all high minority-populated regions is minimal compared to the total number of entrants from one non-minority-populated city or province. For example in 2008, the Tsinghua University enrolled 296 entrants from one city, Beijing, compared to 239 entrants from 8 minority-populated provinces and autonomous regions. Similarly, the Peking University enrolled 470 students

from Beijing, and merely 224 from 8 minority-populated provinces – 6.8% of the total entrants that year.

Figure 5. Share of minority students, as a percentage of the total enrolment (1986-2009)



Source: Development and Planning Division, Education Department (2010), *Educational Statistics Yearbook of China*, People’s Education Press, Beijing, <http://tongji.cnki.net/overseas/engnavi/HomePage.aspx?id=N2012010030&name=YZKRM&floor=1>.

Table 4. The percentage of minority students (1953-2000)

	1953	1964	1982	1990	2000	2003	2006	2009
Proportion of minority population relative to total population	6.06	5.76	6.68	8.04	8.41	n.a.	n.a.	8.49
Proportion of minority students relative to total enrolment	2.56	3.24	4.65	6.60	5.71	6.6	6.1	6.5

Source: Liu, E. (2010), “Dazhonghua shifa xia shaoshu minzu gaodeng jiaoyu ruxue jihui yanjiu”, [The minorities’ access to tertiary education from the perspective of mass education], *Heilongjiang Minzu Congkan [Heilongjiang Minority Journal]*, Vol. 5, pp. 180-183.; The Ministry of Education (2012), “Statistical Data”, available at www.moe.edu.cn/publicfiles/business/htmlfiles/moe/s7255/list.html (accessed 27 January 2012).

In the same year, the Zhejiang University recruited 157 minority entrants from 8 minority-populated provinces and autonomous regions, compared with 2 044 entrants in Zhejiang province (Liu, 2010).

Students with disabilities

In China, special education programmes for students living with disabilities were offered in three ways: special education programmes in regular higher education institutions; separate departments or schools

within the regular higher education institutions; and stand-alone tertiary special education institutions (Lin, 2010). By the end of 2006, special education programmes were available in 8 tertiary education institutions and 14 institutions have their own special education departments or schools tailored to students with disabilities (Huang, Liu & Xue, 2010).

By 2010, 7.674 people living with disabilities were admitted into regular tertiary education institutions and 1.057 entered special education colleges (China Disabled Persons' Federation, 2010). According to the fifth national census (2006), the number of people living with disabilities in China totalled 82.69 million, of which 0.94 million have tertiary education attainment, equivalent to 1.13% of the total, which is much lower than the national average for able-bodied Chinese of 5.18% (Renminwang, 2007). Most tertiary education programmes for people living with disabilities are limited to the undergraduate level and narrow fields of study, which contributes to difficulties in securing employment upon graduation (Huang, Liu & Xue, 2010).

Determinants of inequality

This section analyses the contributing factors to inequality that have arisen alongside policy and state budget changes.

The cost of tertiary education

Economic factors, especially for students from low-income families, are the most prominent barriers that limit access to tertiary education, educational achievement and even future labour-market outcomes. Tuition, living costs and fees in excess of means have made tertiary education a major financial burden for some lower-income students and an unaffordable luxury for many lower-income families. Educational reforms and changes in state subsidies and cost-partnership arrangements have led to declining enrolments in certain demographics creating distinct and different patterns of inequity in the past half a century, but particularly since the onset of the socialist market economy. The rise in tuition fees, as shown in Table 5 depicts the steady and drastic increases relative to per capita incomes, especially during the period 1998-2004. While moderate increases in per capita income have also occurred during this period, the

percentage of tuition fees to income, without any other factors included, illustrate that tertiary education in China has become a luxury.

Financial gaps from enlarged enrolment

The rising tuition and fees are largely attributable to the stringency of public funding in tertiary education. Public investment in tertiary education has lagged behind the growing scale of tertiary education, despite what is mandated in the Education Law of the People’s Republic of China, “proportion of the public expenditure to GDP should be increased as the national economy advances and the fiscal revenues increases” (1995). From 1998 to 2007, HEI graduates increased about five-fold. Tertiary enrolment rose at a rate of 39.5% between 1999 and 2007, while public expenditure on educational institutions increased at a much lower rate of 29% over the same period.

Table 5. Annual tuition per student at tertiary education level

	1990	1996	1997	1998	1999	2000	2001	2002	2004	2006	2008
Annual tuition	200	610	1 124	3 500	3 200	3 550	3 895	4 224	4 785	5 233	5 689
Income per capita urban households (yuan)	1 510	4 839	5 160	5 425	5 845	6 280	6 860	7 703	9 422	11 760	15 780
<i>Of which, % of tuition</i>	13	12.6	21.8	65	55	56.53	56.78	54.8	50.8	44.5	36.1
Income per capita rural households (yuan)	686	1 926	2 090	2 162	2 210	2 253	2 366	2 476	2 936	3 587	4 761
<i>Of which, % of tuition</i>	29	31.7	53.8	162	145	157.5	164.6	170.6	163.0	145.9	119.5

Source: Xiong, B. (2010), *Jihui Jundeng Shijiao Xia De Gaodeng Jiaoyu Chengben Fendan Jizhi Yanjiu* (Higher Education Cost-sharing Mechanism from perspective of Equal Access), Huazhong Normal University Press, Wuhan; Li, W. (2008), *Zhongguo Gaodeng Jiaoyu Ruxue Jihui de Gongpingxing Yanjiu* [The Equity of the Entrance to the China’s Higher Education], Peking University Press, Beijing, p. 104; Wang, T. (2010), *Gaodeng Xuexiao Xuefei Yanjiu* [A Study of Tuition of Tertiary Education Institutions], Peking University Press, Beijing; Li, R. (2011), “Gaodeng jiaoyu xuefei biao zhun tantao” [On standards of tuition of tertiary education], *Kejiao Zongheng* [Science & Education], Vol. 3, pp. 201-202.

This exerted great pressure on tertiary education institutions for income generation, as shown in Table 6.

Table 6. A comparison of education expenditure, GDP and public expenditure

	2003	2007	Growth rate (%)
Expenditure on education institutions per student (yuan)	14 963	15 333	2.5
GDP (trillion yuan)	13.6	25.7	8.9
Public expenditure on education institutions per student (yuan)	6 522	6 395	-2

Source: Wang, Y. (2010), "Paradigm shift of education governance in China: Two compulsory education legislation episodes, 1986 vs. 2006", Ph.D. Thesis, University of Hong Kong, p. 43.

Increasing tuition and fees for income generation

As the power of decision for tuition and fees was decentralised in the early 1990s, universities and colleges filled the financial gap by charging more tuition and fees. Thus, the funding structure of tertiary education in China changed dramatically. While the percentage of the governmental allocation decreased, income generated by the HEIs accounted for more and more of the expenditure, among which the contribution of tuition and fees to tertiary education expenditure increased progressively (Table 7).

Replication of regional disparity in accessibility to tertiary education

The economic development levels of various regions – associated with lower GDP per capita and lower per capita net income – impacted local students' affordability and accessibility to tertiary education. The structural reforms of 1985, which decentralised education responsibilities, led to geographic inequalities in primary and secondary education facilities throughout China. Education quality, reflected as spending per student, was strong in the prosperous regions that had the capacity to equip schools with better infrastructure, learning facilities and teaching resources.

As a result, students from those regions are much more likely to perform better in HEI entrance examinations, which is the most important pre-condition for securing enrolment in prestigious universities.

Table 7. Sources of higher education funding and contribution of tuitions and fees (%) (1978-2010)

	1978	1990	1992	1995	1997	2003	2007	2008e	2009e	2010e
Government allocation	95.9	87.7	81.8	73.57	67.62	64.24	55.19	43.98	47.59	48.75
Income generated by HEIs	4.1	12.3	18.2	26.43	32.38	35.76	44.81	46.74	44.28	43.46
Of which, tuition and fees	0.0	1.8	4.6	11.89	15.72	27.92	29.63	43.9	47.59	43.46

Source: Social and Technological Department, National Bureau of Statistics of China (2010), *China Educational Finance Statistical Yearbook*, China Statistics Press, <http://tongji.cnki.net/overseas/engnavi/HomePage.aspx?id=N2011050043&name=YZZJJ&floor=1>.

In contrast, students from minority groups are more likely to perform at lower levels in national university entrance examinations as most of the minority autonomous regions are under-developed. Schools in these regions, typically, are under-resourced and the educational quality relatively low. Hence, minority groups are marginalised from tertiary education in at least three ways: geographically, economically and pre-tertiary educational quality.

Complex structural mechanisms and lack of accountability

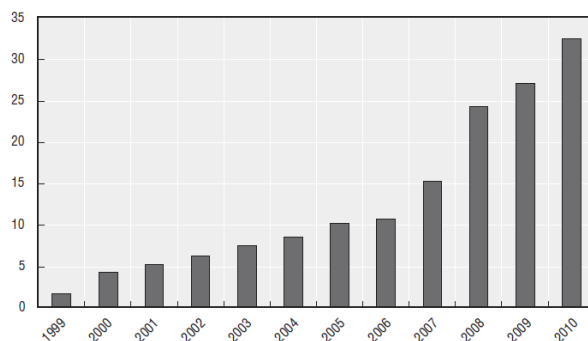
As fees and informal charges were left to the discretion of HEIs (i.e. there were no policy mechanisms in place to cap amounts), many tertiary education institutions abused this discretion passing on funding shortages to students for income generation. Income from student fees and charges was also used to bestow fringe benefits to university faculty. The government neither instituted accountability requirements nor did HEIs develop internal accountability mechanisms. Consequently, various kinds of informal charges prevailed in universities and colleges. According to state auditing reports, the amount of informal charges or overcharges added up to approximately USD 105 million by 2007 (Li, 2007).

Tuition and fees were inflated as education costs were exaggerated by HEIs to compete for resources under the special funding system. The system distributes state funds to educational institutions under two budgetary lines: expenditure per student and earmarked funds. HEIs altered accounting reports

– largely by inflating educational costs – to the education ministry or related authority to secure more earmarked funds. This was exacerbated because there were no adequate cost-accounting mechanisms and HEIs lack both incentives and constraints to minimise educational costs (Xiong, 2010). Inflated education costs were partially transferred to increased tuition and fees.

In 2000, shortly after the rapid expansion of tertiary enrolment, the government increased public spending on subsidies to tertiary students (Figure 6). However, the growth rate of the subsidy expenditure – compared with the growth rate of the total educational expenditure – fluctuated between 2000 and 2010, illustrating that in several years of the decade growth rates of subsidy expenditures were not aligned to reach the majority of the students from disadvantaged groups. This suggests allocation problems versus insufficient government budgetary support.

Figure 6. The increase of public expenditure on student subsidies, 1999-2010 (billion yuan)

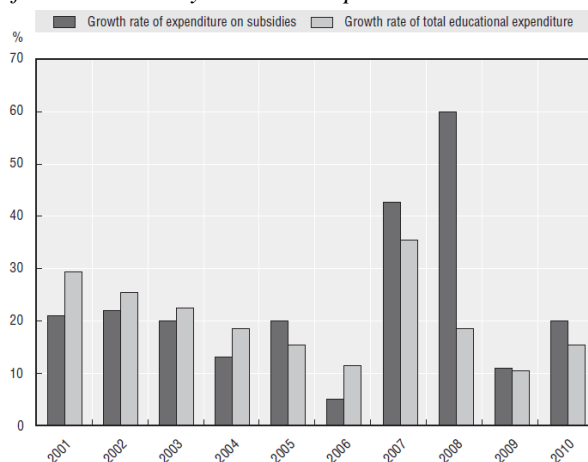


Source: Social and Technological Department, National Bureau of Statistics of China (2010), *China Educational Finance Statistical Yearbook*, China Statistics Press, Beijing, <http://tongji.cnki.net/overseas/engnavi/HomePage.aspx?id=N2011050043&name=YZZJJ&floor=1>.

In 2009, 5.27 million students (23.06% of the total enrolment) were enrolled in HEIs. Students from extremely poor families accounted for 1.66 million of this total (7.27% of the total enrolment) (Shan et al., 2011). Public expenditures on subsidies to tertiary education in 2009 amounted to USD 3.54 billion. Thus, the available subsidy for each low-income student, on average, was USD 672.20. Yet, tuitions and fees charges for most

programmes at regular HEIs were approximately USD 878.40 (University Entrance Examination Channel, China Education Online, 2011; Feng, 2009: 35). Student loans are, in theory, another avenue for students to finance their education. However, student loan schemes are unpopular with banks largely due to several disincentives that conflict with banks' profit-making goals. Disincentives include those associated with high levels of default, which are particularly problematic due to high rates of unemployment and longer duration in transition times from school to the workforce; lack of tracking mechanisms for those who default; and high administration costs. Like other developing countries, extending student loan schemes is associated with less developed credit cultures and less developed legal and regulatory frameworks in support of data collection (Johnstone & Marcucci, 2010).

Figure 7. The growth rate of subsidy expenditures compared with the growth rate of the total tertiary education expenditure



Source: Social and Technological Department, National Bureau of Statistics of China (2010), *China Educational Finance Statistical Yearbook*, China Statistics Press, Beijing, <http://tongji.cnki.net/overseas/engnavi/HomePage.aspx?id=N2011050043&name=YZZJJ&floor=1>.

Potential students are not motivated to apply for students loans for two significant reasons. First, a cost-benefit analysis is usually focussed on the short-term disadvantages of debt burden versus the long-term advantages of

tertiary education, such as better work opportunities with better salaries. As the conditions governing student loans are onerous (e.g. repayments begin the first month after graduation and do not take unemployment whilst searching for work into consideration; loss of credit rating for defaults, short repayment schedules, and burdensome payment amounts), it is not surprising that short-term cost analyses over-ride long term analyses. Second, the formal demands for endorsement, proof of character and the complexity of student-loan applications present barriers. A survey of 8 120 students in 6 provinces in 2007 noted that only 18.54% of students enrolling in tertiary education applied for a student loan and among those only 67.02% succeeded in obtaining the loan (Wang and Wei, 2011). Table 8 shows the proportion of students benefiting from the various student aid mechanisms.

Table 8. The proportion of students benefiting from various student loans in a province (2008)

	Government-funded			Non-government-funded		
	Grant	Scholarship	All government-funded schemes	Funded by HEIs	Funded by community	Student loans
Amount (USD)	201	666	273.4	108.6	347.0	738.2
Proportion	43%	6%	46%	27%	2%	9%

Source: Wang, R. and J. Wei (2011), *Zhongguo Jiaoyu Zhengce Zixun Baogao [China education finance policy consultancy report] (2005-2010)*, Educational Science Publishing House, Beijing, p. 353.

The determinants of inequality appear to be associated with lack of accountability institutions and mechanisms that could channel the resources to the target group efficiently and effectively.

Conclusions

In 30 years China shifted from a government-funded, free tertiary education system to a cost-sharing system. The reform paralleled the transition from a planned to socialist market economy and rapid economic progress. As a result, both the educational cost structure and the system of state resource distribution changed completely.

These changes shifted inequality patterns among four disadvantaged groups: students from low-income families, women, students from minority groups and students with disabilities.

The determinants of inequality appear to be associated with seven overlapping and entwined factors, specifically:

- rapid economic growth;
- increasing demand for tertiary education;
- state budgetary and policy decisions;
- HEI institutional practices that employed various strategies to compete for limited state resources;
- socio-cultural norms and practices;
- extensive regional social and economic diversity; and
- lack of accountability institutions and mechanisms that could channel the resources to various target groups efficiently and effectively.

The major barriers to equity should first be attributed to the enlarging tuition and fees that exceed the financial capacity of students from low socio-economic background, which were exacerbated by informal charges and exaggerated educational costs made by the educational institutions. However, these occurred alongside changing state policies, funding schemes and instruments, social change and rapid economic growth. Since China has not implemented accountability mechanisms to monitor or evaluate HEI practices, or to oversee the appropriate dispersal of grants and subsidies, disadvantaged groups that are specific targets of various schemes are not benefitting from them as intended. This article has shown that cost-sharing reforms have been on the right track but require additional funds, improved oversight, and accountability measures to ensure available resources reach the target groups efficiently and effectively.

As tertiary education is expected to continue expanding in the next decade, it would be useful to look at other countries' experiences and lessons to guide future reforms. It is clear that the overall education reform depends on management and policy reforms, particularly in the area of governance and accountability. Identifying the appropriate mode for China and then initiating pilot reforms of accountability mechanisms to evaluate and monitor education-cost sharing schemes should be the next step in the education reform goals of the country.

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