Unequal access to college in China: How far have poor, rural students been left behind?

Hongbin Li, Prashant Loyalka, Scott Rozelle, Binzhen Wu, Jieyu Xie

Abstract

Background. In the 1990s, poor, rural youth in China had limited access to college. After mass college expansion started in 1998, however, it was unclear whether poor, rural youth would gain greater access. The goal of our paper is to examine the gap in college and elite college access between poor, rural youth and other students after expansion. We estimate the gaps in access using data on all students who took the college entrance exam in 2003. Our results show that gaps in access remained high even after expansion. Poor, rural youth were seven and 11 times less likely to access any college and elite Project 211 colleges than urban youth. Much larger gaps existed for disadvantaged subgroups of poor, rural youth. We also find that the gaps in college access were driven by rural-urban differences rather than differences between poor and non-poor counties within rural or urban areas.

Keywords: Inequality; College Access; Rural; Poor; China; College Expansion

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Abstract

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College access was extremely limited in China in the 1990s. In 1990, the gross enrollment rate for college (the percentage of 18-22 years olds in the population that attended college) was only 3.4 per cent.\(^1\) The gross enrollment rate was not only much lower than that of developed countries such as the United States (72 per cent), but was even much lower than that of developing countries such as Brazil (11 per cent) or India (six per cent).\(^2\)

China’s low gross enrollment rate for college meant that disadvantaged students had fewer chances to access college than advantaged students.\(^3\) In 1990, rural 19-22 year olds were seven times less likely to access college compared to urban youth.\(^4\) The large gap in college access, in fact, persisted throughout the 1990s. By 2000, rural youth were actually eight times less likely to access college compared to urban youth.\(^5\)

In 1998, the dynamics of college access started to change as China’s policymakers initiated one of the largest expansions in college enrollments in history. The number of students who could attend college increased from one million to 5.7 million or from six per cent to 22 per cent of the age cohort from 1998 to 2007.\(^6\) The improved access to college led many to believe that poor, rural students would gradually obtain more equal access to college.\(^7\)

\(^{1}\) NBS 1991.  
\(^{2}\) World Bank 1990.  
\(^{3}\) In China disadvantaged means poor and rural—World Bank 2000.  
\(^{4}\) Wu and Zhang 2010.  
\(^{5}\) Wu and Zhang 2010.  
\(^{6}\) NBS various years.  
\(^{7}\) Rong and Shi 2001.
Even with college expansion, however, there were reasons to be concerned that students from poor, rural backgrounds would continue to have unequal access to college. First, along with expansion, college tuition rates rose. The rising tuition rates made it difficult for poor, rural households to afford a college education.\(^8\) Second, students from poor, rural backgrounds had fewer resources with which to prepare for China’s increasingly competitive high school and college entrance exams.\(^9\) Because students from poor, rural backgrounds tended to have lower exam scores than students from non-poor, urban backgrounds, they were expected to be less qualified for academic high schools, colleges and elite colleges.\(^{10}\) Part of the problem was that students from poor, rural backgrounds had unequal access to high quality kindergartens, primary schools and junior high schools which could help prepare them for the competitive entrance exams.\(^{11}\) Poor preparation for competitive entrance exams combined with high and rising opportunity costs also may have caused many students from poor, rural areas to drop out before high school.\(^{12}\)

In addition to having less access to college, poor, rural students may have had even less access to elite colleges. Policymakers in China expanded college enrollment quotas by five times from 1998 to 2006 but only expanded elite college enrollment quotas by 30 per cent.\(^{13}\) Thus, even if the expansion in enrollments improved access to college for poor, rural students, it is not clear if the expansion movement did anything to improve their access to elite colleges.

\(^8\) Wang et al. 2007.  
\(^9\) Wu 2010.  
\(^{10}\) Sirin 2005.  
\(^{11}\) Liu et al. 2009; Wu 2010.  
\(^{12}\) Hannum and Wang 2006; Yi et al. 2012.  
\(^{13}\) NBS various years.
Although there was some evidence about the gap in college access after expansion, researchers either did not examine the gap accurately or in sufficient detail. Some studies showed a gap in college access between poor and non-poor households.\footnote{Wang et al. 2007; Ning 2010.} Because they relied on survey samples that were not nationally representative, however, the findings of these studies might have suffered from sample selection bias (either overestimating or underestimating the gap in college access) and/or might have lacked generalizability. By contrast, Li et al. (forthcoming) used nationally representative data from 2003 to show that only 43 per cent of students who accessed elite Project 211 colleges and 18 per cent of students who accessed China’s top two colleges were from rural areas (despite the population shares of rural students being higher than urban students. While the findings of Li et al. (forthcoming) were important, they did not estimate the gap in college access between more specific groups such as poor, rural students and non-poor, urban students. Furthermore, with the exception of Li et al. (forthcoming), we are unaware of any study that examined gaps in elite college access. Moreover, no study we know of used nationally representative data to examine the degree to which poor, rural youth were able to access college and elite college versus more advantaged groups of youth.

The overall goal of our paper is to examine the nature of access to college and elite college between youth from poor, rural backgrounds and other youth in China. We use a unique set of micro-level data on all students (6.2 million) who took the college entrance exam in China in 2003 as well as supplemental data from the 2000 Census to estimate differences in the proportion of youth from poor and rural (versus non-poor and urban) backgrounds who were able to access (a) any college; (b) four-year colleges (\textit{benke} in Chinese); or (c) various levels of elite colleges. In addition to examining access
gaps for poor, rural youth (in general), we also estimate the nature of access to college and elite college for subgroups in China’s poor areas (e.g., poor, rural, female and minority youth). Unlike previous studies, our data allow us to examine nationwide inequalities in access to college, in general, and access to elite college in particular, at a period several years after Chinese policymakers initiated the mass expansion of college enrollments.

According to our analysis, we find large and significant differences in the degree to which poor, rural youth could access college and elite college compared to more advantaged youth. We find that seven per cent of poor, rural youth could access any college in 2003 compared to 48 per cent of urban youth. In other words, urban youth were able to access (any) college at rates nearly seven times more than poor, rural youth (48/7). The gap in access to elite colleges was even wider. For example, only 0.6 per cent of poor, rural youth were able to access China’s elite Project 211 colleges compared to seven per cent of urban youth (or an access gap of 11 times). Even wider gaps in elite college access existed for disadvantaged subgroups of poor, rural youth. For example, only 0.4 per cent of poor, rural, female, minority youth could access an elite 211 college in 2003, compared to 7.5 per cent of non-poor, urban, male, Han youth (or an access gap of 19 times). Taken as a whole, the findings clearly indicate that, after expansion, youth from disadvantaged backgrounds were not accessing college (and elite college) at rates anywhere near those of youth from advantaged backgrounds.

Data and Methods
Our main source of information on access to college comes from a dataset that contains records on every student that took the college entrance exam (CEE). We call this dataset the *2003 CEE dataset*. The data include records on the entire population of 6.2 million students who took the college entrance exam (CEE) in China in 2003. The 2003 CEE dataset contains information in two blocks that allow us to achieve our objectives of documenting the education gaps (and the nature of the gaps) between students in poor, rural areas and the rest of China.

The first block of the 2003 CEE dataset contains detailed information on student’s background. The information allows us to identify each student’s gender and ethnicity. We also have information on whether the student’s residential permit status (or *hukou* in Chinese) is urban or rural. Importantly, we also know each student’s county of residence. We use the information on ethnicity to identify whether a student belongs to one of China’s 55 minority groups or is part of the Han majority. If a student resides in one of the 592 nationally designated poor counties (as defined by the Chinese government in 2003), we define that student to be “poor”.\(^\text{15}\)

The 2003 CEE dataset also contains information on the results of each student’s college admissions decision. China’s college admissions process assigns each student to only one college (or to no college). After the admissions process is finished, students cannot transfer between colleges. By appropriately categorizing the college admissions result for each student, we can therefore calculate how many students from different backgrounds could access (a) any college; (b) four-year colleges; (c) elite Project 211 colleges; (d) elite Project 985 colleges; or (e) the top two colleges in China (Peking University or Tsinghua University).

\(^{15}\) World Bank 2000.
To supplement information from the 2003 CEE dataset, we also use a 1% random sample of the 2000 Census data to calculate the number of youth from different backgrounds/localities in each age cohort. The number of youth in each age cohort represents the number of youth who could have gone to college if college access was universal. In particular, we use the 2000 Census data to estimate the total number of 18 year olds in 2003 (that is, by counting the number of 15 year olds in 2000). Because the Census data have the same information on background characteristics as does the 2003 CEE dataset (gender; ethnicity; hukou and locality of residence), we can estimate the number of 18 year olds with different background characteristics in China’s population in 2003 (the number of 15 year olds from different backgrounds in 2000). By dividing the number of students from different backgrounds who can access college and elite college (calculated using the CEE data) by the total number of 18 year olds from different backgrounds in China’s population (estimated using the 2000 Census data), we can estimate the proportion of 18 year olds from different backgrounds that were able to access college and elite college. This information can then be used to look at college and elite college access gaps in China in 2003.

To provide a baseline by which to compare the degree of college and elite college access for 18 year olds from different backgrounds, we first estimate the degree of college and elite college access for all 18 years olds (both urban and rural; poor and non-poor). Table 1 shows the overall college and elite college admission rate for the entire cohort of 18 year olds in China in 2003. Only 25 per cent of 18 year olds took the CEE and 17 per cent could access any college in 2003. Only five per cent of all 18 years olds were able to access four-year colleges. As for elite colleges, only two per cent of all 18
year olds were able to access the elite Project 211 colleges and only one per cent could access the even more elite Project 985 colleges. Finally, only 0.03% of 18 year olds were able to access China’s top two colleges, Peking University or Tsinghua University. Our objective in the rest of the paper is to compare the shares of poor, rural youth and urban youth (each relative to their cohort size) that were able to access college and elite college.

Results

Inequality in college and elite college access

According to our data, there was a huge gap in college and elite college access in 2003 between poor, rural youth and urban youth. Moreover, the access gap began with the rate of those taking the CEE. Only about 12 per cent of poor, rural youth took the CEE compared to 67 per cent of urban youth (Figure 1a). This means that urban youth were more than five times more likely to take the CEE than poor, rural youth (67/12).

The rates of admission, naturally, were lower (since not everyone that took the CEE gained admission to college) and, more importantly for this paper, the gap in access to any college between urban and poor, rural youth was wider. Only about seven per cent of poor, rural youth were able to access any college in 2003. During the same year, nearly 48 per cent of urban youth were able to access any college (Figure 1b). Hence, the most general measure of the access gap of poor, rural and urban youth was wide (nearly seven times).

The gaps in access to four-year college and elite college between poor, rural youth and urban youth were even larger. Only two per cent of poor, rural youth could access four-year colleges compared to 16 per cent of urban youth (Figure 1c). Only 0.6 per cent
of poor, rural youth could gain access to elite Project 211 colleges compared to seven per cent of urban youth (Figure 1d). The gap in access to the most elite colleges was the widest. At the extreme, only 0.003 per cent of poor, rural youth could access China’s top two colleges compared to 0.13 per cent of urban youth (Figure 1f). In summary, poor, rural youth were eight times, 11 times and 43 times less likely to access four-year colleges, elite Project 211 colleges and the top two colleges than urban youth respectively.

To see what was driving the gap in college access between poor, rural and urban youth, we decompose the gap into three parts: (a) the part between rural and urban; (b) the part between poor, rural and non-poor, rural; and (c) the part between poor, urban and non-poor, urban. To better understand the gap between rural and urban, we start by noting the work in Li et al. (forthcoming). According to Li et al. (forthcoming), 52 per cent of students in any college were from rural areas. Li et al. (forthcoming) also found that 49 per cent and 43 per cent of students in four-year and elite Project 211 colleges were from rural areas. However, Li et al. (forthcoming) did not estimate the share of rural youth in the population that could access college and elite college (which is important in determining the access gap as we are defining it in this paper—since the population share of rural youth is higher than the population share of urban youth). When we estimate the population share of rural youth that could access any college, we find that ten per cent of rural youth could access any college in 2003 compared to 48 per cent of urban youth. Hence, rural youth (those in both poor and non-poor areas) were five times less likely than urban youth to access any college.

The rural and urban gap was even wider in access to elite colleges. Only three per cent of rural youth gained access to four-year colleges compared to 16 per cent of urban
youth (Table 2, row 3). Moreover, only one per cent of rural youth accessed elite Project 211 colleges compared to seven per cent of urban youth (Table 2, row 4). In other words, rural youth were five times less likely than urban youth to access four-year colleges and seven times less likely than urban youth to access elite Project 211 colleges. While these gaps (between any rural youth and urban youth) are narrower than the access gaps between poor, rural youth and urban youth for four year colleges (eight times) and elite Project colleges (11 times), the findings indicate that a large part of the gap in four year college and elite college access between poor, rural youth and urban youth was due to the size of the gap in access between any rural youth and urban youth.

When we look only within the population of rural youth, we find significant, but less stark differences in college and elite college access between rural youth in poor and non-poor counties. In 2003, seven per cent of poor, rural youth accessed any college. In the same year, 11 per cent of non-poor, rural youth accessed any college (Figure 2b). Hence, the access gap between poor, rural youth and non-poor, rural youth was only about 1.5 times—11/7).

The access gap between poor, rural youth and non-poor, rural youth were also relatively narrow for four-year and more elite colleges. While only two per cent of poor, rural youth could access four-year colleges, the rate was not that much higher for non-poor, rural youth—three per cent (Figure 2c). Likewise, only 0.6 per cent of poor, rural youth were able to access elite Project 211 colleges compared to only 1.1 per cent of non-poor, rural youth (Figure 2d). In summary, although within the population of rural youth, poor youth were disadvantaged compared to non-poor youth in access to college (any,
four-year and elite college), in fact, the gaps within the rural population were relative narrow (compared to the any rural and urban access gaps).

Although there was a gap (albeit relatively modest) between rural youth from poor and non-poor counties, the gap between urban youth in poor counties and urban youth in non-poor counties was either non-existent or substantially narrower. In fact, the gap in taking the CEE was reversed. According to our data, 76 per cent of poor, urban youth took the CEE in 2003. In the same year, only 66 per cent of non-poor, urban youth took the CEE (Figure 2a).

When accounting for admission to any college, both poor, urban youth and non-poor, urban youth had almost the same chance in access. In Figure 2b we can see that 48 per cent of poor, urban youth gained access to any college and 48 percent of non-poor, urban youth gained access to any college. Hence, in terms of accessing any college, being born in a poor, urban area (versus a non-poor, urban area) did not put one at a disadvantage as it did (albeit modestly) in the case of being born in a poor, rural area.

The gap between poor, urban youth and non-poor, urban youth reappears when considering four-year and elite colleges—although it remains narrow. For example, 14 per cent of poor, urban youth were able to access a four year college compared to 16 per cent of non-poor, urban youth (a gap of 1.1 times—Figure 2c). At the same time, six per cent of poor, urban youth were able to access elite Project 211 colleges compared to seven per cent of non-poor, urban youth (Figure 2d). Hence, within urban areas, the college access gaps between poor youth and non-poor youth were either non-existent or absolutely quite small.
Sources of the Access Gaps

In this subsection, we explore several dimensions of the sources of the gaps in college access between poor, rural and urban youth. We start by decomposing the largest source of inequality in access—the rural-urban gap. Afterwards, we decompose the poor rural-non-poor rural gap. Finally, we seek to understand why there is almost no access gap between poor, urban youth and non-poor, urban youth.

a) Source of rural-urban gap

To gain insight into why the gap in college access was so large between rural and urban youth, we broke it down into eastern, central, and western regions. In eastern China, urban youth were three times more likely to access any college than rural youth (Figure 3). In central China, urban youth were five times more likely to access any college. In western China, the rural-urban gap was six times. As for access to elite colleges across regions, urban youth in eastern China were five times more likely to access elite Project 211 colleges than rural youth. In central China, urban youth were seven times more likely to access Project 211 colleges than rural youth. In western China, the rural-urban gap in access to Project 211 colleges was nine times. Hence, even though there was large gap between rural and urban youth in access to any college, the major sources of the rural-urban gap came from central China and western China.

To seek whether the rural-urban gap across regions was coming from urban differences across regions or rural differences across regions, we examine the rate of college access of urban and rural youth separately in each region. From Table 3 we can

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16 We define the regions as follows: (a) eastern China includes Beijing, Tianjin, Liaoning, Shandong, Jiangsu, Zhejiang, Fujian and Guangdong; (b) central China includes Heilongjiang, Jilin, Hebei, Henan, Shanxi, Shaanxi, Hunan, Hubei, Anhui, Jiangxi, Guangxi and Hainan; (c) western China includes Inner Mongolia, Ningxia, Gansu, Qinghai, Xinjiang, Sichuan, Yunnan, Guizhou, Chongqing and Tibet.
see that in eastern, central and western China urban youth almost had the same chances to access any college, four-year colleges, elite Project 211 colleges and Project 985 colleges (columns 1, 3 and 5, rows 1 to 4). However, the college access of rural youth varied across regions. For example, 14 per cent of rural youth in eastern China accessed any college compared to nine per cent of rural youth in central China. At the same time, only seven per cent of rural youth in western China accessed any college. The rural youth in eastern China were 1.5 times to two times more likely to access four-year and elite colleges than rural youth in central and western China (column 2, 4 and 6, rows 2 to 4).

In summary, the college access of all urban youth in each region was almost the same, while the college access of rural youth in central and western China was lower than that of rural youth in eastern China. Differences in the rate of college access for rural youth across regions were thus a major driver of differences in the rural-urban gap across regions.

**b) Source of the poor rural–non-poor rural gap**

In this section we seek to decompose the poor rural-non-poor rural gap. To do so, we examine the access gaps between poor, rural youth and non-poor, rural youth in central China and then do the same for western China. We do not do the same exercise for eastern China since there is only one poor county in eastern China (while there are over 500 in central and western China). Following the analysis above, we seek to decompose the poor rural-non-poor rural gap, which was found to be relatively narrow.

According to our data, the poor rural-non-poor rural gap could not be attributed to a gap in either central or western China. From Table 4 we can see that the gap between poor, rural youth and non-poor, rural youth in central China was narrow for the three
largest categories of college—any college, four-year colleges and elite 211 colleges (columns 1 and 2, rows 1 to 3). The gap ranged from 1.1 to 1.4 times. Similarly, the gaps between poor, rural youth and non-poor, rural youth in western China for these same three categories of colleges also were narrow (columns 3 and 4, rows 1 to 3). In western China, the access gap ranged from 1.3 to 1.5 times. The lesson from this table and the analysis above is that the majority of rural youth—those in central and western China and those in both poor and non-poor areas—were driving the rural-urban access gap in China (which in turn was the largest segment of the poor, rural-urban youth access gap).

c) Source of poor urban – non-poor urban gap

In this section we seek to understand why it is that the college access gap between poor urban and non-poor urban youth was so narrow (as discussed above). The absence of a larger gap in college access between poor, urban youth and non-poor, urban youth may be surprising since in the aggregate, there were large discrepancies in household earnings between poor and non-poor areas; educational investments between poor and non-poor areas also differed sharply.\(^{17}\)

One reason for the narrow gap between poor, urban youth and non-poor, urban youth could have been the occupational structure in the urban areas of poor and non-poor regions. According to the 2000 Census data, a relatively large share of the parents of poor, urban youth (31 per cent) were government officials, bureaucrats or state-owned enterprise cadres or professionals (or ganbu in Chinese). At the same time only 28 per cent of the parents of non-poor, urban youth were ganbu. The opposite is true for the case of workers in both the manufacturing and service sectors (or gongren in Chinese). While only 50 percent of the parents of poor, urban youth were workers, 64 percent of the

\(^{17}\) Heckman 2005.
parents of non-poor, urban youth were workers (Figure 4). Since it is well documented in the international literature that the profession of a parent (and their education) is a strong predictor of the educational attainment of children,\textsuperscript{18} and since in China the average level of education of ganbu (13 years) is higher than the average level of education of workers (9 years), the occupational structure in poor, urban areas and non-poor, urban areas seems to be at least one reason why the access gap is narrow.\textsuperscript{19}

In summary, our findings reveal sharp differences in college and elite college access between poor, rural youth and urban youth. The inequality in college and elite college access is especially driven by differences between youth from rural versus urban areas. Inequality in access is also driven by differences between youth from poor versus non-poor areas, but to a much lesser extent. In rural areas, there are substantial gaps in college and elite college access between poor and non-poor youth. In urban areas, however, poor youth only have a slight disadvantage in accessing elite colleges compared to non-poor youth.

Other Gaps

When we extend the concept of disadvantaged to also include females and minorities, we find that disadvantaged subgroups of poor, rural youth were severely limited in access to college and elite college. For example, 66 per cent of non-poor, urban, male, Han youth took the CEE. The CEE participation rate of poor, urban, male, Han youth was even higher (85 per cent). This is consistent with our above findings that poor, urban youth were more active in taking the CEE than non-poor, urban youth since poor,

\textsuperscript{18} Hanushek and Woessmann 2011.
\textsuperscript{19} Source of average years of education: 2000 Census.
urban youth had better family background. However, as the weakest subgroup of poor, rural youth, only seven per cent of poor, rural, female, minority youth took the CEE (Table 5, column 1). In other words, poor, urban, male, Han youth were 12 times more likely to take the CEE than poor, rural, female, minority youth (85/7). Non-poor, urban, male, Han youth were ten times more likely to take the CEE than poor, rural, female, minority youth (66/7). The subgroups of poor, rural youth were more disadvantaged in access to any college. Only five per cent of poor, rural, female, minority youth accessed any college compared to 46 per cent of non-poor, urban, male, Han youth (or an access gap of nine times).

The subgroups of poor, rural youth had even less access to elite colleges than their advantaged counterparts. Both 16 per cent of non-poor, urban, male, Han youth and poor, urban, male, Han youth accessed four-year colleges in 2003. However, only one per cent of poor, rural, female, minority youth gained access to four-year colleges. At the same time, only two per cent of poor, rural, male, minority youth accessed four-year colleges. This means that urban, male, Han youth, either from non-poor or poor areas, were 16 times more likely to access four-year colleges than poor, rural, female, minority youth (16/1).

The gap in access to elite colleges was even larger. For example, 7.5 per cent of non-poor, urban, male, Han youth gained access to Project 211 colleges compared to 0.4 per cent of poor, rural, female, minority youth (or an access gap of 19 times). The gap in access to elite Project 211 colleges was also nearly ten times between non-poor, urban, male, Han youth and poor, rural, male, minority youth (7.5/0.8).
Finally, the gap in access to the most elite colleges was the widest. On the one hand, 0.14 per cent of non-poor, urban, male, Han youth could access China’s top two colleges. Yet only 0.002 per cent of poor, rural, female, minority youth and 0.003 per cent of poor, rural, male, minority youth could access the top two colleges (Table 5, column 6). Hence, non-poor, urban, male, Han youth were 70 and 45 times more likely to access China’s top two colleges than poor, rural, female, minority youth and poor, rural, male, minority youth (0.14/0.02; 0.14/0.03).

When we examine the absolute numbers (instead of the proportions) of poor, rural, minority youth that could access China’s top two colleges, the barriers to access appear even more formidable. In 2003 Peking University and Tsinghua University admitted about 6,600 students. However, in that year, there were only 12 poor, rural, female, minority students that were admitted. Among these 12 poor, rural, female, minority youth, five of them gained access to Tsinghua University and seven students accessed Peking University (Figure 5). Only three of them came from poor, western provinces. At the same time, only 20 poor, rural, male, minority youth gained access to the top two colleges. Eleven of them accessed Tsinghua University; nine of them accessed Peking University. Clearly, subgroups of poor, rural youth were left behind in the chance to access China’s top two colleges.

**Conclusion**

Our study shows that even after the mass expansion of college enrollments in China, poor, rural students were still much less likely to access college and elite college than more advantaged students. Inequality in access between poor, rural youth and urban
was driven mostly by differences in access between rural-urban youth rather than by differences in access between poor-non-poor youth. The rural-urban access gap, in turn, primarily arose from the rural-urban access gaps between youths in China’s central and western rural regions and youths in the central and western urban regions. By contrast, the poor-non-poor access gap was narrow (in nearly all regions: eastern, central and western China). In other words youth in poor urban areas attended college (and elite college) at about the same rates as youth in non-poor urban areas. Our analysis suggests that, at least in part, the narrow poor-non-poor urban gap exists because a larger share of the parents of youth from poor, urban areas were professionals (and a smaller share was workers) than the parents of the youth in non-poor urban areas.

So what needs to be done policy wise? Prior to the expansion of the university system, policymakers in China hoped that expanding college enrollments would substantially reduce inequalities in access. Our paper, however, indicates that even one of the most rapid expansions of college enrollments in history was not, in and of itself, able to substantially reduce inequality in access. If such inequalities in access have persisted over the last decade since 2003, policymakers may especially wish to begin to take a more active role in helping poor, rural students from China’s central and western regions gain access to college and elite college. Indeed, the inability of bright youth from poor, rural areas to gain more equal access to college has implications for China’s future social and economic development.

Unfortunately, there are strong reasons to believe that the gaps in college access persisted over the last decade. The financial burden of attending academic high school

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20 MOE 2010.
and college remained high for poor, rural students.\textsuperscript{21} The opportunity costs of going to high school and college also grew substantially.\textsuperscript{22} Many youth from poor, rural areas dropped out of junior high school.\textsuperscript{23} In most general terms, China’s education system remained extremely competitive and largely kept students in poor, rural areas from continuing on with higher levels of schooling.\textsuperscript{24} Because of the persistence of all of these factors, we suggest that future studies continue to examine more recent trends in gaps in access to college and elite college and the sources of those gaps.

\footnotesize{\textsuperscript{21} Liu et al. 2009.}  
\footnotesize{\textsuperscript{22} Cai 2009.}  
\footnotesize{\textsuperscript{23} Yi et al. 2012.}  
\footnotesize{\textsuperscript{24} Loyalka et al. forthcoming.}
References:


**Figure 1** Gaps in College Access between Poor, Rural Youth and Urban Youth

a) CEE participation

b) Any college

c) Four-year colleges

d) Project 211 colleges

e) Project 985 colleges

f) Top two colleges

Sources: 2003 CEE dataset, 1% 2000 Census
Figure 2 Gaps in College Access between Non-poor Urban, Poor Urban, Non-poor Rural and Poor Rural Youth

Sources: 2003 CEE dataset, 1% 2000 Census
Figure 3 Rural-Urban Gap in College Access across Regions

Sources: 2003 CEE dataset, 1% 2000 Census
Figure 4 Occupational Structure in Poor, Urban Areas and Non-poor, Urban Areas

Sources: 1% 2000 Census
**Figure 5** Numbers of Poor, Rural, Minority Youth Accessing Tsinghua or Peking University

![Bar chart showing numbers of poor, rural, minority youth accessing Tsinghua or Peking University.]

Source: 2003 CEE dataset
<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>As a percentage of # of 18 years old (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td># of 18 years olds</td>
<td>24,677,735</td>
<td>100</td>
</tr>
<tr>
<td>CEE participation</td>
<td>6,206,972</td>
<td>25</td>
</tr>
<tr>
<td>Any college</td>
<td>4,246,772</td>
<td>17</td>
</tr>
<tr>
<td>Four-year colleges</td>
<td>1,271,266</td>
<td>5</td>
</tr>
<tr>
<td>Project 211 colleges</td>
<td>516,114</td>
<td>2</td>
</tr>
<tr>
<td>Project 985 colleges</td>
<td>195,766</td>
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<tr>
<td>Top two colleges</td>
<td>6,940</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Sources: 2003 CEE dataset, 1% 2000 Census
Table 2 Gaps in College Access between Urban and Rural Youth (%)

<table>
<thead>
<tr>
<th></th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE taker</td>
<td>67</td>
<td>15</td>
</tr>
<tr>
<td>Any college</td>
<td>48</td>
<td>10</td>
</tr>
<tr>
<td>Four-year colleges</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>Project 211 colleges</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Project 985 colleges</td>
<td>2.8</td>
<td>0.3</td>
</tr>
<tr>
<td>Top two colleges</td>
<td>0.128</td>
<td>0.006</td>
</tr>
</tbody>
</table>

Sources: 2003 CEE dataset, 1% 2000 Census
Table 3 College Access of Urban and Rural Youth across Regions (%)

<table>
<thead>
<tr>
<th></th>
<th>East</th>
<th></th>
<th>Central</th>
<th></th>
<th>West</th>
<th></th>
</tr>
</thead>
<tbody>
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<td></td>
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<td>Rural</td>
<td>Urban</td>
<td>Rural</td>
<td>Urban</td>
<td>Rural</td>
</tr>
<tr>
<td>Any college</td>
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<td>14</td>
<td>49</td>
<td>9</td>
<td>43</td>
<td>7</td>
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<tr>
<td>Four-year colleges</td>
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<td>16</td>
<td>2</td>
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<td>6.7</td>
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<td>6.9</td>
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<tr>
<td>Project 985 colleges</td>
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<td>2.5</td>
<td>0.3</td>
<td>2.6</td>
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</tr>
<tr>
<td>Top two colleges</td>
<td>0.177</td>
<td>0.011</td>
<td>0.100</td>
<td>0.005</td>
<td>0.099</td>
<td>0.003</td>
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</table>

Sources: 2003 CEE dataset, 1% 2000 Census
Table 4 College Access of Poor, Rural and Non-poor, Rural Youth in Central and Western China (%)

<table>
<thead>
<tr>
<th></th>
<th>Central</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Poor Rural</td>
<td>Non-poor Rural</td>
</tr>
<tr>
<td>Any college</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Four-year colleges</td>
<td>1.9</td>
<td>2.5</td>
</tr>
<tr>
<td>Project 211 colleges</td>
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<td>1.0</td>
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<tr>
<td>Project 985 colleges</td>
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<td>0.3</td>
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<tr>
<td>Top two colleges</td>
<td>0.003</td>
<td>0.006</td>
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</table>

Sources: 2003 CEE dataset, 1% 2000 Census
### Table 5 Gaps in College Access between Subgroups of Poor, Rural Youth and Others (%)

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>CEE participation</th>
<th>Any college</th>
<th>Four-year colleges</th>
<th>Project 211 colleges</th>
<th>Project 985 colleges</th>
<th>Top two colleges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-poor Urban Male Han</td>
<td>66</td>
<td>46</td>
<td>16</td>
<td>7.5</td>
<td>3.3</td>
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<td>2.8</td>
<td>0.156</td>
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<tr>
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<td>67</td>
<td>51</td>
<td>17</td>
<td>6.6</td>
<td>2.5</td>
<td>0.125</td>
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<td>2.4</td>
<td>0.158</td>
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<td>0.071</td>
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<td>4.6</td>
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<td>3</td>
<td>1.0</td>
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<tr>
<td>Non-poor Rural Female Han</td>
<td>14</td>
<td>10</td>
<td>2</td>
<td>0.7</td>
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<tr>
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<tr>
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<td>9</td>
<td>2</td>
<td>0.9</td>
<td>0.3</td>
<td>0.005</td>
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<tr>
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<td>2</td>
<td>0.8</td>
<td>0.2</td>
<td>0.003</td>
</tr>
<tr>
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<td>6</td>
<td>1</td>
<td>0.4</td>
<td>0.1</td>
<td>0.001</td>
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<tr>
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<td>5</td>
<td>1</td>
<td>0.4</td>
<td>0.1</td>
<td>0.002</td>
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</table>

Sources: 2003 CEE dataset, 1% 2000 Census