

1 MARKET REFORMS AND EDUCATIONAL OPPORTUNITY IN CHINA

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INTRODUCTION

In China, market reforms dating from the late 1970s have brought dramatic if uneven improvements in living standards, along with fundamental changes in class structure and unprecedented economic inequality. The school system, a key vehicle for social mobility in any modern society, has changed radically during the same period. Under China's reform process, the question of how to restructure the educational system to sustain rapid economic development emerged as a significant policy focus. Major changes occurred in educational provision and access, the quality of schooling, and the economic consequences of schooling. By the turn of the century, the educational system had diversified in structure, finance, and content; it had become more marketized; and it was serving an increasingly disparate student body. A combination of economic and educational policy choices ultimately expanded overall access and created new space for local curricular and financial innovations. These choices also exacerbated disparities in school resources across urban-rural, regional, and socio-economic lines. At the same time, market reforms created a labor market that increasingly rewarded the highly educated.

The studies contained in this volume offer a snapshot of China's educational achievements and persisting policy challenges around the turn of the century. Collectively, the sociologists, economists, and educational researchers included here offer diverse, complementary insights on four important issues in reform-era education: the evolution of educational provision; progress

and disparities in educational access and attainment; educational quality and qualitative disparities; and the changing economic consequences of being educated. Our introduction discusses the social and educational significance of each of these issues, and highlights key findings of chapters in this volume. We begin by setting the context, with a brief depiction of the educational system and policy priorities just prior to market reforms.

EDUCATION ON THE EVE OF MARKET REFORMS

While many of the educational shifts that have accompanied market reforms in China have global parallels, the starting point was unusual. For over a decade prior to market reforms, China experienced the “Great Proletarian Cultural Revolution,” a far-reaching and chaotic social movement that brought a radical agenda to the forefront of politics and educational policy making. In 1966, Mao Zedong proclaimed the start of a new educational era in which political recommendation and class background became the primary means of determining progress through a ravaged educational system (Unger 1984).

When schools reopened after the initial chaotic years in which many schools were closed, the ideological agenda of eliminating class differences, whether urban-rural, worker-peasant, or intellectual-manual, dominated the classroom and the curriculum (Sun and Johnson 1990; Thomas 1986). Labor and political loyalty were valued over academic achievement, and the link between education and occupational achievement was removed (Unger 1984). Urban students were sent to the countryside for re-education (Tsang 2000).

Higher education experienced particularly dramatic disruptions: a discontinuation of the national examination system for admissions; complete stoppage of admissions of undergraduates for six years and of graduate students for 12 years from the start of the Cultural Revolution [this doesn't quite say that the universities were largely closed for much of these years] ; initiation of admissions of peasant and working-class students to "attend, manage, and reform universities"; and a 1971 plan to consolidate, close, and reconstruct 106 of 417 institutions of higher education (see Table 1 in Tsang 2000). The Cultural Revolution has been widely viewed as a disaster for higher education in general, and for science and technology training in particular both in China and internationally (for example, see Beijing University School of Education and Zhongshan University Institute of Higher Education 2005).

The structure of primary and secondary education was streamlined—its critics charge that it was dumbed down—with elimination of elements of diversity within the system. Tracking systems were abolished, as were key-point magnet schools, vocational education, and exam-based progressions (Rosen 1984). The educational system was unified so that, in principle, all students studied the same ten-year curriculum in a 5-3-2 structure (Thogersen 1990: 27). There are few empirical studies of curriculum during the Cultural Revolution, but it was certainly highly ideological. For example, Julia Kwong's (1985: 207) analysis of the contents of primary language textbooks in the early 1970s concluded that "texts devoted their efforts almost exclusively to inculcating in the young in the right political attitudes and outlook, even to the extent of almost excluding the pedagogical function of a language text". Vocational and technical schools were shut down, and, for the first six years, so were secondary teacher training schools (Tsang 2000).

Certain impacts of the Cultural Revolution on attainment levels and disparities have been documented with empirical analyses. An essential goal of the Cultural Revolution was to undercut differences between the peasantry and the remainder of the population, and, at least temporarily, this appears to have happened. While what passed for education during the Cultural Revolution has often been criticized, ¹ new policies had the effect of expanding certain types of educational access among the rural population.

For example, the share of teachers and students in rural areas who taught and studied at levels above the elementary level jumped in the 1970s [I don't quite follow the meaning: is it as modified? Isn't it a little tricky since the number of years of elementary school were reduced?] (Hannum 1999). Mean years of schooling attained in a national sample of adults in 1996 suggests that the urban advantage was 3.1 years for cohorts who turned 7 during the Cultural Revolution, compared to 3.7 years for cohorts reaching age 7 in the early years of the People's Republic (Lu and Treiman 2005).² Similarly, cross-cohort analyses of census and survey data, as well as published statistics from the Ministry of Education, suggest that the Cultural Revolution era saw rapid narrowing of gender gaps in primary and secondary education (Hannum 2005; Hannum and Xie 1994; Lu and Treiman 2005).

A few studies have addressed socioeconomic disparities in educational attainment during the Cultural Revolution. For data reasons, much of what is available focuses on urban populations. One key study used national 1982 census data on the non-farm population of co-resident fathers and sons (Deng and Treiman 1997). Co-residence in the same households allowed an

investigation of the association between father's socioeconomic status and son's educational attainment across cohorts who would have moved through the school system at different times. Results showed that the advantage of coming from an educated family or an intelligentsia or cadre family was drastically reduced during the Cultural Revolution, but there was a rapid return to normalcy soon thereafter.

A study by Xueguang Zhou and his colleagues modeled entry into different levels of schooling using retrospective life-history reports on the timing of educational experiences of a representative survey of residents of 20 cities in 1993-1994 (Zhou, Moen and Tuma 1998). Results showed that coming from an "exploiting class" or middle class background had no effect on the probability of entering high school or college during the Cultural Revolution, but significant positive effects in the preceding and subsequent periods. [Does this refer exclusively to students chosen by non-exam routes to attend college during cultrev decade? I find it difficult to believe that the recommendation system was not skewed by class designation during cultrev . . . or have I misread?] The effects of father's education on entry into these levels of education also varied significantly across historical periods, and were stronger in the models for the post-Cultural Revolution period than during the Cultural Revolution.

A final piece of corroborating evidence comes from a recent study using data from a national—urban and rural—survey conducted in 1996. In this work, Yao Lu and Donald Treiman (2005) found that the effects on years of schooling of parental education and father's occupational status (measured when the child was 14) were smallest for cohorts reaching age 7 during the Cultural Revolution, and larger for preceding and subsequent cohorts.³

Expanded access for underserved populations is likely to have been closely linked to policy choices affecting costs to families for educating children during the Cultural Revolution.

Opportunity costs to families for education were low, due to the lack of income-generating alternatives under communism, and, in rural areas, the collectivization of agriculture. Moreover, under educational finance arrangements during the Cultural Revolution, it is unlikely that families bore many direct costs for schooling, even in rural areas. Policy documents indicate that much of school finance in China during the Cultural Revolution relied on local community support for *minban*, or people-managed, teachers and schools, which are distinct from *gongban*, or state-managed, teachers and schools. Under this system, many rural primary teachers were forced to work for “work points” instead of a salary, and re-classified as rural residents (Tsang 2000). Doesn't this fail to make the major point: these rural students got teachers with inferior educational qualifications than did urban schools . . . surely to the detriment of the countryside cf. to the 1950s. And the secondary point: the burden was born by rural communities, an additional financial burden particularly severe for poorer communities?

Minban education grew rapidly during the Cultural Revolution, first in the countryside and then in urban areas, as educational authorities turned over direction and financing of state-managed elementary schools to local production teams or brigades, communes, factories, business enterprises, neighborhood revolutionary committees, etc. (Tsang 2000; Wang 2002). During this period, *minban* teachers were paid in grain rations and supplementary cash subsidies by work units based on earned work points, while state teachers received a substantially higher government salary. Dongping Han's (2001) in-depth study of Jimo County in Shandong

Province, the single available empirical study of school finance during the Cultural Revolution, showed that virtually every rural child in the county was able to attend primary school at no cost during the latter years of the Cultural Revolution.

In summary, the evidence suggests at least a short term flattening of rural-urban, gender, and socioeconomic disparities in educational access.⁴ These trends were a product of both economic and educational policy choices dictated by the political priorities of the era. They are consistent with the overarching educational goal of the Cultural Revolution: to promote a radical socialist agenda of eradicating social differences both in terms of class origin and urban-rural location.

EDUCATIONAL PROVISION UNDER MARKET REFORMS

With the transition to a more market-oriented economy in the late 1970s and early 1980s, a different agenda came to guide educational policy, as leaders sought to promote market reforms and economic modernization. In March 1978, Deng Xiaoping delivered the opening address at a National Symposium on Science and Technology in Beijing (Beijing University School of Education and Zhongshan University Institute of Higher Education 2005). He reiterated the importance of science and technology for economic modernization, and stated that “the basis for training science and technology talent rests in education” (Beijing University School of Education and Zhongshan University Institute of Higher Education 2005:11; see also Shen 1994).

Policy reforms revolved around perceptions that educational quality was a serious problem at all levels, vocational and technical training were insufficient, and central administration of

education was too rigid (Lewin, Little, Xu and Zheng 1994: 19). A complex hierarchy of programs varying in length, quality, curriculum, and financial base supplanted the simple structure of the Cultural Revolution educational system. Educational philosophy in the reform period began to sanction independent thinking (Lee 1996). Classrooms moved away from a focus on egalitarianism and class struggle, instead emphasizing quality, competition, individual talents and the mastery of concepts and skills important in the development of science and technology (Sidel 1982; Broaded 1983; Kwong 1985; Lin 1993: chapter 1). The exam-based system of progression abolished during the Cultural Revolution was reinstated. Vocational education was reinstated, and the provision of relevant labor market skills was emphasized (Tsang 2000). Higher education, which had been shut down completely for six years at the start of the Cultural Revolution and remained crippled throughout most of the 1970s, was reinvigorated as a means of supplying the high-quality personnel and scientific expertise needed for national development (Tsang 2000).

As part of these reforms, many general secondary schools of inferior quality were shut down or converted to vocational, technical, or agricultural schools, and policy makers again experimented with alternatives to formal education such as spare-time, paid, correspondence, and television-based schools (Lin 1993: chapter 2). China's return to household farming in the early 1980s increased the value of farm labor, raising the opportunity cost of schooling.

One of the most critical changes that accompanied market reforms, with important implications for poor, rural communities, was soaring educational costs related, in part, to privatization. After market reforms, families increasingly were expected to pay substantial shares of the costs of

schooling their children. Responsibility for paying *minban* teachers fell to rural households after decollectivization in the late 1970s and early 1980s (Wang 2002).⁵ Over time, this burden diminished as the government gradually phased out *minban* education in the name of quality upgrading, a process that was to be completed by the year 2000.⁶

More importantly, in the 1980s, the government decided to decentralize the administration and finance of primary, secondary and tertiary education (Tsang 2000), a key educational policy change discussed in greater detail in the chapter by Wen Li, Albert Park and Sangui Wang. After the reforms, in most regions, provincial, county, township and village governments took responsibility for schools at the tertiary, upper secondary, lower secondary, and primary levels, respectively (Tsang 2000:13). [You've just finished burying minban education in previous par. This sounds suspiciously like its new lease on life.] This reform of educational finance was part of a larger reform of public finance dating from the end of the 1970s (see Park, Wong, Rozelle, and Ren 1996). A major objective of finance reform in education was to mobilize new resources for education, and the 1985 reform specified that multiple methods of financing should be sought (Hawkins N.D.; Tsang 2000).

Decentralization has indeed allowed new resources to be mobilized in support of schooling, as wealthier and more entrepreneurial communities became capable of marshaling non-public resources for education that were previously unavailable to them. For example, Tsang's (2000: 14) research shows that total educational expenditures increased from 34.63 billion *yuan* in 1986 to 90.68 billion *yuan* in 1997 in 1986 constant prices, translating to an average annual growth rate of 9.1 per cent over this period.

However, there are vast financial challenges to extending compulsory, quality education to all, especially the rural poor, under such a system (Tsang 2002). In poor rural areas, the capacity to mobilize non-governmental resources is meager (Tsang and Ding 2005). Is this not min-ban? Decentralization increased regional disparities in funding for schools, and also increased family educational expenditures required even for compulsory education, especially in poor areas where revenue-starved local governments have no choice but to pass the burden of educational expenditures to rural households. By the early 2000s, the highest provincial primary educational expenditures per student, in Shanghai, were more than ten times greater than the lowest, with this ratio roughly doubling during the 1990s (Tsang 2002). Case studies in specific regions have found very large differences in educational expenditures within provinces (West 1997; Li, Park, and Wang, this volume). The disequalizing effects of changes in school finance were made worse by rising regional economic inequalities associated with market reforms (Khan and Riskin 2001). By the mid-1990s, the government recognized the problem of rising disparities, and sought to address it by providing earmarked grants to poor and minority regions to support education. Fiscal reforms implemented in 1994 also increased government revenues significantly as well as the share of revenues controlled by the center.

How did all of these changes affect inequalities in the quality of public schooling? The chapter by Li, Park, and Wang studies inequality in educational expenditures per student for rural primary education at the provincial, county, and village levels using national county level data from 1993 to 2000 and school level data from Gansu Province for 2000 and 2004. Results show that overall inequality in rural primary school spending among provinces and counties did not

change substantially from 1993 to 2000. Inequality associated with differences in rural income per capita was greatest at higher levels of aggregation; rural primary school spending per student was not significantly correlated with income differences within counties, but was significantly associated with income differences between counties, and even more so between provinces. Wage spending was distributed relatively equitably, but was becoming more unequal over time, while operating expenses were much more unequally distributed, but contributing less to inequality over time.

A final dimension of privatization of educational costs in China has been the spectacular revival of private schools, the nature and implications of which are chronicled by Jing Lin in this volume.⁷ In the Outline of Chinese Education Reform and Development in 1993, the Chinese government officially adopted a new policy that encouraged the development of schools run by social groups and individual citizens (Tsang 2000). Tsang (2000) reports that in 1994, there were an estimated 500 registered non-governmental schools in urban areas, but the number had reached 4000 by the end of 1997. In 1997, non-government schools enrolled 2.55 per cent of general secondary enrollment in the Beijing metropolitan area, 3.17 per cent in Shanghai, 8.45 per cent in Chongqing, and 11.79 per cent in Tianjin.⁸ Figures are smaller for primary education.

However, a true sense of the scale of private education is difficult to obtain. As Lin observes, these schools are known by a variety of different terms, including *minban* schools or “schools run by social forces.” Private schools may encompass a diversity of institutional forms, some with public connections, such that many schools are not easy to categorize as fully private or fully public (see also Tsang 2000). Lin’s chapter indicates that these new *minban* schools may

be operated by private individuals, private enterprises, private operators with subsidies from the government, public schools with the freedom to secure incomes from non-public sources, and even public institutions (such as universities or government departments) who run schools on the side as an entrepreneurial activity. These schools target elites and the emerging middle class, and, to some degree, the less affluent in both urban and rural areas. Private schools meet the demand for schooling not satisfied by the public school system, and tailor programs to the preferences of parents. However, the often high cost of private schools creates another mechanism for disparities in the quality of education available to different groups of citizens.

These changes have led to the creation of an educational system that is increasingly dependent on resources outside the purview of central government control, including those of families, communities, and the private sector. Such trends are not unique to China. In recent decades, many developed and developing countries have undergone efficiency-oriented education reforms—often involving decentralization, the starving of public education for resources, and a larger role for private education. Sometimes, these reforms have been part of structural adjustment or related policies called for by international organizations,⁹ or as part of a transition strategy for moving from centrally-planned to market-oriented economies. With fiscal decentralization, community financing of schooling often has become increasingly important, tightening the links between the regional level of development and quality of educational services. In East and Southeast Asia, these changes have contributed to rising economic inequality, increased direct costs to individuals for public education, and rising opportunity costs associated with new wage-earning opportunities for children.¹⁰

The Chinese government has responded to concerns about access problems under the decentralized system with a series of equity-oriented policy proclamations issued throughout the period. Notably, the Law on Compulsory Education of 1986 designated nine years of education, 6 years of primary and three years of lower secondary, as mandatory for all children, and timetables were set for different regions to achieve full compliance with the law (Ministry of Education 1986). The Education Law of 1995 affirmed the government's commitment to equality of educational opportunity regardless of nationality, race, sex, occupation, property conditions or religious belief (UNESCO 1998). The 1999 Action Plan for Revitalizing Education in the 21st Century confirmed a commitment to implementing compulsory education across the country (Ministry of Education 1999).

Much of the policy attention has centered on how to expand access to underdeveloped rural areas. For example, the recent Western Development campaign, designed to increase public investments in poor Western provinces, emphasized education as an important element (State Council 2000). Numerous educational development projects, funded by both the Chinese government and international agencies, have sought to expand access to schooling in the late 1990s and early 2000s. In 2003, the State Council held the first national working conference since 1949 to formulate plans for the development of rural education, with a focus on protecting access to and improving the quality of compulsory education in rural areas (Postiglione, this volume). Among the ideas to emerge from the conference were plans to establish an effective system of sponsorship for poor students receiving compulsory education, such as by exempting poor students from all miscellaneous fees and textbook charges and offering them lodging allowances by the year 2007.

In recent years, questions of access have also emerged for the growing numbers of children of impoverished rural unregistered migrants in cities. By some estimates, unregistered rural-urban migrants constitute upwards of ten per cent of the population of some of China's largest cities (Liang 2001), and the children of these migrants are educationally vulnerable. Julia Kwong (2004) has outlined changing policies about migrant children's education. Kwong writes that the 1986 Law on Compulsory Education placed responsibility for educating children with the communities where those children were registered—the sending communities, not the receiving communities. In 1998, the Ministry of Education and the Public Security Bureau issued a document called “The Temporary Plan for the Education of Migrant Children.” In this plan, responsibility for providing educational facilities was shifted from the sending to the receiving location. However, as Yiu-Por Chen and Zai Liang show in their chapter in this volume, the consequences of this policy have been uneven, with schools in receiving communities often charging fees that are prohibitively costly.

Some under-served communities themselves are responding in innovative ways to gaps in the availability of educational services. For example, Gerard Postiglione's chapter notes that in Tibet, the county education bureau has implemented measures to increase attendance by structuring financial incentives to reward student attendance and to make teacher salaries more dependent on attendance, test scores and promotion. A similar phenomenon is emerging in cities, where unregistered schools—referred to by Chen and Liang in this volume as “migrant sponsored schools”—have emerged, often against great odds, as one of the options available to children of rural migrants living in cities without urban registration. Field-based research in rural China has

similarly documented cases of poor communities seeking to start and support their own schools (Ross and Lin 2006). Ironically, the lessening of centralized control over schooling has both contributed to the disparities in public educational finance that create the need for innovation, and offered the flexibility for such innovation to emerge.

EDUCATIONAL ATTAINMENT AND DISPARITY IN THE REFORM ERA

The educational attainment of China's population has increased dramatically in the years since the establishment of the People's Republic in 1949. For example, estimates from a sample of the 2000 census indicate that 88 per cent of 80 year-old women report never attending formal schooling, compared to four per cent of 25 to 29 year-olds. Similarly, just two per cent of women in their 80s had a junior high school or higher level of education; among 25 to 29 year-olds, the figure was 68 per cent (Hannum, Behrman, Wang and Liu, Figure 5). Evidence from a variety of sources indicates that the early years of market transition saw slight contractions in educational access, but that subsequently, the reform period has seen a steady expansion of educational access (Hannum and Liu 2005).

Still, significant disparities in access to basic education in the past continue to affect the life-chances of today's adult population. In this volume, Donald Treiman's chapter shows that adults who are male and who grew up in better-educated, urban families have significantly higher levels of literacy than others. Socioeconomic inequalities may actually be intensifying: in other work, Yao Lu and Donald Treiman (2005) have shown that the years-of-schooling advantage attributable to coming from a better educated, higher-status family intensified for cohorts

reaching age 7 during the reform period, compared to Cultural Revolution cohorts.¹¹ Ethnic disparities in education among young adults in the 2000 census are striking: over 11 per cent of minorities aged 25 to 34 had not attended formal schooling, compared to just 2 per cent of the majority Han population (Hannum et al. 2005: Table 4).

Were these sorts of historical educational inequalities still affecting children in the reform era? A number of studies through the early 1990s found evidence of significant gaps in educational access by socioeconomic status, ethnicity, gender, and geography (Connelly and Zheng 2003, Hannum 1999; 2002; 2005). Evidence from the later 1990s suggests that while enrollment rates rose for both urban and rural residents, and gender differences narrowed, the advantage of urban residents persists, and socio-economic differences in enrollment rates remain striking (Hannum and Liu 2005). Little recent research has sought to quantify changes in ethnic gaps in access to schooling.

In this volume, Rachel Connelly and Zhenzhen Zheng offer a detailed analysis of educational inequalities through the year 2000, using census data. They offer a baseline study of the cohort of Chinese youth born between 1972 and 1980, using census data from 1990. They then offer a statistical update that directly addresses changes between 1990 and 2000. Consistent with early survey results, Connelly and Zheng show that throughout this time period, young people from the most socioeconomically disadvantaged families—here defined as families with illiterate parents—were still at substantial risk of being unable to access education. In 2000, 11 per cent of boys and 17 per cent of girls ages 10 to 18 whose parents were illiterate had never attended

school. A stunning figure worth comment. I assume that nearly all of these were rural children, perhaps including some migrants to cities?

Also consistent with earlier work, in both years, Connelly and Zheng illustrate that place of residence was among the most important factors explaining school enrollment and graduation patterns in China. Despite dramatic increases in rural enrollment rates, urban-rural differences remained substantial in the year 2000: about 12 percentage points for boys, and about 15 percentage points for girls aged 10 to 18.

Moreover, Connelly and Zheng show a growing urban-rural gap beyond the nine years of compulsory education, due to improvements in urban areas outpacing those in rural areas. In urban areas, 72 per cent of 18 year old boys and 76 per cent of girls had attended high school, compared to 48 per cent of boys and 52 per cent of girls in 1990. In rural areas, in 2000, 18 per cent of boys and 14 per cent of girls had attended high school, compared to 10 per cent and 5 per cent in 1990.

Geography other than urban-rural residence also conditions educational attainment. Connelly and Zheng's multivariate analysis of the 1990 data at the county level shows that counties that were more rural, poorer (in terms of per capita income), and mountainous had fewer 14 year-olds in school. The 1990 census data also show vast regional differences in enrollment rates of 10 to 18 year-olds by province and rural-urban residence, ranging from a high of 86 per cent of boys enrolled in urban Shanghai, to lows of 29 per cent of rural girls in Qinghai, and 7 per cent of rural girls in Tibet.

Important improvements occurred between 1990 and 2000: rural primary school entrance rates rose in every province, as did primary school completion rates and, with just two exceptions, transitions into middle school. By the year 2000, entry into primary school among rural youth was high, overall: 99 per cent for China as a whole. This cannot be consistent with the point made a couple of paragraphs above: 11% of boys, 17% of girls with NO schooling in 2000. Or am I missing something? Provinces in the western regions were the only ones with rates under 99 per cent, with most in the 95 to 98 per cent range. Notable outliers were Tibet, at 57 per cent, and Qinghai, at 86 per cent. Thus, by 2000, lack of access to primary school was highly geographically concentrated. Rural rates of transition into middle school were more variable, ranging from 100 per cent in Shanghai and 97 per cent in Zhejiang, to 64 per cent in Yunnan, to 32 per cent in Tibet. Thus, for different reasons, at the primary and middle school levels it remains true that the province in which a child lives says a lot about his or her probability of making it through basic education.

Geography is also linked to educational stratification by ethnicity. Minority children disproportionately reside in remote, poor locations that lack the resources to fund high-quality schools, and this reality contributes heavily to the national educational disadvantage observed for minority children (Hannum 2002). In fact, the ethnic gap is primarily a rural problem. For example, Connelly and Zheng show that 3.5 per cent of rural minority boys and 6.5 per cent of rural minority girls ages 10 to 18 in the year 2000 had never attended school, compared to 0.34 per cent of rural Han boys and 0.61 per cent of rural Han girls. Comparable figures for urban children were 0.25 per cent for Han boys, 0.12 per cent for Han girls, 0.62 per cent for minority

boys, and 0.17 per cent for minority girls. Urban minority children do not face significantly lower chances of school continuation, compared to their Han counterparts. Importantly, Connelly and Zheng's analysis also shows that those minority children who managed to graduate from middle school, whether urban or rural, enjoyed slightly better chances of going on to high school, compared to their Han counterparts. Affirmative action, no?

Overall, Connelly and Zheng's work suggests that access to schooling for minorities is on the rise. Yet, there persists a serious problem of ethnic disparities in access to education; disparities that will translate into lifetime differences in the educational credentials that are increasingly necessary for competitiveness in China's new economy. Collectively, the results from Connelly and Zheng's work suggest that the disadvantaged position of minorities is in large part a problem of impoverished rural children not being able to progress through the early stages of schooling.

Gerard Postiglione's chapter, which uses a case study of rural Tibet, illustrates a number of the mechanisms that serve to disadvantage rural minority children in primary schools. Poor rural schools attended by Tibetans have little of the income-generating potential of urban schools, and for these schools, attracting good teachers is difficult. Further, poverty has a reinforcing effect, as parents in poor rural villages do not necessarily observe examples of education leading to economic improvements and thus are often unwilling to provide financial support for children's schooling. Yet, as important as regional and economic factors are in explaining ethnic differences in education, additional factors are also significant. Postiglione notes that, like many of China's other minorities, Tibetans have cultural traditions that are in many ways dissimilar to

Han traditions. One problem is that the content of schooling for minorities may be perceived as being inconsistent, or even oppositional, to minority groups' own traditions.

Anthropological studies among other groups in China similarly suggest that ethnic groups may develop attitudes unfavorable to education if they perceive the school system as incompatible with aspects of their own culture or if they do not observe tangible returns to education among members of their own community (Hansen 1999; Harrell and Mgebbu 1999). For example, Mette Halskov Hansen (1999) argues that educational disparities between the Dai, Naxi, Hani, and Jinuo in Yunnan can be traced to ethnic differences in perceptions of the economic benefits of education and the accord or opposition between cultural heritage and the educational system. Similarly, Stevan Harrell and Lunze Mgebbu (1999) show that expectations of rewards decisively influence educational participation among the Yi ethnic group in Sichuan.

Even when there is not a direct contradiction between minority culture and the content of schooling, what a rural, minority child is learning in school can be vastly different from his or her experiences in everyday life. In such cases, the motivation of students and their families to continue with education can be adversely affected. Postiglione's work suggests that developing educational content that is relevant to the culture of minority children is critical for supporting engagement with the schooling process.

Minorities have been educationally disadvantaged because they are disproportionately likely to reside in poor, rural areas. Girls are not disproportionately represented in these settings, but they have, in the past, been particularly affected when they were in situations of rural poverty.

Nationally, gender gaps are narrowing, an unsurprising trend in light of cross-national studies showing a declining disadvantage for girls with better household economic circumstances and economic growth (Hannum 2005; Knodel and Jones 1996). In 1990, Connelly and Zheng showed significant gender differences in enrollment in rural areas, but there were substantial improvements for rural children, particularly girls, by 2000. In 2000, the overall percentage of youth aged 10 to 18 who were in school ranged from 88.8 per cent for urban boys, and 89.4 per cent for urban girls to 76.6 per cent for rural boys and 74.4 per cent for rural girls. The figure for rural boys was a 22 percentage point increase from 1990, and the figure for rural girls was a 30 percentage point increase.

These estimates show very small gender differences. However, there was still a disadvantage for rural girls by some measures. In the year 2000, rural girls had the lowest rates of school attendance at every age from 10 to 18; 88 per cent of rural boys, but only 83 per cent of rural girls, who finished primary school had gone on to attend middle school.

Moreover, evidence suggests that gender has continued to be a significant modifier of educational opportunities and experiences in some poor rural settings. Research in poor counties in the 1990s found that girls drop out disproportionately starting in middle school (Brown and Park 2002). Connelly and Zheng's 2000 analysis showed that some provinces, including Anhui, Guizhou, Gansu, Jiangxi and Shandong, continued to show gender gaps of 10 per centage points or more in the transition to middle school for rural populations.

However, even in these areas, girls seem to be making progress. Our own chapter in this volume, using data from rural Gansu, indicates that socio-economic status is a much more significant determinant of educational outcomes than gender at the primary level, when most children are still enrolled because costs are not prohibitive. Indeed, primary-age rural girls outperform or equal the performance of boys for both achievement and engagement measures, although boys remain somewhat advantaged in terms of educational aspirations. However, other research in rural Gansu suggests that girls' disadvantage is not completely gone at the secondary level. As suggested by Connelly and Zheng's findings, by lower secondary school, girls face a significant, if moderate, disadvantage in enrollment (Hannum and Adams 2006). Overall, girls' educational disadvantage is dissipating in China, although there are certain areas where girls' schooling is still at heightened risk.

Just as regional economic inequalities play a role in ethnic and gender disparities, they loom large in the educational problems facing children of another disadvantaged group: rural workers in cities without urban registration, who are typically migrants from much poorer, rural areas. Educational access for the children of temporary migrants is precarious, as Yiu-Por Chen and Zai Liang's analysis of recent survey data from Beijing shows. However, the national scale of the problem is difficult to gauge. Chen and Liang review estimates of school-aged temporary migrant children's enrollment rates in different cities, which range widely. However, Chen and Liang's chapter makes clear that significant numbers of migrant children are not being served by the school system.

EDUCATIONAL QUALITY AND QUALITATIVE DISPARITIES

As access has expanded in China, important questions have emerged about quality and qualitative disparities. China's educational policy makers in the reform period have made quality a top-level priority. What quality means, however, has become broader than achievement on tests. There is a significant movement among policy makers to promote learner-centered teaching approaches. The so-called "quality education" (*suzhi jiaoyu*) reforms are intended to develop the diverse skills of the whole child, not just promote test-taking skills, and to stimulate critical thinking.¹² The reforms are meant to encourage students to consider multiple answers to the same question and multiple solutions to the same problem.

The quality education initiative is very much in line with current thinking in the global educational research and development communities about the "key competencies" that 21st century education should promote, such as autonomous thinking, active learning, and the ability to adapt and innovate.¹³ However, in China, this new orientation may be a remnant of the socialist legacy of manpower planning (*rencai peiyang*). Economic pragmatism and a concern that such skills are essential for workers in the modern economy are at the heart of the motivation for these reforms.

How are key competencies distributed in the population? Treiman's chapter investigates this question in a direct way, with a literacy assessment administered to a nationally representative sample in 1996. Treiman shows that this indicator of educational quality is not necessarily synonymous with educational credentials, nor is it distributed equally among the population, net

of education. Although affected by education, literacy also reflects other work and life experiences. Moreover, even independent of years of schooling, literacy depends on whether one attended school in villages, towns, or cities, likely reflecting differences in school quality. Holding other factors constant, literacy is also higher for males, those from families that invested in reading (as indicated by how many books were in the household and newspaper reading on the part of the father), urban residents, those who engaged in nonmanual work, and those whose schooling was likely to have been disrupted by the Cultural Revolution. This work reflects the wide disparity of educational quality across time and space in China.

China's quality education initiative seeks to address problems of quality by revisiting curriculum content, reexamining subject boundaries, and modifying teaching approaches to involve more intensive student participation. This initiative is designed to significantly improve the competencies of students, compared to the traditional practice of didactic teaching. Little is known, yet, about whether the initiative is having the desired effect on students, or even affecting teaching practice, as few empirical studies have investigated teaching practices and their changes under reforms. Jin Xiao's (2005) fieldwork in rural Yunnan Province suggests that the pedagogy in many poor rural schools in this region remains rigidly traditional, and unlikely to facilitate the kinds of adaptive skills thought to be needed for success in the non-farm labor market. On the other hand, Tanja Sargent's (2005) survey research in rural Gansu Province finds striking differences in teacher *beliefs* about the goals of education in settings where learner-centered teaching reforms have, and have not, been implemented. Regarding *practices*, her classroom observations and an analysis of student survey responses about classroom interaction suggest that

some, but not all, teachers who were working in classrooms that had ostensibly implemented these reforms were adopting practices sanctioned as learner-centered.

One possible barrier to implementing these reforms in the classroom is the persistence of high-stakes tests. From the point of view of Chinese students and their families, performance on high-stakes tests remains the final arbiter of success. For teachers, too, test scores are important. As the chapter by Weili Ding and Steven Lehrer illustrates, China's teacher evaluation and compensation system places emphasis on student test scores as a performance indicator. Paine and Fang's fieldwork in Shanghai revealed that teachers felt great pressure to get students to perform well on standardized tests. How the new educational philosophy will coexist with an underlying incentive—for both students and teachers—to focus on testing remains an important question for research in the coming years, as the meaning of participatory learning and the testing system evolve.

Cultivating teachers who can offer high-quality learning experiences and produce successful test-takers under the new teaching model is a critical challenge. Lynn Paine and Yanping Fang's chapter notes that rising demand for education has led children to seek higher educational attainment, which in turn has led to dramatic increases in the number of enrolled students at secondary schools and institutions of higher learning. The system has been challenged to match this growth with a sufficient supply of qualified teachers, to mentor the very high proportion of young teachers in the work force, and to provide professional development support for implementing new models of teaching and learning.

Critical for understanding the qualitative differences in schools across China are the great disparities in the qualifications of teachers in different schools and communities, as Paine and Fang report. Whether or not they have the appropriate qualifications, many teachers in poor rural areas face low wages and heavy workloads, often while living in poor, remote areas far from urban townships. These difficult living circumstances are likely to diminish teachers' capacity to offer their best effort in the classroom.

The chapters on access and on teachers speak to the fact that poorer children are not only less likely to attend school, but also experience fewer resources in the school system. Our chapter focuses on Gansu, one of China's poorest provinces, and investigates disparities in the quality of education experienced by rural students. Even in this sample of students—the vast majority of whom could be considered somewhat poor, and all of whom live in rural villages—our findings indicate that the disadvantages of the lowest socio-economic status children are present within the school system, where poorer children have lower levels of achievement, lower aspirations, and less fondness for schooling. These disadvantages can be linked to both poorer home learning environments and to the characteristics of teachers with whom children are paired. This chapter underscores the point that the consequences of poverty for children's schooling are transmitted not only through economic constraints that directly preclude access to schooling, but also in lack of access to myriad other factors that support children's progress *within* the school system.¹⁴

Finally, it is important to note that parents with money can increasingly buy their way into schools with better climates, more resources, and a more qualified teaching staff. Weili Ding and Steven Lehrer's chapter reports that in addition to entrance exam scores, monetary payments

have begun affecting admissions into high quality public secondary schools in Jiangsu. Lin's chapter demonstrates that parents with resources can also secure places in better-resourced private schools for students—whether they are academically strong or not. Again a tension exists between meeting diverse educational needs and maintaining a meritocratic educational system that facilitates economic mobility.

MARKETIZATION AND THE CONSEQUENCES OF EDUCATION

The preceding sections have discussed dramatic educational expansions and persisting socio-economic and geographic disparities in schooling. We have also discussed how policy makers in the reform period have sought to increase the relevance of schooling to the labor market. To situate these changes in the context of China's broader economic reforms, we next discuss how the links between schooling and work outcomes have changed as China has transformed from a socialist planned economy to a market-oriented system.

It is important to first review some of the main economic policies and trends since market reforms began. In rural areas, periodic markets were re-established in the early 1980s, after many years under socialism in which the allocation of agricultural products were planned. Agricultural decision-making authority was returned to households, who farmed their own plots and were permitted to keep the fruits of their labor after fulfilling grain quotas and paying taxes to the state. Later, as China industrialized rapidly, labor began leaving farms for non-agricultural employment, first in rural township and village enterprises and subsequently in more distant

urban centers. This trend has fueled the growth of China's large population of temporary migrant workers.

These trends have important implications for the value of schooling for rural residents. Using recent rural household survey data, Alan de Brauw and Scott Rozelle report in this volume that by the year 2000, an additional year of education in rural China increased wages by 6.4 per cent among those engaged in wage employment. This rate of return is much greater than estimates for the early reform period, which were uniformly below 4.0 per cent (Gregory and Meng 1995; Parish, Zhe, and Li 1995; Yang 1997), and almost surely greater than during the socialist period, when work points were distributed in a highly egalitarian manner. Research also finds that the labor market in rural areas increasingly rewards education (de Brauw, Huang, Rozelle, Zhang and Zhang 2002). Studies of rural China have also found that education is becoming the dominant factor that determines whether rural laborers are successful in finding more lucrative off-farm jobs (Zhao 1997; de Brauw et al. 2002).¹⁵

In urban areas, reform occurred less quickly at first, as Chinese leaders sought to protect the interests of urban workers by maintaining the system of state-ownership of enterprises, guaranteed lifetime employment, compressed wage scales, and state-provided health care, housing, and retirement benefits. In the 1980s, firm managers were given more autonomy and more freedom to sell goods on the market and hire workers on a contract basis. However, loss-making enterprises were supported by loans from state-owned banks, and workers had little incentive to leave the security of their state-sector jobs.

Nonetheless, the mobility of workers increased over time, especially as the state gradually abdicated its role of assigning recent graduates to new jobs, and as the non-state sector grew in size. Wei Zhao and Xueguang Zhou find, in their chapter, that the returns to education in urban China increased significantly from 1978 to 1993, especially in the non-state sector and among entrepreneurs. While returns were still relatively low in 1993, at less than four per cent per year of schooling, education did play an important role in providing access to high status jobs and work organizations.

In the 1990s, the market for education in urban areas changed significantly. China witnessed rapid globalization of the economy as trade flourished and millions of new foreign-invested enterprises were established, many seeking to employ China's brightest young workers. By the mid-1990s, the expression "jumping into the ocean" (*xiahai*), or leaving the safety of the state sector for the sea of the private sector, had entered the vernacular. In the late 1990s, China's policy makers moved ahead with painful economic restructuring of the struggling state-owned enterprise sector, allowing employment within the state sector to become market-determined. The development of a more open labor market increased the premiums placed on the productive skills of workers, even though large regional wage differences remained.

Extending the trend of rising returns found by Zhao and Zhou with a different data source and slightly higher estimates,¹⁶ Junsen Zhang and Yaohui Zhao find that the economic returns to a year of education in urban China nearly tripled during the period 1992 to 2003, rising from 4.0 to 11.4 per cent. any rural data? Interestingly, the gains occurred in nearly every group of workers, whether categorized by gender, public versus private sector, region, or occupation. The returns to

college education grew particularly fast. These results for the earlier years are fairly consistent with estimated returns to schooling using the Chinese Household Income Project (CHIP) data for 1988 and 1995 (e.g., Hauser and Xie 2005; Li 2003; Yang 2004).

These findings suggest major and broad-based changes in the functioning of China's labor markets. Estimates of returns to schooling in China in the early reform era were very low by global standards.¹⁷ A recent review of rate-of-return estimates around the world by George Psacharopoulos and Harry Patrinos found an average rate of return of about 10 per cent and a "classic" pattern of falling returns to education by level of economic development and average level of education. China's dramatic increase in the returns to schooling runs counter to that pattern, partly because of China's unique socialist legacy. However, Psacharopoulos and Patrinos also found rising private rates of return to higher education.¹⁸ China's rapid increase in the rates of return to higher education starting from a low base in the early reform period is consistent with this trend.

The role of education has also become important in determining who finds job in a new world of high unemployment and uncertainties in the labor market. In the second half of the 1990s, millions of workers were laid off, state-guaranteed employment ended, and employers put an increasing premium on finding and keeping the most productive workers. Beyond its rising importance in income determination, education thus played a key role in distinguishing those workers who were able to keep their jobs from those who were not. Analyzing recent survey data for urban firms and workers, Margaret Maurer-Fazio's chapter finds that education was protective against layoffs and that it increased the chances of reemployment. Maurer-Fazio also

shows that among reemployed workers, the return to education was even greater than for the continuously employed.

In summary, the economic importance of education has increased substantially in both rural and urban China, affecting both levels of income and the types of jobs and associated occupational statuses that can be attained. This trend creates greater incentives for individuals to invest in education, and at the same time may be a product of the increasing emphasis of policy makers on increasing the relevance of schooling for work.

DISCUSSION

Collectively, this volume attests to a track record of impressive achievements in education in China. These achievements include successful expansion of basic education and literacy during the socialist period; progress in improving educational attainment levels during the reform period; the creation of a national educational system that rewards merit and provides real opportunity and hope to citizens of all backgrounds; a model system of teacher evaluation and compensation; and aggressive reforms to re-conceptualize and improve educational quality.

Moreover, the work presented here speaks to the rising importance of education as an element socioeconomic inequality in reform-era China. Policy makers have sought to improve access and quality, and the relevance of schooling for work, and employers competing in the marketplace have been willing to pay higher and higher premiums for workers with more human capital. Simply put, under market reforms, the educational experience has become more accessible, more variable, and more critical for life outcomes than in the past. For these reasons, education

increasingly mediates processes of social mobility and change in China. The decisions ahead for educational policy makers will have repercussions far beyond the school system.

This volume highlights three particular quandaries for Chinese educational policy makers. First, there are challenges ahead for continued educational expansion. Chapters discuss the scope of and reasons for persisting access disparities by place of residence, socio-economic status, and ethnicity, and make clear that children who still lack access to compulsory schooling are living very different lives than those who do have access. Today, children remaining outside the system are increasingly concentrated in poor and remote rural areas, or occupy a precarious, semi-citizen status in the cities. How to provide a meaningful education to these children—one that not only enrolls them, but also supports their learning and connects them to economic opportunities—is a daunting policy challenge, and a topic worthy of serious research attention.

Second, access disparities tell only part of the story of educational inequality in China. Studies in this volume clearly demonstrate that the school system has become more marketized and more pluralistic. A policy focus on quality, inequities in the availability of financial resources, disparities in the distribution of qualified teachers, and the emerging private sector options chronicled here make clear that educational inequality is no longer just about differences in access. Inequality increasingly concerns what children are experiencing and learning within the system. Yet, we know very little about the scope of these differences. It will be critical in the coming years to devise ways of measuring qualitative differences in school provision. Moreover, a key policy question for the government of China in coming years will be how to balance the important benefits of system diversification and flexibility—mobilization of family and

community resources in support of education, and the ability of many families and communities to provide better opportunities and more second chances to their children—against the cost of a system in which educational qualifications increasingly reflect family origins.

Finally, a new challenge is emerging in China, as the educational system must adapt to serve the needs of an increasingly diverse population. Many children in wealthier urban areas now live pampered lives as single children in newly-middle class families. In contrast, large numbers of poor children in rural areas continue to live precariously, without secure access to good nutrition or funding for their education or health care, much less the cultural, social, and economic resources that would place them on par with their urban counterparts. Growing numbers of rural migrant children in cities also face uncertain futures without secure access to an education. This discussion seems to me a little skewed. The numbers of poor rural children seem to me primary; but the secondary point, poor children in cities, particularly migrant children with little access to education, bears mention here, too.

China's policy makers can draw upon the experience of impressive educational gains of recent decades [perhaps notably in an area about which you say little: vast expansion in quantity of higher education, and gains at the top in quality] to think through the policy quandaries of the 21st century. Yet they must walk a difficult path, balancing the often-competing goals of expanding access, promoting quality and economic relevance, encouraging innovation in finance and in the classroom, and serving the needs of an ever more diverse student population. Their success will deeply affect the welfare and opportunities of China's future generations.

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ENDNOTES

¹ See Han (2005) for a dissent from common wisdom on education during the Cultural Revolution.

²Multivariate analyses, which partial out the effects of other background characteristics correlated with rural residence, similarly show that urban Cultural Revolution cohorts had less advantage than urban members of prior cohorts.

³ We point interested readers to one study that presents an opposing argument using data from urban Shanghai by Meng and Gregory (2002). In a creative approach, this study uses coefficients from models of tertiary degree attainment estimated on cohorts not affected by the Cultural Revolution to obtain predicted rates of degree attainment for cohorts that were affected by the Cultural Revolution. They then compare the result to the observed rates of degree attainment for the Cultural Revolution cohorts. This approach yields a ratio of actual-to-predicted rates of formal degree attainment that is lower for people of lower socioeconomic status, leading the authors to conclude that the educational prospects of low socioeconomic status individuals were most impacted by the Cultural Revolution. From another perspective, though, a simple difference between the actual and predicted probabilities tells a story in which the gap is generally higher for higher socioeconomic status individuals, and the choice of a ratio or difference measure would seem to be a matter of taste. Moreover, because this particular result was based on a sample of urban Shanghai residents, it is difficult to know whether its results apply more broadly.

⁴ However, an opposing view based on results from urban Shanghai can be found in Meng and Gregory (2002).

⁵ Further, the government sought to achieve a qualitative upgrade in the system by eliminating the minban teachers altogether by the year 2000 (Wang 2002).

⁶ However, see Paine and Fang and Postiglione in this volume on the persistence of *minban* teachers.

⁷ For additional discussion of private schools in China, see Qu (1996).

⁸ The Tianjin figure refers to both general and vocational secondary school. See Table 7 in Tsang 2000.

⁹ For example, see Patrinos and Ariasingam (1997).

¹⁰ For an overview in East Asia, see Bray (1996).

¹¹ However, Lu and Treiman (2005) show that the gap is actually narrower in the later year than in the earlier year in multivariate results.

¹² In 1999, following the Third National Working Conference on Education, the State Council issued “Decisions on Deepening the Educational Reform and Improving Quality-Oriented Education.” The full text of the State Council document can be found on the Ministry of Education Web site: <http://www.moe.edu.cn/wenxian/07.htm>.

¹³ See, for example, World Bank (2003) and Rychen and Salganik (2001).

¹⁴ For an excellent overview of conditions facing rural students in western China, see Postiglione (2005).

¹⁵ See also the studies in West and Zhao (2000).

¹⁶ These estimates extend those of Zhao and Zhou, who found rising but still relatively low returns to schooling in urban China up to 1993 (3.5 per cent). Zhao and Zhou's estimates of the returns to schooling in 1993 are lower than Zhang and Zhao's. The difference could be due to differences in the variables included, as Zhao and Zhou include party membership and a number of other control variables, while Zhang and Zhao do not.

¹⁷ Estimates for urban China from the 1988 Chinese Household Income Project data showed a rate of return of about three per cent; some earlier estimates for selected urban and rural areas showed no effects or even negative effects (Xie and Hannum 1996).

¹⁸ See Psacharopoulos and Patrinos (2002).