

**College is a Rich, Han, Urban, Male Club:
Research Notes from a Census Survey of Four Tier One Colleges in China**

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Abstract

One's opportunity to attend college and earn a degree has increased dramatically in China. However, that does not mean that everyone has an equal opportunity. Historically, there has been well-documented systematic discrimination against minorities, women, and the rural poor. The main question of this paper is whether or not this discrimination has persisted since the recent expansion of China's tertiary education system. Using a census of incoming freshmen from four tier-one universities, this paper assesses if certain types of students are overrepresented while other types of students are underrepresented. Comparing the shares of students from different socioeconomic and ethnic backgrounds from our primary survey data with government generated census statistics, we conclude that poor, minority, and rural female students are systematically underrepresented. In contrast, rich, Han, urban males are dominant in college.

Keywords: higher education, barriers, poverty, rural China, Asia

JEL codes: I29; I30; O53

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One's opportunity to attend college and earn a degree has increased dramatically in China. Government appropriations for higher education have increased from 33.4 billion Yuan in 1997 to around 164.8 billion Yuan in 2007, an annual real growth rate of over 13 percent.¹ Through this large-scale investment, more than 800 new comprehensive universities (or colleges—which will be the word used to cover both universities and colleges in the rest of the paper) and professional colleges were founded, nearly doubling the number of tertiary institutions in China. The enrollment rate of colleges has also increased by more than five times from about 3 million students in 1997 to over 17 million in 2007.² Statistics from the Ministry of Education support these numbers. The aggregate gross enrollment rate at the higher education level increased more than seven times between 1990 and 2006, from 3.4 percent to 22 percent. This means that in 2006, more than one out of five students in the 18-22 year old range had the opportunity to achieve a higher education.

One reason for this expansion was to provide opportunities for a broader, more diverse set of students to attend college. There are many policies that explicitly state this as one of the goals of China's higher education policy. For example, in one policy called the Initiative for the Development of Chinese Women China's leaders believed that if women were ensure the right to pursue higher education, this would help make them more equal in political, economic, cultural, social and family affairs. Similarly, one of the

¹ China National Bureau of Statistics. *China Statistical Yearbook*. various issues, China National Bureau of Statistics.

² China National Bureau of Statistics. 2008. *China's Population and Employment Statistical Yearbook*. China National Bureau of Statistics.

goals of the legislation, The Law of Higher Education (1998), is to help students from poor areas and students of minority ethnic origins in their pursuit of college degrees.

While China has always maintained an ideology that has stated equality as one of its main goals, there has been research in the past that has questioned the effectiveness of these policy pronouncements, especially in the case of higher education. Hannum et al. has shown that minorities have been systematically excluded from colleges.³ Zhao has shown that rural students have less of a chance to go to college than urban students.⁴ There is research on the challenges of women—even those with urban *hukou*—being systematically squeezed out of certain majors in college.⁵

While these works clearly show that China's higher education institutions have not treated all students equally, most of the studies predate the recent expansion of the college system. There have been few studies that have examined China's renewed policy commitment (at least in principle) to provide educational opportunities for all. In the few studies that have addressed these issues, almost none have provided any systematic, evidence-based data on the topic.

The purpose of this research note is simple. We want to report on the results of a recent comprehensive survey of all incoming freshmen in four tier-one colleges in Shaanxi, Sichuan, and Anhui. In this survey, we collected information that will allow us to categorize each student as: urban or rural (by *hukou* status); male or female; Han or non-Han; rich or poor. We then assessed if certain types of students (for example: Han,

³ Hannum, E. & J. Behrman & M. Wang & J. Liu, Education in the Reform Era. In *China's Great Economic Transformation* (eds.) B. Loren & T. G. Rawski, pp 215-249. Cambridge: Cambridge University Press (2008).

⁴ Zhao, Y., Labor Migration and Returns to Rural Education in China, *American Journal of Agricultural Economics* 79 (4), pp 1278- 1287, (2007).

⁵ Zhou, X. & P. Moen & N. B. Tuma, Educational Stratification in Urban China: 1949-94, *Sociology of Education* 71 (3), pp 199-222, (1998).

male, urban, rich, or some combination thereof) are overrepresented while other types of students (for example, minorities, females, rural, or poor) are underrepresented.

Data

In this paper we use a set of data that we collected ourselves in 2008. This survey is a complete census of all incoming freshmen at four colleges—two nationally supported colleges (Xi’an Jiaotong University and Sichuan University) and two provincially supported colleges (Anhui University and Northwest University in Xi’an). These four colleges are located in three poor provinces: Shaanxi, Sichuan and Anhui. For clarity, we call this survey the *Four College Freshmen Survey*.

In order to implement the survey, we worked closely with the student affairs division of each college. The division head assigned a task force to make sure that the survey form was distributed to each student at some point during the first week of the academic year. Within each college, a set of survey forms was distributed to each Class Captain (*banzhuren*, in Chinese), which is the equivalent of a homeroom teacher in US high schools. Students were informed that the surveys were voluntary, anonymous, and that the information in them would only be used for research purposes. The students returned the completed forms to their homeroom teacher, who relayed the forms to the student affairs office by the end of the second week of September. The response rate was over 99 percent.

The content of the survey was relatively simple. We asked each student a series of questions about their own unique characteristics and a set of questions about their poverty status. Specifically, we asked for the students’ gender, ethnicity, and *hukou* status. We also asked for the province and county of their birth and the province and county in

which they attended high school. From this we were able to determine if the student was from a county that was a nationally-designated poor county.

One of the main uses of the student survey was for collecting information that could identify students that were truly poor. In addition to the questions described in the previous paragraph, each student also was asked to fill out a checklist of the durable assets owned by his or her household. Once a value was attached to each asset (based on the national Household Income and Expenditure Survey which is organized and published by the China National Bureau of Statistics, 2007), we were able to have a single metric of the value of the asset holdings of each student's household.

We surveyed a total of 20,253 students. Sichuan University had by far the most students, at over 8,800. The number of surveyed students from the other colleges ranged from 3,000 at Xibei University to 4,900 at Anhui University (Table 1).

Access to Higher Education in China

In order to use our data to assess whether or not different groups of students have been gaining equal access to college, we compare the enrollment rates of different groups of students with the share of the population that belong to those groups in the population as a whole. Of course, we will be comparing students who are 19 years of age (plus or minus one or two years) with those in the general population that are in the same age range (14 to 22 year olds). Our assessment of whether or not a particular group is under or over represented depends on whether or not the share of that group in the total incoming freshman class is smaller or larger than the share of that group in the population as a whole. For example, if males make up 60 percent of the incoming class, but, they

make up only 54 percent of the 19 year old cohort in the population at large, they would be overrepresented in college and females would be underrepresented.

Alternatively, we can also calculate the ratio of the share of a specific group (e.g., rural students) in the overall enrollment rate of the sample colleges. The ratio can be used to compare the share of the same group in the population as a whole to the share of the similar age-cohort generation in the population, respectively. If the ratio is less than 1, it means this group is underrepresented in the college education system. If the ratio is larger than 1, it means this group is over represented in the college education system.

Rural versus Urban

Although national education statistics on the share of students from rural areas are not published by urban and rural, statistics based on data from our Four College Freshmen Survey shows that across all colleges (in our sample) there is a tendency to admit relatively more urban students. The enrollment rates of students from urban areas and rural areas are almost exactly the same (Table 2, column 5 and 7, rows 1). However, the shares of population in urban and rural areas are not. In China today, 45 percent of the population is categorized as urban while 55 percent of the population is considered rural with rural *hukous*.⁶ When looking at the 14 to 22 age cohort, there is a similar split between urban and rural. Since the share of rural cohort in the total population (or in the nation's total 14-22 year old population) is larger than the share of the students from rural areas (50 percent), this means that rural students are underrepresented. The share of rural college students is 6 percentage points lower than its corresponding population share. Of course, this means that urban students are over represented. Another way of

⁶ China National Bureau of Statistics. 2003. *The Tabulation on Nationalities of 2000 Population Census of China*. China National Bureau of Statistics.

characterizing this overrepresentation is by noting that the ratio of the share of students from urban areas to the share of the urban population in China's overall population is greater than 1 (1.13).

While the gap (6 percentage points) is significant when comparing the share of urban to rural population in all of China, it is even larger if we use urbanization rates from only Sichuan, Shaanxi and Anhui provinces. In this case we use only the data from the home provinces of the colleges in our sample. Using data on the share of the 14 to 22 year old cohort that are from urban areas in Sichuan, Shaanxi and Anhui, the share of urban students in Four College Freshmen Survey is 18 percentage points greater (statistics are not shown in the tables for the sake of brevity).⁷⁸

Dividing the data by nationally supported colleges (Sichuan University and Xi'an Jiaotong University) and provincially supported colleges (Xibei University of Xi'an and Anhui University) we see that the urban bias is, in fact, completely driven by the more elite, nationally-supported colleges (Table 3, rows 1 to 3; columns 3 to 6). As per the discussion above, across all four of the colleges the representation ratio (1) shows that urban students are overrepresented. Significantly, in our sample's provincially supported colleges, the ratio is actually less than 1 (0.71). This means that provincially-supported

⁷ In fact, this is not an extreme assumption. It is well known that Shaanxi province (especially Xi'an) is relatively well endowed with universities and colleges. To the extent that universities within a province give preference to students from the province, this would mean that we are providing conservative estimates of the biases against students from rural area.

⁸ It is unclear if we should use population shares from the entire nation or just from the three provinces. If we had information on enrollment rates from the entire country (instead of only from four universities), we would of course use the national population shares. Unfortunately, we do not have a national representative sample. In contrast, if universities only recruited students from their own host provinces, then the right number to use would be those from the three provinces. However, in fact, universities do recruit students from the entire country. In fact, according to our data, 53 percent of the students (47 percent of rural students and 59 percent of urban students) in the four universities are from outside of the province. Consequently, it is unclear what is the right number to use. So what number should be used? Because most of the rural students are recruited from within the province, in the rest of the paper, we use the population shares from the three provinces only—except where otherwise noted.

colleges have relatively more rural students. In contrast, in the sample's nationally supported colleges, the representation ratio of the share of urban students to the population share of urban students is 1.3. From this it is clear that the overrepresentation of urban students in our sample is fully driven by nationally supported colleges.

Male versus Female

The data from the Four College Freshmen Survey also demonstrates that males are overrepresented (Table 4, rows 1 to 4). According to our data, the share of female students in the sample is 41 percent. However, the share of the population in the 14 to 22 year old cohort is 48 percent. This means that women are underrepresented by 7 percentage points. The representation ratio is less than 1 (0.85). When examining the nationally supported colleges (not shown) it is clear that here, too, there is more of a bias against female students. The representation ratio is only 0.80 in nationally supported colleges and 0.94 in provincially supported colleges.

When dividing the sample by urban/rural status and gender, we see that the underrepresentation of women in the Four College Freshmen Survey is due to the fact that rural women attend colleges at a rate far lower than their population share (Table 5, rows 5 to 12). In fact, the representative ratio of urban males, urban females and rural males are almost the same, ranging between 1.13 and 1.14. The ratio of the share of rural female students who attend college to the share of the women in the 14 to 22 age cohort is only 0.63. In our sample, rural women make up only 17 percent of the entire sample (3373/20059). Rural women make up 27 percent of China's population of 14 to 22 year olds. In fact, the low share of women in college is not surprising. Kipnis noted that parents in rural areas (even well off ones, like those in Shandong, the location of his

study) often do not encourage their daughters to go to high school.⁹ If the high school enrollment rates of girls are low, the college rates will also necessarily be low.

Han versus Non-Han

The largest rates of underrepresentation, however, are for ethnic minorities. When comparing Han to non-Han, we can see that minorities, especially lesser minorities (as opposed to the six large minorities, Zhuang, Manchu, Hui, Miao, Uygur and Tujia¹⁰), are underrepresented (Table 6, columns 2 and 3). Rural China's 14 to 22 year old cohort is 89.4 percent Han. However, 95.9 percent of the Four College Freshman Survey students were Han. This means, of course, that the representative ratios for non-Han are small. The ratio of the six large minorities is 0.41. The ratio of the other lesser minorities is 0.36.

These ratios are even smaller in the case of rural female minority students (Table 6, columns 6 to 7). For example, the representative ratio of rural minority female students (for the six large minorities) is only 0.24. The same number for the other lesser minorities is 0.27 percent. Clearly the share of rural minority females who are able to attend one of the four sample colleges is around one quarter of its population share.

Poor versus Nonpoor

Poor students also are underrepresented, especially rural poor students (not shown for brevity). In the analysis, poor students refer to the students from the nationally-designated poor counties. When looking at the data from our Four College Freshman Survey, the representative ratio for students from poor rural areas is 0.81. Students, especially those from poor rural areas, are underrepresented in China's colleges, according to our study.

⁹ Kipnis, A., The disturbing educational discipline of peasants, *The China Journal* 46, pp1-24, (2001).

¹⁰ The population of each of the six major minority are more than 8 million.

The lowest ratio is for female, minority students from poor rural areas. The ratio of the share of female, minority students from poor rural areas to their age cohort share ranges from 0.16 (for the six large minorities) to 0.15 (for the other lesser minorities). Indeed, in our sample of more than 20,000 college students, only 42 were female minorities from poor rural areas (25 from the six large minorities and 17 from the other lesser minorities).

Conclusion

It is generally understood that education is important and education benefits societies as well as individuals. Thus, the question of “who gets higher education” assumes a central place in the historically important issue of social inequality. Based on a census survey in four tier-one colleges in China and government census statistics, we examined the impact of higher educational expansion patterns on the attainment of higher education by the location of residence, gender, ethnicity and socioeconomic status. In terms of educational inequalities, the rural-urban gap still exists, especially in the national colleges. Gender disparities are exacerbated when combined with minority ethnicity. Moreover, students from poor rural area are more underrepresented in access to college compared to their counterparts from rich rural areas. These facts suggest that even under the substantial expansion in higher education from the supply side, the inequality of access to higher education at the demand side still exist. This inequality is related to certain characteristics of the prospective student such as being rural or urban, male or female, Han or non-Han, rich or poor. This leads us to our conclusion that today’s Chinese college is still a rich, Han, urban, and male club.

Table 1. Distribution of sample freshmen by university

University	Number of students	As a percentage of sample
Sichuan University	8751	43.6
Anhui University	4893	24.4
Xibei University	3015	15.0
Xi'an Jiaotong University	3400	16.9
Whole sample	20059	100

Source: Authors' Four University Freshman Survey.

Table 2. The number and percentage of the freshmen by urban and rural areas

	All (Urban+Rural)		Urban		Rural	
		%		%		%
Sample [A] (number of students) ^a	20059	100	10028	50.0	10031	50.0
All (million persons) ^b	1321	100	594	44.9	728	55.1
Age 14-22 [B] (million persons) ^b	186	100	82	44.1	104	55.9
Ratio [A/B]				1.13		0.89

Source: Data are from Four University Freshman Survey (row 1); the national data are from China's Population and Employment Statistical Yearbook (CNBS, 2008—rows 2 and 3).

Note: ^a The unit of observation in the sample is “number of students.”

^b The unit of observation are “million persons”. These represent the total number of persons in China / urban and rural (row 2); and the number of persons in the 14-22 age cohort / urban and rural (row 3).

Table 3. The number and percentage of freshmen by university and by urban or rural areas

	All four universities		National university ^b		Provincial university ^b	
		%		%		%
Sample (number of students) ^a	20059	100.0	12151	60.6	7908	39.4
Urban [A] (number of students) ^a	10028	50.0	6752	33.7	3276	16.3
Rural [B] (number of students) ^a	10031	50.0	5399	26.9	4632	23.1
Ratio [A/B]		1.00		1.3		0.71

Source: Data are from Four University Freshman Survey;

Note: ^a The unit of observation in the sample is “number of students.”

^b National universities refer to Xi’an Jiaotong University and Sichuan University;
Provincial universities refer to Northwest University and Anhui University.

Table 4. The number and percentage of freshmen by gender and by universities

	All (Male+Female)		Male		Female	
		%		%		%
All four universities						
Sample [A] (number of students) ^a	20059	100.0	11832	59.0	8227	41.0
All (million persons) ^b	1321	100.0	670	50.7	651	49.3
Age 14-22 [B] (million persons) ^b	186	100.0	96	51.9	89	48.1
Ratio [A/B]				1.14		0.85
National universities						
Sample [A] (number of students) ^a	12151	100.0	7488	61.6	4663	38.4
All (million persons) ^b	1321	100.0	670	50.7	651	49.3
Age 14-22 [B] (million persons) ^b	186	100.0	96	51.9	89	48.1
Ratio [A/B]				1.19		0.80
Provincial universities						
Sample [A] (number of students) ^a	7908	100.0	4344	54.9	3564	45.1
All (million persons) ^b	1321	100.0	670	50.7	651	49.3
Age 14-22 [B] (million persons) ^b	186	100.0	96	51.9	89	48.1
Ratio [A/B]				1.06		0.94

Source: Sampled data are from Four University Freshman Survey; the data at the national level in 2007 attained from Chinese Population and Employment Statistical Yearbook (CNBS, 2008)

Note: ^a. The unit of observation in the sample is “number of students”.

^b. These are total population and population at the age of 14-22 at the national level in 2007; the unit of the data at the national level is “million persons”.

Table 5. The number and percentage of freshmen by urban or rural areas and by gender

	All (Male+Female)		Male		Female	
		%		%		%
Urban+Rural						
Sample [A] (number of students) ^a	20059	100.0	11832	59.0	8227	41.0
All (million persons) ^b	1321	100.0	670	50.7	651	49.3
Age 14-22 [B] (million persons) ^b	186	100.0	96	51.9	89	48.1
Ratio [A/B]				1.14		0.85
Urban						
Sample [A] (number of students) ^a	10028	50.0	5174	25.8	4854	24.2
All (million persons) ^b	590	44.7	296	22.4	294	22.3
Age 14-22 [B] (million persons) ^b	82	44.1	42	22.7	40	21.5
Ratio [A/B]		1.13		1.14		1.13
Rural						
Sample [A] (number of students) ^a	10031	50.0	6658	33.2	3373	16.8
All (million persons) ^b	731	55.3	374	28.3	357	27.0
Age 14-22 [B] (million persons) ^b	104	55.9	54	29.3	49	26.6
Ratio [A/B]		0.89		1.13		0.63

Source: Sampled data are from Four University Freshman Survey; the data at the national level in 2007 attained from Chinese Population and Employment Statistical Yearbook (CNBS, 2008)

Note: ^a. The unit of observation in the sample is “number of students”.

^b. These are total population and population at the age of 14-22 at the national level in 2007; the unit of the data at the national level is “million persons”.

Table 6. The number and percentage of freshmen from rural areas by ethnicity and by gender

	All (Male+Female)		Male		Female	
		%		%		%
Han + Non Han						
Sample [A] (number of students) ^a	10031	100.0	6658	66.3	3373	33.7
All (million persons) ^b	784	100.0	405	51.7	379	48.3
Age 14-22 [B] (million persons) ^c	149	100.0	78	52.2	72	47.8
Ratio [A/B]		1.00		1.27		0.71
Han						
Sample [A] (number of students) ^a	9617	95.9	6372	63.5	3245	32.4
All (million persons) ^b	703	89.7	363	46.3	340	43.4
Age 14-22 [B] (million persons) ^c	134	89.4	70	46.7	64	42.7
Ratio [A/B]		1.07		1.36		0.76
Six Major Minorities						
Sample [A] (number of students) ^a	251	2.5	182	1.8	69	0.7
All (million persons) ^b	46	5.8	24	3.0	22	2.8
Age 14-22 [B] (million persons) ^c	9	6.1	5	3.2	4	2.9
Ratio [A/B]		0.41		0.56		0.24
Other Minorities						
Sample [A] (number of students) ^a	163	1.6	104	1.0	59	0.6
All (million persons) ^b	35	4.5	18	2.3	17	2.2
Age 14-22 [B] (million persons) ^c	7	4.5	4	2.3	3	2.2
Ratio [A/B]		0.36		0.43		0.27

Source: Sampled data are from Four University Freshman Survey; the data at the national level attained from “The Tabulation on Nationalities of 2000 Population Census of China (CNBS, 2003).

Note: ^a The unit of observation in the sample is “number of students”.

^b These are total rural population at the national level in 2000 in the unit of million persons.

^c These are rural population at the age of 14-22 at the national level in 2008 in the unit of million persons. These figures are calculated by the population between the age of 6-14 in 2000. Here we ignore the death rate of the population in this age cohort during 2000-2008, and thus these figures could be overestimated.

Table 7. The number and percentage of the freshmen from rural areas by poor and non-poor counties, ethnics and gender

	Non-Poor ^a						Poor ^a					
	All (Male+Female)		Male		Female		All (Male+Female)		Male		Female	
		%		%		%		%		%		%
	All											
Sample [A] (number of students) ^c	8087	80.6	5256	52.4	2831	28.2	1944	19.4	1402	14.0	542	5.4
All [B] (million persons) ^c	596	76.1	307	39.2	289	36.9	188	23.9	98	12.5	90	11.5
Ratio [A/B]		1.06		1.34		0.77		0.81		1.12		0.47
	Han^b											
Sample [A] (number of students) ^c	7854	78.3	5109	50.9	2745	27.4	1763	17.6	1263	12.6	500	5.0
All [B] (million persons) ^c	558	71.2	288	36.7	270	34.5	145	18.5	76	9.7	69	8.9
Ratio [A/B]		1.10		1.39		0.79		0.95		1.30		0.56
	Six Major Minorities^b											
Sample [A] (number of students) ^c	129	1.3	85	0.8	44	0.4	122	1.2	97	1.0	25	0.2
All [B] (million persons) ^c	21	2.7	11	1.4	10	1.3	25	3.1	13	1.6	12	1.5
Ratio [A/B]		0.48		0.60		0.34		0.39		0.59		0.16
	Other Minorities^b											
Sample [A] (number of students) ^c	104	1.0	62	0.6	42	0.4	59	0.6	42	0.4	17	0.2
All [B] (million persons) ^c	17	2.2	9	1.1	8	1.1	18	2.3	9	1.2	9	1.1
Ratio [A/B]		0.48		0.57		0.40		0.26		0.35		0.15

Source: Sampled data are from Four University Freshman Survey; data at the national level attained from “The Tabulation on Nationalities of 2000 Population Census of China (CNBS, 2003).

Note: ^a Poor means the people are living in the Nation-designated poor counties. Non-poor means the people are not living in the Nation-designated poor counties.

^b Han means Han ethnic; six major minorities include Zhuang, Manchu, Hui, Miao, Uygur, Tujia ethnics, while the population of each of the six major minority are more than 8 million; other minority means people from other ethnics but not the above-mentioned seven ethnics in China

^c The unit of observation in the sample is “number of students”. The unit of the population at the national level is “million persons”.