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Chapter 8 Geographical stratification and the provision of education in contemporary China

Ye Liu

Introduction

China's rapid rise over the past two decades has significance beyond economics and geopolitics. China's debut in the 2009 PISA (Program for International Student Assessment) showed Shanghai topping the world league in the three skills domains of reading, maths and science (OECD 2013). Shanghai's continued top ranking in the 2012 PISA showed a further lead in educational attainment among 15-year olds. Compared to OECD countries, in Shanghai--one of the most developed areas in China--students demonstrated a strong lead in mathematics in terms of mean scores, representing a three-year advantage over the average OECD student level. However, the question that arises from China's PISA results of 2009 and 2012 is whether Shanghai can be said to represent the whole of China? Given Shanghai's higher levels of educational infrastructure, resources and number of qualified teachers, it cannot be assumed that students from other areas in China have achieved a similar level of performance. China's PISA outcomes thus trigger an interesting question in regards to differences in educational achievement and opportunities by region and between rural and urban areas in contemporary China.

Regional and spatial stratification in developing contexts has been under-researched and under-theorised in studies of educational development and in the sociology of education. One line of research focuses on changes in economic conditions worldwide since the 1970s and their implications for educational provision and outcomes for people from different geographic origins (Hannum and Wang 2006). Modernization theory argues that geographical stratification is linked to the processes of economic modernization and development (Treiman 1970; Forsythe et al 2000). Most developing contexts are characterised by sharp regional economic disparities and the uneven distribution of social infrastructure. In the educational

sector, schooling systems are often better funded in urban or affluent regions than in rural or poor areas (Wu and Zhang 2010; Tam and Jiang 2015). The uneven distribution of educational resources and infrastructure has had direct implications on educational attainment. Evidence from African countries and Brazil demonstrates dramatic regional differences in educational attainment, as measured by trends in attendance and completion rates since the expansion of educational opportunities (Rigotti and Fletcher 2001; ORC/Macro 2000).

A second type of research highlights the changes in politics and governance in education and the implications of these changes for geographical inequality. Literature in development studies argues that widening geographical inequality has been related to decentralised governance or devolution practices in economic and social policies (Rodríguez-Pose and Gill 2004). Devolved fiscal policy in the public sector is argued to be the primary contributing factor to differentiated educational outcomes among regions. Decentralised funding policy in education delegates funding responsibilities for education to the regional or local levels; hence, initially developed areas have better financial capacity in educational provision than poor areas, which inevitably leads to greater regional differences. Evidence from China (Yao and Zhang 2001), Brazil (Azzioni 2001), the USA (Bernat 2001) and some European countries (Loughlin 2001; Petrakos 2001) suggests that decentralised systems of governance favour rich regions in terms of resources, capacities and competitiveness, and punish poor areas, resulting in increasing regional inequalities.

These studies focus primarily on the geographical distribution of educational resources, and funding, and the implications of this for educational attainment and skills outcomes. However, these studies do not provide a perspective on how geographical unevenness reproduces inequality of opportunity. Nor do they explore the institutional arrangements that underpin the persistent patterns whereby more wealthy regions continue to improve in educational attainment while poorer regions stagnate or decline. Furthermore, these studies often contribute little to the theorization of geography as an indicator of social stratification and how it interplays with other indicators such as class, ethnicity and gender, particularly in developing economies.

This chapter provides evidence on how regional inequalities intersect with educational provision in contemporary China. China's tremendous rise as an economic power was accompanied by the exacerbation of inequality between different regions. The State played an important role in producing this uneven pattern of economic development with its gradualist strategy of reforming and opening up eastern and coastal areas prior to expanding reform policies to the rest of China (Arrighi 2007). The aim of this chapter is to shed light on how regional and rural-urban inequalities impact the educational opportunity structures in China. In particular, this chapter seeks to understand how political and institutional arrangements enhanced geographical stratification in the provision of educational opportunities.

This chapter applies a political economy framework to spatial stratification in order to analyse the persistent geographical inequalities prevalent throughout China's transition to a market economy since the late 1970s, in order to explain the role the State has played in reproducing spatial stratification in education. The chapter also examines the political and institutional arrangements that affected the distribution of educational opportunities across different regions.

In order to investigate geographical inequality in educational opportunities, the chapter presents evidence in the form of progression rates from primary to junior secondary education (compulsory education) and from junior to senior secondary education; and of the overall education spending by different government levels and private contributions. It ends with a discussion of the availability of higher education institutions and the quasi-progression rates from senior secondary school to higher education across provinces. This study draws on national and provincial level datasets published by the National Bureau of Statistics of China in its China Statistical Yearbook between 1991 and 2015.¹

The study will employ a quantitative analysis of the Yearbook data between 1991 and 2015, using a descriptive time-series of national and provincial data concerning education. The objective of this study is to illustrate the geographical differences in the educational provision and opportunities across different regions. Therefore, the basic statistical method such as the calculation of average and the comparison of the differences, is used instead of, for instance, the logistic regression analysis employed

in other studies (e.g. Hannum and Wang 2006) to predict the possibilities of education attainment by geographical origin. Furthermore, this study covers data for all provinces and municipalities, in order to highlight the differences between China's three regions (east, centre and west) in educational opportunity structures. This simple statistical method of the calculation of average and the comparison of differences will demonstrate a picture of geographical differences in the educational provision across provinces, allowing us to understand the geographic divide in the education opportunity structure. The discussion below considers each indicator in detail.

Geographical stratification, welfare state and economic development in China

Geographical or regional stratification has been an enduring interest in political economy. Political economists and economic geographers highlight the spatial dimension as an important aspect of stratification in capitalist economies (Harvey 2011; Massey 1987, 2005; Ohnmacht et al 2009). Like other stratifiers, such as social class, gender and ethnicity, geography is also socially constructed (Massey 1987). Geographical stratification is explained by the interplay of spatial differentiation and economic and political forces. Geographical inequality is depicted as a consequence of differentiated proximity to natural resources, labour and consumer markets (Harvey 2011; Smith 1994). It is also affected by the availability of infrastructure, including transport and communication systems (Baumawn 1998; Harvey 2011).

Moreover, regional stratification is affected by institutional and administrative arrangements in relation to economic production, social relations, technological forms and localised life styles at the regional level (Harvey 2011; Morrow 2006). The State is the guardian of these institutional and administrative arrangements, constantly adjusting its mode of governance at the national and regional level to guarantee the mobility of capital and to favour the conditions that yield economic growth and enhanced living standards. The institutional and administrative arrangements can be understood as implementations of social policy, governance and fiscal policy through formal governmental institutions and informal social institutions. Yet, the role of the State in adjusting geographical differences is further

complicated by welfare provisions. The welfare state is understood as State responsibilities for securing some basic modicum of protection for its citizens (Esping-Andersen 1990: 18-9). The nature of State welfare is examined alongside its interaction with the role of the market and the family in social provision.

From the mid 20th Century different models of welfare provisions in relation to social rights, social assistance and social insurance developed in Western countries (Esping-Andersen 1996). From the early 1990s, scholars began to outline what would be referred to as the East Asian welfare model, which was originally based on the examination of the welfare trajectories of Japan, South Korea, Taiwan and other East Asian nations. This welfare model was also referred to as a Confucian welfare model (Goodman et al 1998; Holiday and Wilding 2004). Rather than social rights or entitlements, Confucian welfare was said to be deeply rooted in family commitment and provision (Goodman and Peng 1996; Ringen et al 2011), alongside minimal State support through the outsourcing of welfare provision to employment and workplace. Furthermore, within the Confucian welfare model, welfare provision remained subservient to the State's overall economic development strategy (Ringen and Ngok, 2013).

The dual role of the State's responsibility in adjusting geographical differences through institutional and administrative arrangements as well as in the provision of welfare makes China an interesting case through which to examine the dynamics of spatial differentiation, economic development and the State. First, regional differences in China can be characterised as existing between eastern coastal, central and western areas. The geographical advantages of eastern coastal areas include closer proximity to Hong Kong and Taiwan, better connections with international transport and trade, and ties with overseas Chinese capital and entrepreneurial talents (Walker and Buck 2007; Harvey 2005). Second, the State has played an important role in rationalising geographical inequality. Since the late 1970s, geographical differences were justified by the Chinese Communist Party's (CCP) 'gradualist' development strategy for China's transition to a market economy, which concentrated investment initially in eastern coastal areas, and only later extended to central and western areas (Arrighi 2007). Specific institutional arrangements were put in place to implement this gradual strategy, including the

establishment of 'Special Economic Zones' and the 'East Coast-First' policy (Rozelle 1996). Several south-eastern provinces were chosen as pilot sites for more extensive market transition from the late 1970s to the 1980s. By the 1990s, the State had invested substantially in the development of key east-coast cities, such as Shanghai and Tianjin (Vermeer 2004).

A changing system of governance worked in parallel with these policy measures. The State decentralised and devolved fiscal responsibilities and power in the public sector to local governments (Wong 2002; Park et al 1996). Controlled decentralisation resulted in the rapid economic growth of a market economy in the eastern coast. Meanwhile, central and western regions lagged behind or stagnated in public investment and economic development (Lu and Deng 2011). These regions were disadvantaged due to their geographical disadvantage, lack of efficient transport and infrastructure, and due to the unfavourable political and formal government institutional arrangements. In this sense, the contradictory nature of the role of the State was evident. On the one hand, the Party-State was required to provide favourable conditions for the mobility of capital, labour, services and goods in the new market economy (Harvey 2011). On the other hand, decentralized governance arrangements made rich areas more prosperous while the poor regions stagnated or declined, thus enhancing geographical stratification (Lu and Deng 2011; Yao and Zhang 2001; Adams and Hannum 2005; Colin 1997; Azizur and Riskin 1998). Geographical stratification was therefore the inevitable consequence of the State's gradualist development strategy in the context of decentralisation.

Furthermore, China provides an interesting context to extend and test the Confucian welfare model. Central to Confucian welfare provision is the Party-State's use of social policy as an instrument to advance economic development (Davies 1989; Adams and Hannum 2005). Since the 1990s China has emerged as an ambitious State in pursuit of economic prosperity and national competitiveness within the global community. The national development project and its pursuit of increasing competitiveness was used in education policy in order to foster competition among schools, and to expand the higher education system within the context of the Party-State's decentralisation strategy. Education policy at the

primary, secondary and university levels is integral to the Party-State's overall 'development and stability' (*fazhanyuwending* 发展与稳定) strategy.

The following section examines specific policy reforms at primary, secondary and tertiary levels, in order to link these reforms to the changing relations between the State, economic development and regional stratification. The analysis will highlight how educational policy has been subordinate to the State's overall development strategy. In the process, the State revived Confucian precepts on responsibility over welfare provision in order to justify the decentralisation of education (Marginson 2011). By introducing the Confucian welfare model into the State's social cohesion strategy, the State not only made individual families responsible for financing education, it was also able to continue to prioritise the national 'development and stability' (*fazhanyuwending* 发展与稳定) strategy, which centred on economic growth.

Nine-year compulsory schooling

Education policy shifted dramatically over the course of the market reform period. Specifically, the political priorities of the Chinese Communist Party (CCP) drove the concurrent shifts in the policy agenda for education. During the early years of reform, education policy was constructed to be compatible with the Party-State's overall strategy of national economic development and competitiveness. Changes in education policy illustrated a shift from the previous focus on egalitarian provision, towards an emphasis on the quality of education (Hannum 1999). The nine-year compulsory education policy was first introduced after the 1978 market reform and subsequently legalised through the 1986 Compulsory Education Law (Ministry of Education 1986). The introduction of nine-year compulsory education aimed to provide free access to six years of primary schooling and a three-year junior secondary education.

At the same time that the State committed to attain universal access to nine years of compulsory education, a broader process of decentralisation had begun to delegate decision-making, and--increasingly--funding responsibilities from the

Central to local governments. Funding responsibilities for compulsory education were devolved to the provincial, county and township governments (Hannum et al 2007; Tsang 2000). Many rural areas and poorer western provinces lacked the financial resources to carry out and sustain such school expansion, having thus to resort to charging tuition or miscellaneous school fees to stay viable (Adams and Hannum 2005; Hannum and Albert 2002). In contrast, most urban areas and wealthier regions benefited from better resources, infrastructure and qualified teachers, while managing to keep compulsory education tuition free. Thus, in terms of access to compulsory education, the divide between rural and urban areas as well as between eastern and western regions widened (Tan and Jiang 2015; Wu 2010).

By the early 2000s wider social inequalities had become increasingly detrimental to the legitimacy of the State's overall development strategy. This realisation fostered the promotion of a social harmony rhetoric, which underpinned a social policy reform, including changes in how education was to be funded. Two main policy measures were introduced to combat rural-urban and regional differences in education. First, in 1999 the 'Western Development Programme' (*xibudakaifa* 西部大开发) was put in place to address the staggering geographic inequality between east and west China (Fan 2004; Vermeer 2004). The Programme was a massive policy package that included fiscal transfers, preferential tax treatment from the Central government, and investment in infrastructure in the Western region (Lu and Deng 2011). Investment in education and school infrastructure was another key policy priority. Policy goals were supported by specific Central funding. An initial US\$1.2 billion in Central funding was allocated to target the provision of compulsory education in poor rural areas between 1995 and 2000 nationally (Ross 2006). A follow-up Central allocation in 2005 of a further US\$26 billion was directed towards the improvement of the quality of education in rural areas (CERNET 2005). The policy change and the funding strategy illustrated how the shift in the overall development strategy and associated changes to education policy had important implications on educational opportunities across different regions.

Another national campaign aimed at narrowing the rural-urban divide was the 'Building a New Socialist Countryside' (*jianshe shehui zhuyi xin nongcun* 建设社

会主义新农村) which was introduced in 2006. As part of this campaign the policy measure known as the ‘two basics’ policy (*liangji* 两基) was introduced in 2008 with the aim of implementing compulsory education in all rural areas. The policy aimed to universalise nine-year compulsory education and to eradicate illiteracy amongst the rural youth (Ministry of Education 2009).

<INSERT TABLE 8.1 ABOUT HERE>

The next section will examine the statistical data on educational provision to assess the outcomes of the implementation of the education reform. Table 8.1 provides a general overview of access to compulsory education through the various stages of China’s market reform era. During the early stages of the reform, between 1978 and 1990, the enrolment ratio in primary and junior secondary schools did not change significantly, even after the passing of the 1986 Compulsory Education Law. A sharp growth in access occurred only around 2000, at the time when the State modified its development strategy and introduced some policy measures to reduce social inequality including the ‘Building a New Socialist Countryside’ (*jianshe shehui zhuyi xin nongcun* 建设社会主义新农村) and the ‘Western Development Programme’ (*xibudakaifa* 西部大开发) mentioned earlier. The growing access to compulsory education continued between 2008 and 2012 when the ‘two basics’ policy (*liangji* 两基) was implemented to improve the literacy level of the rural population.

The trend toward the universalization of educational opportunities at the primary and junior secondary level can be observed in Table 8.1, which suggests that the provision of education was conditioned upon the political priorities of the national development strategy. The emphasis on economic growth in the early stages of reform left limited room and resources to prioritise the expansion of the nine-year compulsory education. However, the policy adjustments to enhance social harmony since the 2000s signalled an encouraging trend towards fulfilling the goal of universal access to compulsory education.

<INSERT TABLE 8.2 ABOUT HERE>

Table 8.2 presents a detailed composition of educational spending to illustrate the changes in the funding structure between 1991 and 2011, and to highlight the changing role of the State and that of individual families in the provision of education. The first two columns compare the annual growth rate of government appropriations for education with that of tuition fees. Between 1991 and 2005, the growth rate of tuition fees contributed by individual families grew much faster than that of government funding. This trend changed in 2006 when government appropriations experienced a substantial increase. The growth rate of government appropriation went from 15.57 per cent in 2005 to 23 per cent in 2006, and to a 30.43 per cent growth rate in 2007. Between 2008 and 2011, the average annual growth rate was around 22 per cent. In the meanwhile, the growth rate of tuition fees showed a mixed picture. In 2006, tuition fees experienced a negative growth rate, but subsequently grew by nearly 40 per cent in 2007². Between 2008 and 2011 tuition fees increased by an average annual growth rate of around 14 per cent.

The remaining columns in Table 8.2 show the percentage change in the contribution to total spending on education in various years. Government financial contribution experienced a significant decline between 1991 and 2005, from 84.46 per cent to 61.3 per cent respectively. Meantime, tuition fee contributions rose steadily from 4.42 per cent to 18.45 during the same period. After 2006, the proportion of government funds steadily improved, rising to around 77 per cent in 2011, while the contribution from tuition fees experienced a slight decline to around 15 per cent (2005-2006) and stayed at around that rate until 2011. The surge in the educational funding since the 2000s was coincident with the introduction of the Western Development Programme' (*xibudakaifa* 西部大开发) and the 'two basics' policy (*liangji* 两基). Therefore, it can be argued that the education provision was subject to the Party-State's political strategy and priority.

<TABLE 8.3 ABOUT HERE>

Table 8.3 provides a detailed progression rate from primary education to junior secondary education by regions in 2004, 2009 and 2013. In this table, the progression rates are calculated by dividing the new entrants to junior schools in each province or area by the graduates of primary education. The years of 2004, 2009 and 2013 are chosen since they represent different stages in the reform of compulsory schooling. The ‘Western Development Programme’ (*xibudakaifa* 西部大开发) was introduced in 1999 and gradually expanded throughout the western provinces since 2000. The ‘two basics’ policy (*liangji* 两基), introduced in 2008, aimed to achieve universal access to compulsory education. Among provinces and cities in the eastern region, the majority achieved universal access to junior secondary education with the average progression rate at 99 per cent, 97 per cent and 95 per cent in 2004, 2009, and 2013³. Provinces within the central region also achieved universal access to junior secondary schooling in 2004, 2009 and 2013. However, it should be noted that the progression rate to junior secondary education dropped in Shanxi, Henan and Heilongjiang Provinces in 2013. The majority of western provinces had also improved junior secondary school progression rates between 2004 and 2013, and had achieved universal access to compulsory education.

This section highlights how changes in compulsory education were consistent with the State’s overall development strategy. From the 2000s, as social inequalities exacerbated, the State put forward a development strategy that was more balanced with its inclusion of a stronger commitment to welfare provision. This subtle change in the development strategy was reflected in the provision of education, as universal access to compulsory education was gradually realised with specific policy measures and funding commitment. Compulsory education provision across different regions can be seen as a ‘policy correction’ of the previous gradual development strategy.

Senior secondary schooling

Senior secondary education, which is non-compulsory, offers students a dual pathway via general and vocational schools, each with a distinctive orientation and

purpose (Wang and Jiang 2013; Liu and Chen 2013). The former is academically oriented and aims to prepare students for the transition into higher education. The latter provides skills training for specific occupations such as electrical engineering, forestry and nursing, and prepares students for further non-degree vocational higher education (Loyalka et al 2014). It is worth noting that this dual pathway of senior secondary schooling does not offer equal status and reputation; rather, it presents a hierarchical structure. The overall senior secondary education system is stratified; national model/key schools and provincial model/key schools sit at the top, normal secondary schools in the middle, and vocational secondary schools at the bottom (Tam and Jiang 2015; Hansen and Woronov 2013). It is estimated that the key schools account for around 20 per cent of total schooling (Liu 2016). In addition to the academic and vocational track, there are also some unregistered secondary schools in urban areas. The unregistered secondary schools tend to recruit the children of migrant workers who are unable to access State schools due to their rural household registration (*hukou* 户口) (Murphy 2014; Hao et al 2014).

Senior secondary education is funded through both government appropriations and tuition fees. As part of the wider process of decentralisation, the Central government adopted a minimal funding strategy at the senior secondary level, devolving the responsibility for funding to local governments and individual schools (Wu 2007; Hannum and Adams 2007; Zhang 2003). Schools were thus allowed to charge tuition fees on enrolled students. Tuition fee levels are set by the provincial government and strictly enforced in all schools. Fee levels do vary between provinces, as fees are set according to the economic conditions of each province.

Table 8.1 provides a general overview of the progression rates from compulsory education to senior secondary schooling at the national level, and compares the proportion of participation in secondary education. A similar pattern of improving access to senior secondary education since 1978 to that of participation in the nine-year compulsory education is observed. The transition rate did not increase significantly during the first stage of the reform era, while the rate improved dramatically after the early 2000s, when policy measures moved away from the sole emphasis on economic growth toward more ‘social harmony-oriented’ policies

which aimed to address growing social inequalities. However, regional differences in regard to access to senior secondary education remained.

Table 8.3 shows the regional progression rates from compulsory education to senior secondary schooling for 2004, 2009 and 2013. Two patterns emerge from this table regarding regional differences. First, the central and western regions lagged behind eastern provinces in progression rates into post-compulsory education in both 2004 and 2009. This gap was substantially reduced by 2013 with all regions reaching around a 54 per cent progression rate. Second, we can observe some intra-provincial differences within each region. Between 2004 and 2013 Guangdong and Hainan persistently lagged below the regional progression average rate of eastern provinces. This anomaly may be related to the wide availability of vocational secondary schools in these areas, which are not covered in the data. Among provinces in the central region, poorer provinces such as Anhui and Henan constantly remained below the regional progression average rate. In the western region we can see a clear divide in the progression rates to senior secondary schooling between relatively more affluent provinces and municipalities such as Sichuan, Shaanxi and Chongqing, and ethnic minority provinces such as Yunnan, Guangxi and Guizhou.

<TABLE 8.3 ABOUT HERE>

Education provision at senior secondary level is also affected by geographical inequalities. Table 8.4 presents comparative data on educational spending by regions. This table includes the two main sources of educational funding: government appropriation and tuition fees. In order to make data comparable, we will follow the practice used by other studies of using Beijing as the base line (1.0) (for instance, Hannum and Wang (2006). Funding levels above 1.0 indicate a higher contribution than the governmental spending or private contribution of Beijing; whilst funding levels below 1.0 suggest lower spending levels and a lesser private contribution than that of Beijing. In eastern provinces, most governments spent more on education than Beijing with the exception of Tianjin Municipality and Hainan Province, where the government appropriation was significantly lower. In

terms of contribution levels from tuition fees, only Tianjin and Hainan also had lower contribution levels than Beijing.

<TABLE 8.4 ABOUT HERE>

Among provinces in the central region, only Anhui and Henan achieved a similar level of government spending in education than Beijing, while the rest had significantly lower government investment in education. In the meantime, private contributions to education in all central provinces were on average much higher than those of Beijing.

The majority of provincial governments in western provinces invested less in education than Beijing, particularly amongst ethnic minority dominated areas, such as Tibet, Qinghai and Ningxia provinces, which only invested around 10 per cent of Beijing's government appropriation levels. In terms of tuition fees, the majority of western provinces demonstrate much lower levels of private contributions than those of Beijing, with the exception of Sichuan, Chongqing, Shaanxi and Guangxi provinces. Evidence presented in this section suggests that the State's decentralisation measures--and its funding implications for education--alongside rising family contributions to education were related to regional inequalities.

Regional inequality of in higher education opportunities

Policy changes in higher education were also consistent with the Party's overall strategy of national competitiveness and development. These changes allowed more space for the market and individual families to influence the education opportunity structure. As was the case in senior secondary education (i.e. non-compulsory education) higher education opportunities were subject to severe geographical inequality. Two main policies--the 'unification of the pathways' (*binggui* 并轨) policy and the 'building up world-class universities' policy (*jianshe shijie yiliu daxue* 建设世界一流大学)--were implemented to increase participation in higher education and to promote the quality and reputation of Chinese higher education institutions

worldwide (Liu 2013; Marginson 2015). These changes substantially affected the role of the State, the market and individual families in the provision of higher education.

The first change concerns the implementation in 1995 of the ‘unification of the pathways’ (*binggui* 并轨) policy, which signaled the State’ drastic withdrawal from funding and recruitment responsibilities in higher education (Liu 2013, 2015). The ‘unification of the pathways’ (*binggui* 并轨) policy was a substantial reform concerning the recruitment, fee-charging, and job assignment in higher education across China. It ended tuition free higher education and unified the formerly fragmented process of student recruitment planning by introducing tuition fees in almost all higher education institutions.⁴ This policy was initially introduced in 1994 as a pilot reform in around 40 higher education institutions, and was extended to around 100 universities in 1995. By 1997, the policy was implemented in the majority of higher education institutions.⁵

<INSERT TABLE 8.5 ABOUT HERE>

The ‘unification of the pathways’ (*binggui* 并轨) policy was an illustration of the devolution of funding responsibilities over higher education from the Central government to local governments and to individual families. The policy was designed to multiply the funding channels for higher education by involving a variety of social agents. While funding came from the regional and local governments--in addition to donations from social organizations and citizens--the bulk of funding for higher education institutions came from tuition fees paid by students (or their parents). This policy was also designed to decentralize the responsibility over student recruitment to local governments and individual institutions. As Table 8.5 shows, there was a sharp decrease in government expenditure per student between 1980 and 2006. The single two biggest drops in per-student government expenditure on higher education took place between 1994 and 1996 (from 81.4 to 43.7 per cent respectively) and between 2000 and 2006 (from 40 to 20.4 per cent respectively). As a result, tuition fees became a crucial element in financing higher education, signaling the beginning of the era of market-driven higher education. Since 1995, per

capita government funding for higher education has continued to decline in tandem with the steadily increase in the contribution from tuition fees.

The second change in the agenda of higher education policy was the project of building 'world-class' universities. The idea of promoting the status and reputation of Chinese universities worldwide was first proposed in the '211 project' in 1995 (Liu 2016). This project aimed at developing 100 key higher education institutions, labeled the 211 universities,⁶ with excellent research centers and key fields of study.⁷ Three years later, in 1998, the Ministry of Education in its *'Action Plan for Education Revitalization for the 21st Century'* put forward the '985 project', which aimed to foster world-class research excellence in an even smaller number of selected Chinese universities, while also allowing China to play a leading role in the world knowledge economy and in scientific and technological innovation.⁸ Between 1999 and 2010 around 75 billion yuan from the Central government was channeled to the 43 higher education institutions part of the '985 project' (Ministry of Education 2008; Deng et al 2010: 35-52).

Prioritizing a selected number of elite institutions with funding and provisions inevitably impacted the whole higher education system. The 'building world-class university' project (*jianshe shijie yiliu daxue* 建设世界一流大学) derives ideological potency from its association with the strategy of 'prioritizing the important ones and letting go the rest' (*zhuada fangxiao* 抓大放小), which was applied to the reform of State owned enterprises (SOEs). The '*zhuada fangxiao*' strategy, a core principle of the market reform, was primarily designed to justify the marketization of public assets. Universities, particularly the vocational and technological institutions at the provincial level, have been poorly staffed and underfunded (Liu 2013). They have struggled for funding from the government and are consequently highly subject to the vagaries of the unfettered market (Liu 2016). They have also been forced to compete against each other for student recruitment.⁹ Compared to the ambition of creating world-class universities through the 985 and 211 projects, the remit of institutions at the provincial level not selected by these projects was diminished to serve the local economy. These institutions thus aimed to attract local government

and local organizations to share the financial responsibility for their operations, which had been relinquished by the Central government (Liu 2016).

The project of the ‘building world-class universities’ (*jianshe shijie yiliu daxue* 建设世界一流大学) had considerable implications for the Party-State’s strategy of national development and market reform. First, by implementing this project, the Central government provided a concrete plan to select and value talent, and could be viewed as a commitment to the knowledge economy. By stratifying higher education institutions the Party-state was able to influence the formation of elite human capital to suit its overall competition strategy in the world (Marginson 2015). Second, as the Central government increased its funding for elite institutions, it also withdrew its financial responsibilities for other institutions at the provincial level. The decentralisation strategy in the educational sector resulted in the stratification of higher education institutions, minimized the governmental cost of the extension of opportunities in higher education, and, most importantly remained consistent with the Party-State’s overall development strategy.

<INSERT TABLE 8.6 ABOUT HERE>

Furthermore, the provision of higher education opportunities was still subject to severe geographical inequality. Table 8.6 shows the distribution of higher education institutions and the elite universities and key universities across provinces. It is clear from the table that the majority of elite universities are concentrated in Beijing, Shanghai and other eastern provinces. Twenty-five per cent of all elite universities are located in Beijing and another 13 per cent in Shanghai. In contrast, only three elite universities are located in Western China; two in Sichuan Province and one in the municipality of Chongqing. Similarly, nearly a quarter of the key universities are in Beijing, while nearly 80 per cent of key universities are in eastern provinces. As far as the total number of higher education institutions is concerned, more than 77 per cent of universities are concentrated in eastern provinces. Economically more developed areas in western China such as Chongqing, Sichuan and Shaanxi only account for seven per cent of total number of higher education institutions nationally. As far as the distribution of all higher education institutions is

concerned, eastern provinces such as Liaoning, Jiangsu, Shandong and one province and one municipality in the West--Shaanxi and Chongqing--have more higher education institutions than all other provinces, except for Beijing and Shanghai.

<INSERT TABLE 8.7 ABOUT HERE>

Table 8.7 provides details of quasi-progression rates from senior secondary schooling to higher education for different provinces for the years 1996, 1999, 2005 and 2009. Due to a lack of national data on students' geographical origins (i.e. to account for students who move to another province and region to complete their tertiary education), progression rates are estimated on the basis of the data from each province on senior secondary graduation and university entrance numbers. The progression rate is calculated as the new entrants to higher education divided by senior secondary graduates. This, of course, does not provide an exact basis for comparison across regions because--as mentioned above--not all senior secondary graduates going to university do so in their own region.¹⁰ However, a study found that 86 per cent of university candidates chose to go to university in their home province (Wu and Zhang 2010). Further, there are also students who choose to study in overseas universities. Loyalka's research provides a snapshot of student mobility in access to higher education institutions with four-year bachelor degrees in 2006, which calculated a national student outflow rate of 35.1 per cent ¹¹ for that year (Loyalka 2009: 62). Therefore, in this analysis quasi-progression rates are used to capture an estimated transition from schooling to universities across all the provinces.

Table 8.7 provides national average progression rates, and then subtracts the provincial rates from the national one, which allows a comparison of geographical differences. The table shows that access to higher education increased dramatically across all provinces from 1996 to 2009. Between 1996 and 2005 the national progression rate increased from 34 per cent to 76 per cent. However, eastern provinces recruited significantly more students to higher education than western provinces. Beijing, Shanghai and Tianjin in the eastern region had higher recruitment than all other provinces. This pattern was correlated to the higher number of

institutions that were located in these areas. Several eastern provinces, such as Jiangsu, Hebei, Shandong and Guangdong, had consistently higher rates of access to higher education, when compared to the rest of eastern provinces. Sichuan and Shaanxi were the only western provinces that had relatively high levels of higher education participation.

The evidence presented in this section hence highlights the geographical inequalities in access to higher education prevalent in China. The highly uneven distribution of higher education institutions had direct implications on access to higher education for students from different geographical origins. Elite and key universities recruit students nationally, but favour applicants from their own provinces through decentralised 'cut-off points' and the 'quota policy' (Liu 2015), which will not be discussed in this chapter. Other universities recruit students mainly from their local area (Loyalka 2009; Wu and Zhang 2010). Since elite universities are concentrated in the eastern provinces, high school graduates in the eastern provinces have a higher chance of gaining access to elite institutions than their peers in other regions. Candidates from western provinces have comparatively much smaller chance to be enrolled in an elite university than those from an eastern province. They also have a lower chance of entry to non-elite universities since they have significantly fewer universities in their area. Candidates from Beijing, Liaoning, Shandong, Jiangsu and Shaanxi had generally a much greater advantage in access to higher education due to the higher number of higher education institutions in their provinces.

The inequality of access to higher education between eastern, central and western provinces is also demonstrated by the data on quasi-progression rates from senior secondary schools to higher education. Even though between 1999 and 2009 progression rates increased significantly across all provinces, the divide between eastern and western provinces remained. The dramatic increase in progression rates across all provinces resulted partly from the 'unification of the pathways' (*binggui* 并轨) policy, which introduced fees for study in higher education. This decentralised funding policy might have incentivised individual universities to provide more student places, especially those institutions at the provincial level. Research

elsewhere suggests a positive correlation between the fee-charging and increasing participation¹² (Shavit et al 2007; Liu et al 2016). However, this increase in participation in higher education did not seem to result in greater geographical equality in access since there is an uneven distribution of higher education institutions across the regions, but also due to the socio-economic differences between regions.

Conclusion

This chapter has investigated geographical inequality in the provision of educational opportunities in contemporary China. Some findings arise from the analysis of the statistical data from the China Statistical Yearbook between 1991 and 2015. First, the evidence presented in the preceding sections, highlighting the changing role of the State in educational provision, has been closely linked to regional inequalities in economic development. The widening divide between the eastern, central and western areas--a consequence of the Party-State's gradual development strategy--made education opportunity structures in the different regions more unequal in terms of access and participation.

The Party-State's provision of education has been largely determined by the goals of the broader development strategy. Two shifts were observed since the introduction of the market reform that were consistent with the Party-State's changing political priorities. First, during the 1980s and 1990s educational competitiveness and quality replaced egalitarian provision during the early transition into a market economy. Second, the policy focus on a wider provision of compulsory education in rural and western areas matched the concurrent shift in the State's political priorities since late 1990s and early 2000s towards addressing inequalities and emphasizing social cohesion.

Moreover, the State adopted a selective strategy towards educational provision by prioritizing funding to realize universal access to compulsory education and to support elite universities. For the first initiative, from the early 2000s, universalizing compulsory education had a symbolic association with the Party-State's push to reduce regional disparities. Financial commitment from the Central government for

education, however, was not extended to non-compulsory education. This translated into important regional inequalities in student progression rates from senior secondary education into higher education. The evidence on the patterns of governmental funding and the private contributions by provinces illustrate how educational provision was conveniently consistent with the State's strategy of promoting social cohesion across different regions whilst devolving funding responsibilities at the regional and family level.

Eastern and central provincial governments generally committed significantly more funding for overall education than western provinces. Parents in affluent eastern and in some central provinces invested significantly more on all levels of education than those in less developed western provinces. The State made individual families responsible for financing higher education, which is an integral part of the Confucian conceptualisation of welfare. In the meantime, China's attempt to increase its global status in science and technology, and to increase its competitiveness world-wide, resulted in generous financial support by the Centre to a selected number of universities. The concentration of the majority of these elite universities in the nation's capital and in the major eastern cities also resulted in regional disparities in terms of the number of universities and the quality of education they provided.

The State played an essential role in the uneven economic development of different regions. Moreover, decentralized governance allowed eastern provinces to increase their advantage in educational spending into and access to higher education. The same institutional structures punished students from poor western and central provinces, who were relatively disadvantaged in their opportunities to achieve upward social mobility through higher education.

Shanghai's performance in the 2009 and 2012 PISA assessments was indeed outstanding; yet, this achievement was the result of geographical advantages that favoured eastern provinces and cities, and of decentralised policy measures and implementation. Shanghai is certainly not representative of the whole of China, not least regarding access to educational opportunities.

Endnotes

1 The yearbooks provide official statistics concerning education at primary and secondary school levels and at the university level. They include data such as student enrolments and graduation rates by province and data of the number and distribution of higher education institutions as reported by the Ministry of Education.

2 This increase in the educational expenditure in 2007 might be related to the joint funding commitments proposed in 2006 by the Ministry of Finance and the Ministry of Education, which explicitly addressed the issue of providing universal access to compulsory education in the rural areas (MOF 2006).

3 The slight drop in the progression rate to junior secondary schools in 2013 might be related to the demographic change rather than actual decline in access to compulsory education in Eastern areas.

4 Fee exemptions and reductions are limited to selected higher education institutions, including some military colleges, and in institutions specialized in education, forestry, fishing and agriculture. Detailed fee-charges for different universities can be found in *'The Standards for Fee-charging in Different Institutions'* (China Education Online 2010).

5 This is detailed in 'Achievements of Reforming Higher Education in the Past 30 Years' Ministry of Education (2008).

6 The 211 project aimed at developing around 100 key higher education institutions with excellent research centers, and key fields of studies in 1995. This project was expanded later to include more institutions.

7 Between 1996 and 2000 the overall funding for the 211 project was around 18.6 billion RMB, and a further 18.7 billion RMB was provided between 2001 and 2005 (Ministry of Education 2001).

8 The key development strategy for higher education was outlined in 'The Action Plan for Education Revitalization for the 21st Century' (Ministry of Education 1998).

9 This section draws on the data from interviews I conducted as a follow-up study in 2007, with university faculty staff, administrative staff, and teaching staff in these eight universities. Some interviewees from provincial and vocational institutions used the phrase, the 'academic monopoly' (*xueba* 学霸), to express their deep concern on the increasingly stratified system.

10 In provinces that draw most of their students from outside their jurisdiction there is an over-estimation of the actual progression rate. This is why the progression rates for Beijing (1996, 1999, 2005, 2009), Tianjin (1999, 2005, 2009) and Shanghai (1995, 2005, 2009) come out as more than 1.00 (100 per cent) in Table 8.3.

11 Loyalka's research, which focuses on higher education institutions with four-year bachelor degrees, estimated the national outflow rate in 2006 was 35. 1. Wu and Zhang (2010)'s study takes into consideration all types of higher education institutions, equivalent to the ISCED4, 5 and 6, and estimated the outflow rate as being lower than 14 per cent (Wu and Zhang 2010).

12 Shavit et al's (2007) study primarily focused on East Asian societies and Western industrialised countries. Liu et al's (2016) research also primarily focused on OECD countries. Therefore, the results on the expansion of higher education and the impact on increasing participation might not be extended to other developing contexts.

References

- Adams, Jennifer H. and Emily C. Hannum (2005), 'Children's Social Welfare in China, 1989–1997: Access to Health Insurance and Education', *China Quarterly*, 181, 100–121.
- Arrighi, Giovanni (2007), *Adam Smith in Beijing: Lineages of the Twenty-First Century*, London: Verso.
- Azizur, Rahman Khan and Riskin, Carl (1998) "Income inequality in China: composition, distribution and growth of household income, 1988 to 1995," *The China Quarterly*, **154**, 221–253.
- Azzioni, C. R. (2001), 'Economic Growth and Regional Income Inequality in Brazil', *Annals of Regional Science*, **35(1)**, 133–152.
- Bauman, Z. (1998), *Globalization: the human consequences*. Polity Press, Cambridge.
- Bernat, G. A. (2001), 'Convergence in State Per Capita Personal Income, 1950–99', *Survey of Current Business*, (June), 36–48.
- CERNET. (2005), 'China to Spend 218 Bln Yuan Promoting Rural Education,' accessed on 7 Jul. 2014 at <http://www.edu.cn/20051227/3167788.shtml>,.
- Colin, A. Carter. (1997), 'The urban–rural income gap in China: implications for global food market,' *American Journal of Agricultural Economics*, **79**, 1410–1418.
- Davis, Deborah. (1989), 'Social welfare reform: policies and outcomes', *The China Quarterly*, **119**, 577–597.
- Deng, Q. Q. Wang and N. Liu (2010), 'National Initiatives for Building World-Class Universities: comparison between Asian and European experiences,' *Higher Education Forum*, **7**, 35–52.
- Esping-Anderson, Gøsta (1990), *The Three Worlds of Welfare Capitalism*, Princeton, New Jersey: Princeton University Press.
- Esping-Andersen, Gøsta (ed) (1996), *Welfare States in Transition: National Adaptations in Global Economies*, London: Sage.
- Fan, J. (2004), 'Western Development Policy: Changes, Effects and Evaluation,' in Y.M. Yeung and J. F. Shen(eds) *Developing China's West: A critical Path to Balanced National Development*, Hong Kong: The Chinese University Press, pp: 79–106.
- Forsythe, N., Korzeniewicz, R. P., and V. Durrant. (2000), 'Gender Inequalities and Economic Growth: A Longitudinal Evaluation', *Economic Development and Cultural Change*, **48**, 573–618.
- Goodman, R. and I. Peng (1996), 'The East Asian welfare states: Peripatetic learning, adaptive change, and nation-building,' in G. Esping-Andersen (ed) *Welfare States in Transition: National Adaptations in Global Economies*, London: Sage.
- Goodman R, G. White and H-j. Kwon (eds) (1998), *The East Asian Welfare Model: Welfare Orientalism and the State*, London: Routledge.
- Hannum, Emily (1999), 'Political Change and the Urban-Rural Gap in Basic Education in China, 1949–1990,' *Comparative Education Review*, 43(2), 193–211.
- Hannum, E. and M. Wang (2006), 'Geography and Educational Inequality in China,' *China Economic Review*, 17, 253–265.
- Hannum, E., J. Behrman, M. Y. Wang and J.H. Liu (2007), 'Education in the Reform Era,' in L. Brandt and T. Rawski (eds) *China's Great Economic Transformation*, Cambridge University Press.

-
- Hannum, E. and J. Adams. (2007), 'Girls in Gansu, China'. In M. Lewis and M. Lockheed (eds) *Exclusion, Gender and Education: Case Studies from the Developing World*, Washington D.C.: Center for Global Development.
- Hannum, Emily and Albert, Park. (2002), 'Educating China's rural children in the 21st century', *Harvard China Review*, **3(2)**, 8–14.
- Hansen, M. H. and T. E. Woronov. (2013), '*Demanding and Resisting Vocational Education: A Comparative Study of Schools in Rural and Urban China*', *Comparative Education*, **49(2)**, 242-259.
- Hao, L. X., Hu, A. and J. Lo (2014), 'Two Aspects of the Rural-urban Divide and Educational Stratification in China: A Trajectory Analysis', *Comparative Education Review*, **58** (3), 509–36.
- Harvey, David. (2005), *A Brief History of Neo-Liberalism*, New York: Oxford University Press.
- Harvey, David. (2011) *The Enigma of Capital and the Crises of Capitalism*, Croydon: Profile Books.
- Holliday, I. and P. Wilding (eds) (2004), *Welfare Capitalism in East Asia*, Basingstoke: Palgrave Macmillan.
- Huang, L H. (2005), *Elitism and Equality in Chinese Higher Education Studies of Student Socio-economic Background, Investment in Education, and Career Aspirations*, Studies in Comparative and International Education-68, Stockholm: Institute of International Education.
- Liu, Jiang and Guofeng, Chen. (2013), 'Reflections on Developing Secondary Vocational Education in High-Poverty Areas.' *Chinese Education and Society*, **46** (4):68-74.
- Liu, Ye (2013), 'Meritocracy and the *Gaokao*: A survey study of higher education selection and socio-economic participation in East China', *British Journal of Sociology of Education*, **34**(5-6), 868-887.
- Liu, Ye (2015), 'Geographical stratification and the role of the state in access to higher education in contemporary China', *International Journal of Educational Development*, **44**, 108-117.
- Liu, Ye (2016), *Higher Education, Meritocracy and Inequality in China*. Singapore: Springer.
- Liu, Ye; Green, Andy; Pensiero, Nicola. (2016), 'Expansion of Higher Education and Inequality of Opportunities: A cross-national Analysis'. *Journal of Higher Education Policy and Management*, **38** (3): 242-263.
- Loyalka, Prashant; Huang, Xiaoting; Zhang, Linxiu; Wei, Jianguo; Yi, Hongmei; Song, Yingquan; Ren, Baoping; Shi, Yaojiang; Chu, James; Maani, May; Rozelle, Scott (2014) 'The Impact of Vocational Schooling on Human Capital Development in Developing Countries: Evidence from China.' Society for Research on Educational Effectiveness. Accessed 1 Feb. 2016 at: <http://files.eric.ed.gov/fulltext/ED562993.pdf>.
- Loughlin, J. (2001), *Subregional Democracy in the European Union: Challenges and Opportunities*, Oxford University Press, Oxford.
- Lu, Z. and X. Deng (2011), *China's Western Development Strategy: Policies, Effects and Prospects*. MPRA Paper. Accessed 11 Dec. 2015 at <http://mpra.ub.uni-muenchen.de/35201/>.

Marginson, Simon (2015), 'Global stratification in higher education'. In Slaughter, S. and Taylor, B. J. eds. *Higher Education, Stratification and Workforce Development: Competitive advantage in Europe, the US and Canada*. Dordrecht: Springer.

Marginson, Simon (2011) *Higher education in East Asia and Singapore : rise of the Confucian Model*. Higher Education, **61** (5): 587-611.

Massey, Doreen. (1987), *Spatial Divisions of Labour: social structures and the geography of production*, London: Macmillan Education.

Massey, Doreen. (2005), *For Space*. London: Sage.

Ministry of Education. (2011), *The list of higher education institutions with four-year undergraduate programmes*. Ministry of Education, Beijing. Accessed 14 No. 2013 at <http://www.moe.edu.cn/ewebeditor/uploadfile/20110510144417700.doc>

Ministry of Education (2009), *Historic Achievements: 60 Years of Educational Reform and Development*. Accessed 28 Oct.2014 at http://www.moe.gov.cn/publicfiles/business/htmlfiles/moe/moe_2862/200909/52520.html.

Ministry of Education. (2008), *Achievements of Reforming Higher Education in the Past 30 Years*. Ministry of Education, Beijing. Access 11 Oct. 2014 at http://www.moe.gov.cn/publicfiles/business/htmlfiles/moe/moe_781/200810/39894.html

Ministry of Education. (2001), *The 211 Project*. Ministry of Education, Beijing. Accessed 09 Oct. 2013 at http://www.moe.gov.cn/publicfiles/business/htmlfiles/moe/moe_1985/200804/9084.html.

Ministry of Education (1986), People's Republic of China Law on Compulsory Education. Beijing: Ministry of Education. Accessed 28 Oct.2014 at <http://www.moe.edu.cn/>.

Ministry of Finance (2006), *The Notice on the funding support and increase for rural compulsory education and the financial budget management by the Ministry of Finance and the Ministry of Education*. Accessed on 1 Jun. 2016 at http://www.mof.gov.cn/zhengwuxinxi/caizhengwengao/caizhengbuwengao2006/caizhengbuwengao20062/200805/t20080519_23690.html

Morrow, R. A. (2006), 'Critical theory, globalization, and higher education: political economy and the cul-de-sac of the postmodern cultural turn,' In: Rhoads, R. A., Torres, C. A. (Eds), *The university, state, and market: the political economy of globalization in the Americas*. Stanford University Press, Stanford, CA, pp. xvii-xxxiii).

Murphy, R. (2014) 'School and Study in the Lives of Children in Migrant Families: A View from Rural Jiangxi, China', *Development and Change* **45** (1): 29-51.

National Bureau of Statistics of China (NBSC 1991-2015), *China Statistical Yearbook*. Beijing: National Bureau of Statistics of China.

Ohnmacht, T., Maksim, H., M. M, Bergman (2009), 'Mobilities and Inequality: making connections,' In: Ohnmacht, T., Maksim, H., Bergman, M. M. (Eds), *Mobilities and Inequality*. Ashgate, Farnham.

Organization for Economic Co-Operation and Development (OECD) (2010), *Education at a Glance*, Paris: OECD.Education at A Glance.

ORC/Macro. (2000), DHS EdDATA education profiles for Africa: Data from the demographic and health surveys, Development Experience Clearinghouse Document

ID#: PN-ACK-134. Accessed on 1 Oct 2015 at

<http://www.dhseddata.com/rpt/PNACK134.pdf>

Park, Albert, W. Li and S. Wang (2003), *School Equity in Rural China*, Paper presented at *Education Reform in China Conference*, Centre on Chinese Education, Teachers College, Columbia University, New York, February 6-7.

Park, Albert, Scott Rozelle, Christine Wong and Ren, Changqing (1996), 'Distributional consequences of reforming local public finance in China', *The China Quarterly*, **147**, 751-778.

Petrakos, G. (2001), 'Patterns of Regional Inequality in Transition Economies,' *European Planning Studies*, **9**, 359-383.

Ringen, S., H. J. Kwon, I. Yi, T. Kim and J. Lee (2011), *The Korean State and Social Policy: How South Korea Lifted Itself From Poverty and Dictatorship to Affluence and Democracy*, Oxford: Oxford University Press.

Rigotti, J. I. R. and P. R. Fletcher (2001), 'Growth of Educational Opportunities in Brazil during the 1980s and 1990s.' Paper presented at the *Annual Meetings of the International Union for the Scientific Study of Population*, Salvador, Brazil, August 18-24. http://www.iussp.org/Brazil2001/s50/S53_P05_Irineu.pdf;

Rodríguez-Pose, A., and N. Gill (2004), 'Is There a Global Link Between Regional Disparities and Devolution?' *Environment and Planning A* **36**(12), 2097-2117.

Rozelle, S. (1996), 'Stagnation Without Equity: Patterns of Growth and Inequality in China's Rural Economy', *The China Journal* **35**, 63-92.

Shavit, Y., Arum, R., and A. Gamoran (2007), *Stratification in Higher Education: A Comparative Study*, Social Inequality Series, Stanford, CA.: Stanford University Press, Tam, Tony and Jin Jiang (2015), 'Divergent Urban-rural Trends in College Attendance: State Policy Bias and Structural Exclusion in China', *Sociology of Education*, **88**(2) 160-180.

Treiman, D. J. (1970), 'Industrialization and Social Stratification', In: Laumann, E. O. (Ed), *Social Stratification: Research and Theory for the 1970s*. Bobbs-Merrill, Indianapolis, IN: 207-234.

Tsang, Mun C. (2000), *Education and National Development in China since 1949: Oscillating Policies and Enduring Dilemmas*. New York: Columbia University Teachers College Center on Chinese Education Publication D-1, accessed on 10 Dec. 2011 at http://www.teacherscollege.edu/centers/coce/pdf_files/d1.pdf.

Walker, R. and D. Buck (2007), 'The Chinese Road: Cities in the Transition to Capitalism', *New Left Review*, **46**, 39-66.

Vermeer, E. B. (2004) 'Shaanxi: Building a Future on State Support', In: Goodman, D. S.G. (Ed), *China's Campaign to "Open Up the West": National, Provincial-level and Local Perspectives*, Cambridge: Cambridge University Press: 86-111.

Wang, Lei and Dayuan Jiang (2013) 'Chinese Vocational Education: Borrowing and Reforming', *Chinese Education and Society*, **46**(4), 92-99.

Wong, Christine. (2002), *China National Development and Sub-National Finance: A Review of Provincial Expenditures* (Washington, DC: World Bank [World Bank Poverty Reduction and Economic Management Unit, East Asia and Pacific Region, Report No. 22951-CHA, 9 April 2002]).

Wu, Chunxia. (2007), The Study on the Evolvement and Determinants of Urban-rural Fiscal Expenditure Gap of Compulsory Education in China. *Education Science*, 23(6):1-5.

Wu, Xiaogang. (2010), Economic Transition, School Expansion and Educational Inequality in China, 1990-2000. *Research in Social Stratification and Mobility*, 28(1):91-108.

Wu, X. G. and Z. N. Zhang (2010), 'Changes in Educational Inequality in China, 1990-2005: Evidence from the Population Census Data', *Research in Sociology of Education*, 17, 123-52.

Yao, S. and Z. Zhang (2001), 'On Regional Inequality and Diverging Clubs: A Case study of contemporary China', *Journal of Contemporary Economics*, 29, 466-484.

Zhang, Yulin. (2003), The Allocation of Education Resources and the Gap in Education between Urban and Rural Areas. *China Rural Survey* 1:10-21. (in Chinese)

Zheng, L. and X. Deng (2011), *China's Western Development Strategy: Policies, Effects and Prospects*. Munich Personal RePEcArchive (MPRA). Paper no. 35201, Accessed 11. Nov 2014 at <http://www.mpra.bu.uni-muenchen.de/35201>.

Tables:

Source: China Statistical Yearbook (NBSC 2013) Tables 20-29; 2009 and 2001.

Note: Net enrolment ratio is calculated for primary education. Gross enrolment ratio is used for junior secondary education, which is calculated by dividing the number of graduates from primary schools by new enrolment number to junior secondary school.

Table 8.2 Education spending breakdown details over selected years in percentage

Year	Government Appropriation*	Tuition Fees*	Government Appropriation**	Tuition fees **	Other sources of funding**
1991	N/A	N/A	84.46	4.42	11.20
1995	2.63	36.97	75.16	10.72	14.12
1998	9.99	13.39	68.92	12.54	18.54
2000	11.58	28.30	66.58	15.45	17.97
2004	11.63	20.07	61.66	18.59	19.74
2005	15.57	15.34	61.30	18.45	20.25
2006	23.00	-0.05	64.68	15.82	19.51
2007	30.43	37.27	68.16	17.54	14.30
2008	26.20	10.25	72.06	16.20	11.74
2009	17.05	7.08	74.12	15.24	10.64
2010	19.94	19.87	74.99	15.42	9.59
2011	26.70	10.00	77.87	13.90	8.23

Source: China Statistical Yearbook (NBSC 2013): Table 20-40.

*Growth rate

** Percentage of total education spending.

Table 8.3 Progression rates to junior secondary schools by region in 2004, 2009 and 2012

	Provinces/cities	2004 JPR	2009JPR	2013JPR
Eastern	Average	0.99	0.97	0.95
	Beijing	1.00	0.96	0.95
	Shanghai	1.03	0.96	0.89
	Tianjin	0.98	0.95	1.00
	Liaoning	0.99	1.00	0.98
	Shandong	1.00	1.01	0.96
	Jiangsu	0.99	1.01	0.97
	Guangdong	0.97	0.96	0.95
	Hebei	0.98	1.00	0.93
	Zhejiang	1.03	0.97	0.95
	Fujian	0.98	0.97	0.97
	Hainan	0.95	0.88	0.94
Central	Average	0.98	1.01	0.92
	Hunan	0.99	1.01	0.99
	Hubei	0.99	1.08	1.00
	Heilongjiang	0.99	1.00	0.85
	Jilin	0.97	0.99	0.93
	Anhui	0.96	1.01	1.00

	Jiangxi	1.00	1.00	0.93
	Shanxi	0.99	0.99	0.87
	Henan	0.96	0.97	0.84
Western	Average	0.95	0.99	0.96
	Shaanxi	0.96	0.98	0.96
	Sichuan	0.99	1.01	0.99
	Chongqing	0.96	1.02	1.01
	Gansu	0.96	0.98	0.90
	Xinjiang	0.95	1.00	0.98
	Inner Mongolia	0.93	0.99	0.98
	Yunnan	0.88	0.95	0.96
	Guangxi	0.96	0.99	0.98
	Guizhou	0.94	0.97	0.99
	Ningxia	0.98	0.98	0.95
	Qinhai	0.95	1.00	0.92
	Tibet	0.92	0.98	0.92

Source: China Statistical Yearbook (NBSC 2005, 2010, 2014)

Table 8.4 Progression rates to senior secondary schools by region in 2004, 2009 and 2012

	Provinces/cities	2004 SPR	2009 SPR	2013SPR
Eastern	Average	0.45	0.51	0.56
	Beijing	0.56	0.65	0.65
	Shanghai	0.63	0.56	0.56
	Tianjin	0.52	0.63	0.69
	Liaoning	0.44	0.52	0.58
	Shandong	0.41	0.50	0.56
	Jiangsu	0.44	0.47	0.51
	Guangdong	0.39	0.48	0.48
	Hebei	0.33	0.45	0.56
	Zhejiang	0.46	0.51	0.55
	Fujian	0.43	0.50	0.56
	Hainan	0.32	0.36	0.50
Central	Average	0.39	0.47	0.54
	Hunan	0.39	0.51	0.56
	Hubei	0.43	0.46	0.59
	Heilongjiang	0.37	0.48	0.52
	Jilin	0.46	0.52	0.63
	Anhui	0.37	0.42	0.53
	Jiangxi	0.41	0.48	0.50

	Shanxi	0.39	0.45	0.53
	Henan	0.31	0.40	0.47
Western	Average	0.43	0.46	0.54
	Shaanxi	0.45	0.50	0.66
	Sichuan	0.44	0.46	0.50
	Chongqing	0.43	0.54	0.59
	Gansu	0.47	0.47	0.52
	Xinjiang	0.41	0.42	0.53
	Inner Mongolia	0.56	0.60	0.66
	Yunnan	0.29	0.35	0.43
	Guangxi	0.33	0.41	0.46
	Guizhou	0.30	0.36	0.50
	Ningxia	0.48	0.52	0.60
	Qinhai	0.55	0.56	0.61
	Tibet	0.45	0.33	0.45

Source: China Statistical Yearbook (NBSC 2005, 2010, 2014)

Table 8.5 Snapshot of education spending by regions in 2011

	Provinces/cities	Government Appropriation	Tuition fees
	Beijing	1.0	1.0
Eastern	Guangdong	2.2	6.1
	Jiangsu	1.9	3.9
	Shandong	1.8	2.9
	Zhejiang	1.4	3.3
	Hebei	1.1	2.1
	Liaoning	1.0	1.8
	Shanghai	0.9	1.3
	Fujian	0.8	1.6
	Tianjin	0.5	0.7
	Hainan	0.2	0.4
Central	Henan	1.5	3.0
	Anhui	1.0	1.8
	Hunan	0.9	2.2
	Hubei	0.8	2.1
	Jiangxi	0.8	1.4
	Shanxi	0.7	1.2
	Heilongjiang	0.6	1.3
	Jilin	0.6	1.0
Western	Sichuan	1.3	2.1
	Yunnan	0.9	1.0
	Shaanxi	0.8	1.7

Guangxi	0.8	1.2
Xinjiang	0.7	0.4
Inner Mongolia	0.7	0.6
Chongqing	0.6	1.1
Guizhou	0.6	0.6
Gansu	0.5	0.6
Ningxia	0.2	0.2
Qinhai	0.2	0.1
Tibet	0.1	0.0

Source: China Statistical Yearbook (NBSC 2013): Tables 20-40.

Table 8.6 Composition of the funding for higher education by government and tuition fees overtime (1980-2006)

Year	Educational Cost per student	Governmental expenditure share per student (%)	Share of the tuition fees (%)
1980	6609	97.6	2.65
1984	9231	97.4	2.22
1994	8160	81.4	14.76
1996	5957	43.7	30.89
1997	6523	43.9	40.23
1998	6775	42.7	46.88
1999	7201	41.1	48.6
2000	7310	40.0	53.8
2006	6816	20.4	58.76

Sources: Data of 1980-1994 were obtained from the World Bank (1999): 43. Statistical Communiqué of PRC on Educational Funding 1997-2002. On www.moe.edu.cn/jutouru/zwlxwz. Cited in Huang (2005: 58); Data for 1996 to 2006 comes from China Statistical Yearbook (1997-2001; 2007).

Note: From 1980 to 1994, cost and government allocation per student include grants for free food and accommodation. Some other social resources also contribute to the funding for higher education, but this figure focuses on the comparison between the governmental funding and students' tuition fees.

Table 8.7 Distribution of HEIs and types of universities across provinces

Provinces/cities	Elite universities	Key universities	All types of HEIs
Beijing	10	29	58
Tianjin	2	4	19
Hebei	1	2	36
Shanxi	0	1	19
Inner Mongolia	0	1	12
Liaoning	2	4	44
Jilin	1	3	28
Heilongjiang	1	4	31
Shanghai	5	12	31
Jiangsu	2	11	46

Zhejiang	1	1	33
Anhui	1	3	33
Fujian	1	2	23
Jiangxi	0	1	24
Shandong	2	5	51
Henan	0	1	38
Hubei	2	7	38
Hunan	3	3	31
Guangdong	2	4	39
Guangxi	0	1	21
Hainan	0	1	5
Chongqing	1	3	15
Sichuan	2	5	32
Guizhou	0	1	17
Yunnan	0	1	20
Tibet	0	1	3
Shaanxi	3	7	40
Gansu	1	1	14
Qinghai	0	1	3
Ningxia	0	1	5
Xinjiang	0	2	11
Total	43	123	820

Source: The list of higher education institutions with four-year undergraduate programmes (Ministry of Education 2011).

Table 8.8 Quasi-progression rates of senior secondary school graduates to higher education* in 1995, 1999, 2005 and 2009

	Provinces/cities	1996	1999	2005	2009
	National rates	0.34	0.59	0.76	0.78
Eastern	Beijing	0.96	1.34	1.41	1.5
	Shanghai	0.47	0.59	0.53	1.26
	Tianjin	0.46	0.55	1.05	0.9
	Liaoning	0.16	0.23	0.23	0.18
	Jiangsu	0.02	0.06	0.09	0.06
	Fujian	0.01	0.01	0.04	-0.03
	Guangdong	-0.03	-0.07	0.06	-0.01
	Hebei	-0.07	-0.13	-0.13	-0.08
	Zhejiang	-0.08	-0.12	0	0.1
	Guangxi	-0.08	-0.15	-0.16	-0.07
Central	Hainan	-0.08	-0.22	0.04	0.12
	Shandong	-0.1	-0.24	-0.06	0.01
	Jilin	0.15	0.24	0.21	0.14
	Heilongjiang	0.06	0.16	0.24	0.2

	Hubei	0.04	0.03	0.06	0.05
	Shanxi	-0.04	-0.04	-0.11	-0.12
	Henan	-0.04	-0.08	-0.24	-0.17
	Jiangxi	-0.05	-0.09	0.11	0.08
	Hunan	-0.08	-0.01	-0.02	-0.02
	Anhui	-0.09	-0.13	-0.1	-0.18
	Inner Mongolia	-0.17	-0.28	-0.24	-0.19
Western	Shaanxi	0.08	0.17	0.04	0.03
	Sichuan	0.05	-0.02	-0.04	-0.11
	Tibet	0	0.1	0.23	-0.1
	Yunnan	-0.05	-0.06	-0.03	-0.09
	Guizhou	-0.09	0.01	-0.18	-0.2
	Gansu	-0.09	-0.16	-0.24	-0.21
	Xinjiang	-0.13	-0.22	-0.22	-0.29
	Ningxia	-0.17	-0.33	-0.36	-0.27
	Qinghai	-0.2	-0.36	-0.3	-0.41

Source: China Statistical Yearbook (NBSC 1996, 1999, 2001, 2006, 2010)

Notes: 1) Due to the mobility of student populations after senior secondary schooling, the progression is hence a quasi-rate. 2) Data for each region were arranged by progression rates in descending order.