



Chasing the Ultimate Dream:

Early Commitment for Financial Aid,
Liquidity Constraints and the Choice of
Universities of Poor Rural Students in China

REAP Brief #103

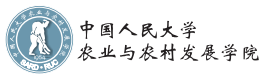


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Chasing the Ultimate Dream: Early Commitment for Financial Aid, Liquidity Constraints and the Choice of Universities of Poor Rural Students in China

The Good News. Over the past decade opportunities to go to college have risen dramatically. Since 2000, the number of slots in China's university system has more than tripled. University facilities have been markedly improved (Figure 1). The faculty is better paid and the incentives for the best and brightest to remain in China's tertiary education system are improving.

The Bad News. This has come at the cost of soaring tuition and fees—one of the ways that the government is using to finance the expansion of higher education. In 1995, tuition for China's universities was free. Students were paid an allowance for room and board and to help them buy books. In 2006, according to officials from the Ministry of Education, tuition runs about 5,000 yuan per year. Books, room and board, fees and other expenses easily exceed another 5,000 yuan. When multiplied by four years, the cost of a college education is now almost 40,000 yuan. For most urban parents, sending their child to college is one of the largest expenditures that they will have to make. But, for most, it is affordable—in the same way that a middle class household in the US will “figure out a way” to send their child to, say, Stanford or Amherst or the

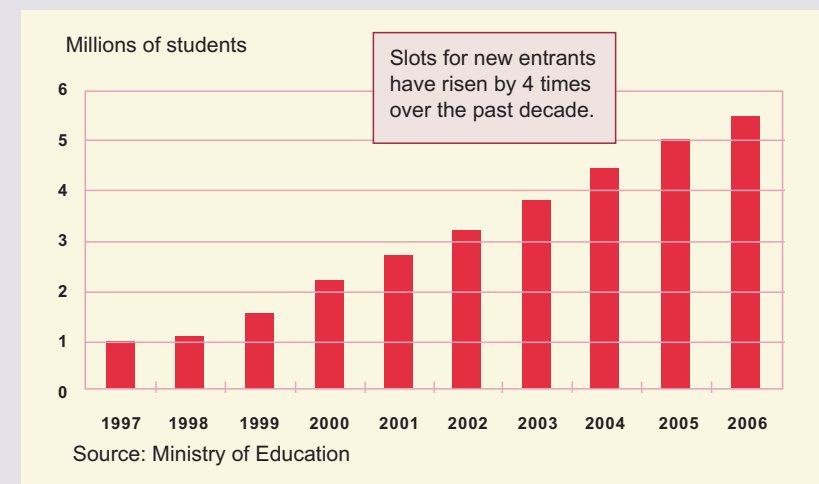


Figure 1. Great Expansion of Colleges and Universities



The story is different for the parents of rural students who are from poor, remote parts of China. Paying college tuition and fees is an activity that is beyond the comprehension of many. When a family is living at the poverty line, annual per capita income is only around 1,000 yuan. This means that a family that is barely scraping out a living and which is already using all of its earnings to provide its members with the minimum number of calories and the “shirts on their back” must now put aside 40,000 yuan. This is more than 40 per capita income equivalents.

So what do parents do? Unfortunately, the sad fact is that most parents in China’s poorest areas decide—even though their child is bright and willing to go to school—that their child will not even try to pursue his/her academic dreams. Go to elementary school; go to junior high; go to work. The absence of a national, needs-based financial aid system is without doubt not only hurting the welfare and livelihood of these families. The nation as a whole is losing out by relegating smart and capable young people to a life of hard labor and unskilled employment.

But, there are some families that—beyond all odds—have supported their children through the first nine years of compulsory education PLUS found a way to pay tuition, books and room and board for three years of

high school (about 15,000 to 20,000 yuan itself). These families, however, are only part way there. The steepest fees are still to come. How are they to finance their child’s education? According to a REAP survey, in addition to their own savings, families go heavily into debt—borrowing mostly from family, friends and fellow villagers. They sell their household’s assets. There are even reports of younger siblings that drop out of school to work in order to earn money for the tuition for their brother or sister.



PUT TO WORK IN A BAR.

Han (interviewed by REAP) was taken out of school at the end of junior high. Her family did so to keep from paying expensive high school tuition and so Han could work to support her older sibling, who the family hoped would be accepted into college. Han is seated in the bar in which she now works.

Financial Aid in China

What has the government done? In the initial years (late 1990s and early 2000s), the answer was: not much. Scholarships were difficult to come by. Educational loans—though sanctioned by policy—were typically unavailable from banks. China does not have a well developed “work-study” tradition. Students were “on their own.” During this time, there were many heartbreaking reports of students from the poorest parts of China who had defied all odds to test into a top-tier university only to be unable to afford to go. Newspapers ran stories looking for donors. NGOs and individuals stepped up and began to offer bits and pieces of aid. Yet, supply fell far short of demand.

With the pressure rising—tuition and room and board continued to climb during the past decade—the government finally responded, at least with large volumes of financial aid. In the early 2000s, government funding sources at most had aid to provide scholarships for 500,000 students. By 2008, the amount of aid was greatly increased. Aid was available for more than 3 million students (out of a total university student population of around 13 million). The amount of the average annual scholarship grant also rose—from around 1,500 yuan per student per year to 2,000 yuan per student per year (Figure 2). In 2008 there was a new educational loan program that was launched, a program designed through the China Development Bank.

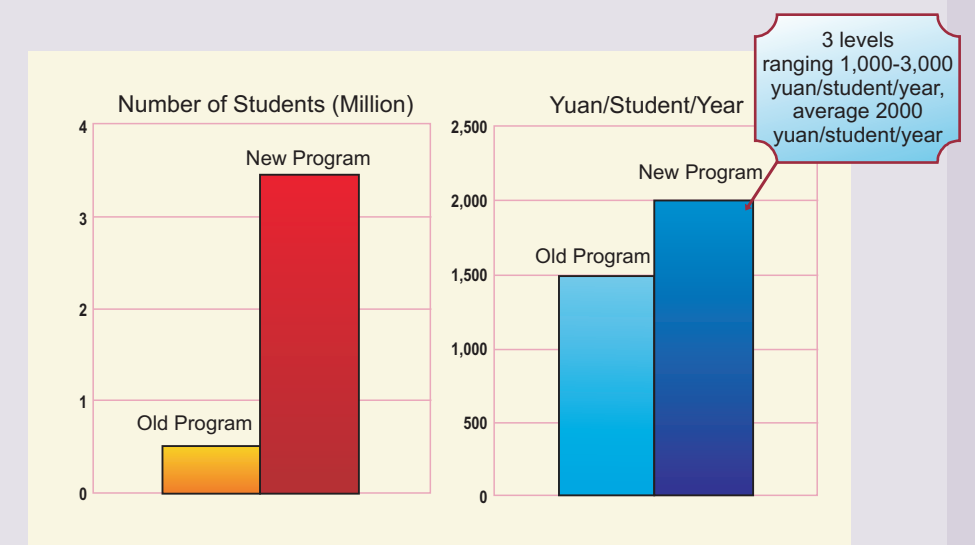


Figure 2. College Student Financial Assistance Program



The government's new effort to provide financial aid doubtlessly is a good thing. It will go a long way to improving access to funding that is desperately needed. More is almost certainly needed, but, this is a good start in increasing the availability of financial aid . . .

However there is still a puzzle. If financial aid has become more available in recent years, why is it that students in high school and their parents still perceive funding to be a serious constraint?

In a REAP survey of high school seniors from some of the poorest parts of Shaanxi province, there was little understanding by students about the sources and availability of financial aid. In their responses to a series of questions asked by the enumerators, students clearly indicated that uncertainties over the amount of financial aid were affecting their choice of university and major. While the average grant size-2,000 yuan-would be welcome by all families, the fact is that it covers less than 20 percent of the annual expenditures.



Unlike wealthier, urban students (above), poor students (below) face great uncertainty over how they will pay the costs of any college they wish to consider. Making matters worse, no financial aid is committed to students until after they choose to enroll



In addition, there was a great deal of uncertainty about access to the funding and when it would be available. In China most financial aid funding is channeled from the Education Ministry/Department to the universities. Because of the timing of the national testing and application/selection process, scholarship funds that are provided by the student section of the university from most schools are not given out to students until deep into the second semester of the academic year. The scholarships are given out year by year. Most are given on the basis of merit.

As a result, according to our data, exante, students-especially those from poor areas-in deciding on which schools they want to attend, are highly influenced by their perception of the cost of university life. In China there is a program that provides reduced tuition and fees (and access to a stipend) if students choose to enter and are admitted to one of six national normal universities (schools for training teachers) or defense-related fields. Our data show that many students from poor areas felt pressured (from parents and from themselves) to choose to go to these less expensive teaching colleges even though they were uninterested in teaching. The literature-at least outside of China-is clear; when students are being forced to make college admissions decisions that direct them away from those areas for which they are best qualified and most motivated, not only does the welfare of the student and his/her family fall, the nation suffers from the inefficiencies created by less than optimal matches between students and their interests.





Therefore, even though the “amount of new funding” is welcome, there are still a lot of questions about “how” it is given. Are the grants large enough? Is the way that scholarships are given distorting the decision making of students? Are there alternative ways to distribute funds? When students do not know whether they can receive a scholarship, does it lead them to abandon their college plans (even when they are admitted)? In short, is the way the financial aid systems are run affect the effectiveness of the aid, or is volume of support all that is important?

Somewhat surprisingly, given the importance of these questions, there is little literature—even internationally—about the impact of financial aid protocols on the decisions made by college-bound students (and hopefuls). There have been studies that have shown that when financial aid forms are simplified, more students—especially those that are poor—apply. There is a literature on admission criteria and the performance by different groups of students in getting accepted to different types of universities. However, there is nothing like this in the case of China. Internationally, most of the studies have been anecdotal or based on data sets that have statistical problems that cast doubt over the findings. When looking at the precise question that we are interested in—does the way that a financial aid system is run affect the effectiveness of the aid program (in terms of distorting the decisions of students)—there are almost no empirical studies. Certainly there are no randomized control trials that have sought to understand these issues.

REAP’s overall goal is to try to understand ways that the financial aid for college, as currently given in China, can be improved so it does not distort the decisions of students—especially those from poor, rural areas.

To meet this overall goal, we implement a financial aid experiment and analyze whether or not an alternative way of providing financial aid to students affects a.) the effort that they put out in preparing themselves for college (that is, does it affect their gaokao score); b.) their choice of college; and c.) their ability to be able to go to college (financially-conditional on being accepted).



Before describing REAP’s financial aid experiment, the hypotheses we test and the results, it is important to understand China’s College Entrance Exam System.

The Five Stages of the College Entrance Exam System in China

Students study one of two tracks, the social science track or the engineering/science track, in their high school for three years.

First students work hard for three years in senior high school, during which they choose between a science/ engineering track (a li-ke track) or a social science track (a wen-ke track). Students in either of the tracks need to study three common subjects: Chinese, Math and English. In addition, they must complete their track’s comprehensive subject. For social science, this consists of political ideology, history and geography. For science, chemistry, physics and biology form the comprehensive subject.

Students take the province-wide standardized college entrance exam (gaokao) June 7th and 8th.

In the second stage of the CEE system students take the province-wide standardized college entrance exam, or gaokao, held over two days on June 7th and 8th. Each student takes the exam on four subjects. While li-ke and wen-ke students both take the same Chinese and English exams, they take different exams for math and for the comprehensive subjects.

By June 13th, students must submit the one page college application form (zhiyuan) and rank their college choices at each of the three tiers in China.

Students must fill out the form using only a self-estimate of their own score and not knowing what the cutoff scores of different colleges for the year will be. In doing so, they must rank their most preferred colleges at each of the three college levels in China:

- Advanced placement colleges (where tuition is

The image shows three examples of the college application form (zhiyuan) for Shaanxi Province in 2008. Each form is titled "2008年陕西省普通高等学校招生报考志愿表" and includes columns for "First choice", "Second choice", and "Third choice". Red boxes highlight the "Choice of: College Major" section for each tier. The first tier is labeled "Advanced admission", the second is "Tier 1 Colleges", and the third is "Tier 2 Colleges".



fee), which are military colleges, for a military career, and normal colleges, to become a school teacher;

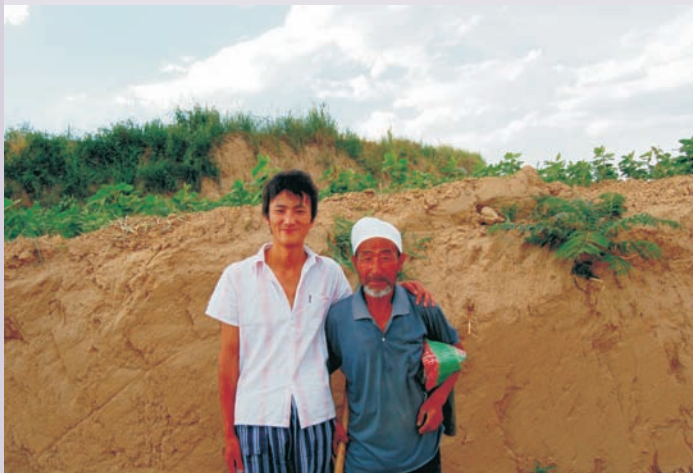
- Tier one colleges-the best respected universities across China (where tuition and fees are not free);
- Tier two colleges-the remaining “academic” colleges (where tuition and fees are not free);

Universities fill their slots for freshmen by picking the applicants with the highest gaokao scores, from those who listed the respective university as a top choice. But, the colleges must follow some other ground rules . . .

There are two key rules imposed on college-bound universities in their selection of applicants. First, while applicants can apply on their zhiyuan for admission to several universities, only one university is allowed to offer admission to any given applicant. This means that students in China do not receive multiple admission offers to compare and then decide between. At most they receive one. Second, advanced placement colleges get to pick first from the student applicants (followed by tier one, then tier two).

Why are these rules of importance for student applicants? Nearly all students would prefer to go to a tier one college over a tier two college; tier one colleges accepting applicants before tier two matches this ordering of preferences well. However, the same is not true when comparing the advanced placement tier with tier one. Most advanced placement schools are often seen as inferior to tier one colleges, yet students are considered for these schools before being considered for tier one.

The result is that a key part of the strategy in filling out one’s zhiyuan form involves deciding about which of the three tiers to fill out choices. Students must be careful in making the decision about whether or not they want to



Miao (beside grandpa), now attends an advanced placement college, even though his gaokao score later prove high enough to have been admitted to a tier one university

apply for colleges in the advanced placement tier. For example, if students do not fill out any advanced placement choices, and they fail to score high enough for their tier one choices, they may be faced only with deciding between going to an expensive tier two school or to no school at all. On the other hand, students who write down a choice for an advanced placement college, and are accepted, are no longer eligible for consideration by tier one or tier two colleges, no matter how high of a score they received on their gaokao.

Students who wish to enroll in the college they were admitted to must take their letter of admission with them and arrange for payment of the 1st-year tuition, before commencing their studies.

In the fifth and last stage students take their admission letters and report to the school. This is typically in late August. Upon reporting, students are required to pay their tuition and a number of fees. On average, students must pay around 5,000 yuan at this time. If they are able to pay this amount, they become enrolled. If not, they are dropped from the college's admissions list. There are no deferrals of admissions. Although there are programs for poor students who are unable to come up with enough funds to pay tuition and fees, at least in the past there were reports of students from poor rural areas that-despite passing all of the hurdles of the CEE system-were denied admissions at this stage because they could not pay. For those fortunate enough to have been admitted and who were able to be enrolled, college life begins.

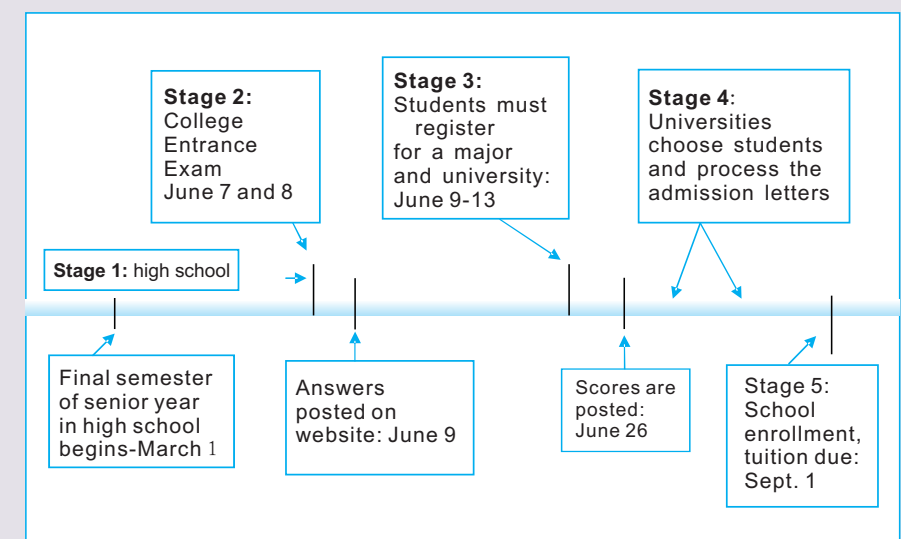


Figure 3. The Five Stages of the College Entrance Exam System in China



REAP's Early Commitment of Financial Aid Experiment

While there are many different ways within the current system that financial aid could be changed, we examine one. Instead of channeling all financial aid resources to students through universities and providing their first financial aid award towards the end of the first year of college, we are interested in the impact of beginning a program that would provide early commitment for financial aid (ECFA). Patterned after programs such as the CalGrant program in the State of California, which informs students of the amount of financial aid a household will receive during the students' senior year in high school (so they have this information available at the time that college application decisions are made), we focus on running an ECFA program in a set of experimental schools. We inform students of their access to a scholarship during their senior year and before the time that they fill out their college university choice application. We also look at the effect of providing financial aid grants of different sizes.

While this study is the first of its kind in China, by using a Randomized Control Trial approach (we randomly gave scholarships to some students and not to others) we also believe that this is the first attempt to use experimental methods to examine the effect of financial aid protocols on the college decisions of students. This means that-although this study is set in China-it has implications for the international community.

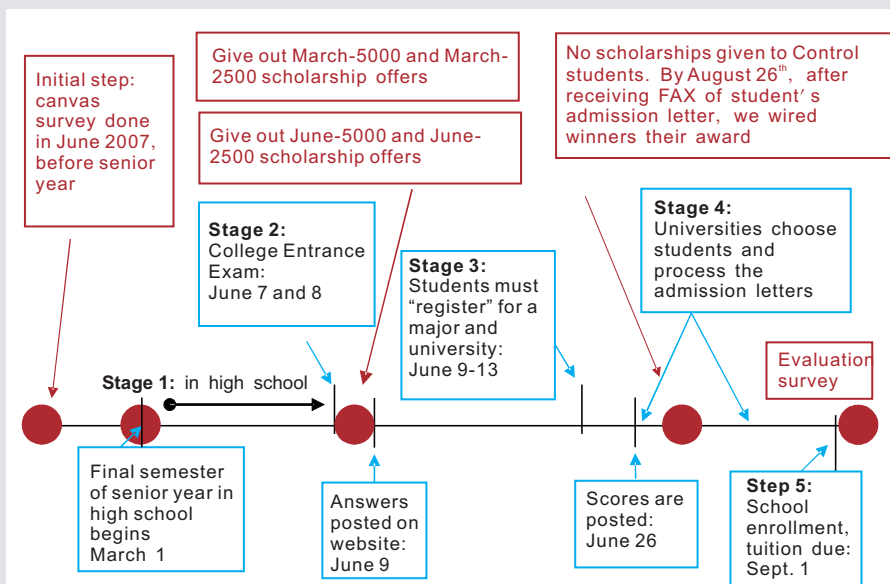


Figure 4. REAP's Early Commitment for Financial Aid Experiment Design

To implement the Early Commitment Financial Aid Randomized Control Trial, we started by randomly selecting 8 counties in Shaanxi Province from among those designated by the government as "poverty counties" [For the distribution of sample counties, see Figure 5]. Within those counties there were 10 high schools. In each school we randomly selected 2 classes of students. Altogether, the 20 classes of students contained 1,134 students. We asked the students a series of questions on what assets their families owned to determine the 570 poorest students. We survey the banzhuren to confirm that these were poor students.

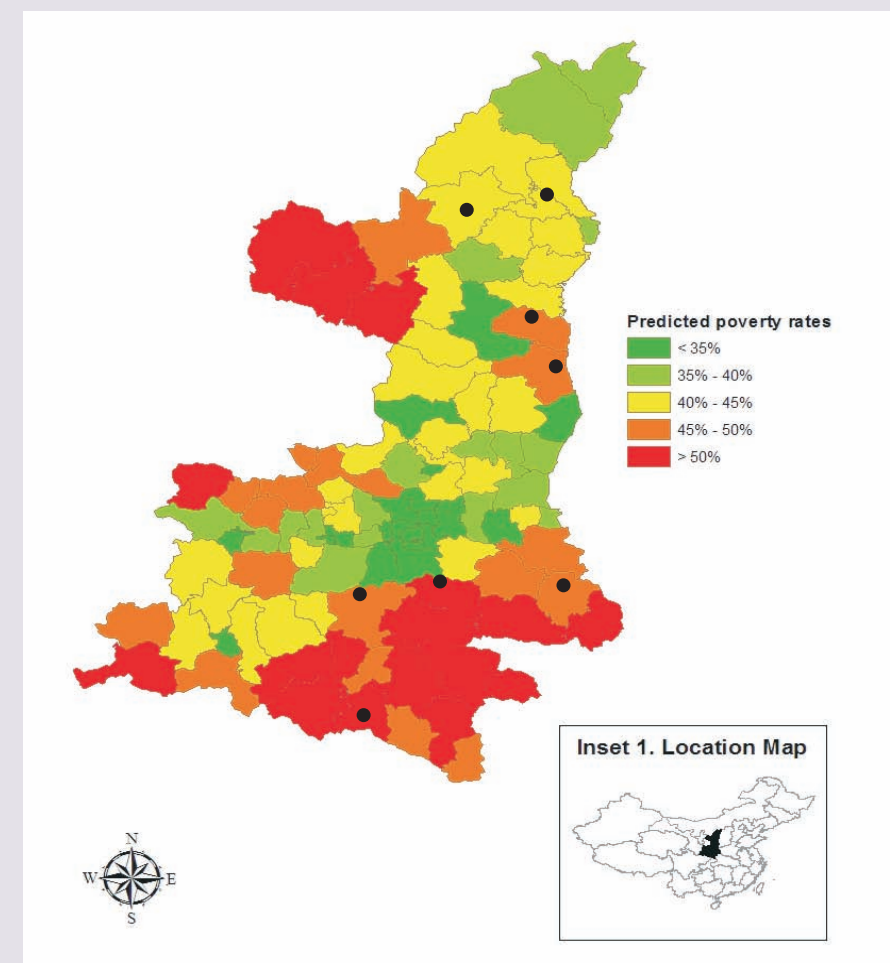


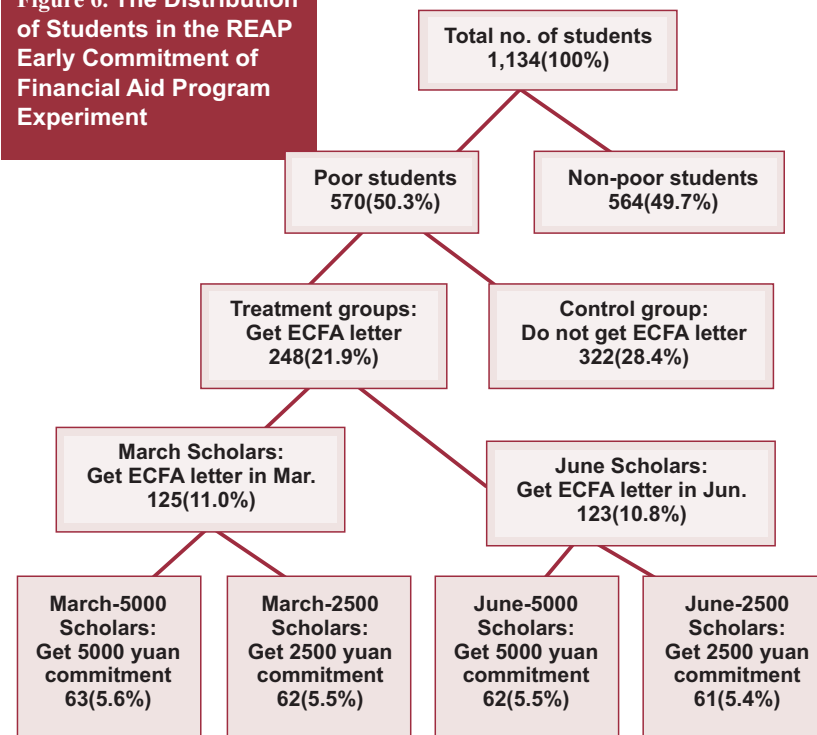
Figure 5. Choosing the Sampling Frame



REAP awarded university scholarship offers to 248 randomly selected poor, rural 3rd year high school students. The only condition of the scholarships was that the students gain acceptance by an advanced placement, tier one or tier two university. Half of the scholarship awards were given as an Early Commitment of Financial Aid, with the students informed of their award of financial aid in March, months before the *gaokao*. The other half of the students were notified on June 8th, just after they finished the *gaokao* entrance exam. Of those awarded in March, half were for 5,000 Yuan, half for 2,500 Yuan. The same was true for the June awardees. [For the distribution of students in REAP ECFA Experiment, see Figure 6.]

Funding for the scholarships was generously made available to REAP from the IET/CORE Foundation.

Figure 6. The Distribution of Students in the REAP Early Commitment of Financial Aid Program Experiment



Per capita net income of farmers in Shaanxi in 2007: 2,645 RMB yuan. It is even lower than this average in Northern or Southern Shaanxi

Testing Our Hypotheses in Rural Shaanxi

Hypothesis 1: ECFA will increase the work effort of high school students. We tested hypothesis 1 by comparing the scores of March awardees, or scholars (both March-5,000 and March-2,500 scholars) with those of June scholars (June-5,000 and June-2,500 scholars) and/or the students in the Control Group.

Hypothesis 2: For those students who tested into a tier one or tier two college scholarships will break the liquidity constraints of households and give them the resources to pay the tuition and fees and enroll. We tested hypothesis 2 by comparing the rate of enrollment of March and June scholars (either 2,500 yuan award winner or 5,000 yuan award winners) and the rate of enrollment of those students in the Control Group.

Hypotheses 3a and 3b: Scholarships will affect the college choice decision to attend an advanced placement (normal or military) university. We tested hypotheses 3a and 3b by comparing the decisions of those who are awarded ECFA financial award grants (either March or June scholars / 2,500 or 5,000 yuan award winners) with the decisions of the students from the Control Group. In particular, we are interested in whether or not scholarships allow poor rural students who had decided to attend a normal college or a defense-related college for financial reasons to make other choices and apply for colleges that are closer to their interests (or academic strengths).

"You have been chosen randomly by REAP for a 5000 Yuan college scholarship..."





The Main Results

According to our data, our ECFA pilot project affected some aspects of the admissions process, but not all. In briefest terms:

- Providing ECFA for students in early March—before the college admission exam, instead of after the exam in mid-June—did not affect the scores. Students in each of these groups scored identical, on average (Figure 7). When thinking about this, it may be that the lack of impact is due to our project design. Perhaps we offered the scholarships too late to affect performance. Since there was only three months left, the additional effort may not have been able to materially affect the scores. Alternatively, the amount that we offered may have been too small. By the time the students received the offer, their families had already spent more than 15,000 yuan on high school-related expenses. The opportunity cost of going to high school (and foregoing an unskilled wage for three years) is two to three times higher. Hence, when compared to these figures, 2,500 yuan and 5,000 yuan is pretty small. Moreover, the incentive for students to work hard due to the size of the prospective gains from going to college may swamp any additional incentive effect.

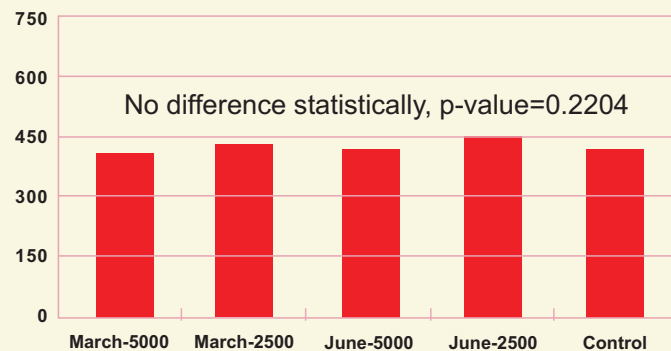


Figure 7. Testing Hypothesis 1: March scholars' gaokao scores will be higher than June scholars' + Control students'

- Providing students ECFA and disbursing the funds to them before the time that they actually entered the university (assuming they passed their exam) and had to pay fees did NOT affect the rate of matriculation. Why? Because 100% of students that passed the exam and were admitted to a university ended up going to the university. In some sense the logic is the same as above. When a student—especially one that has made it through the third year of high

school—was able to test into a university, the parents had already made up their mind and had already prepared some way to pay the fees—be it they had to beg, borrow or liquidate their assets. Those families that had any doubts about being able to afford college most likely had already pulled their children out of school and had them enter the labor market. In other words, according to our results, there was no one now—even without scholarship access (as an ECFA)—that did not matriculate.

Statistically different at 1 percent level, p-value=0.0000

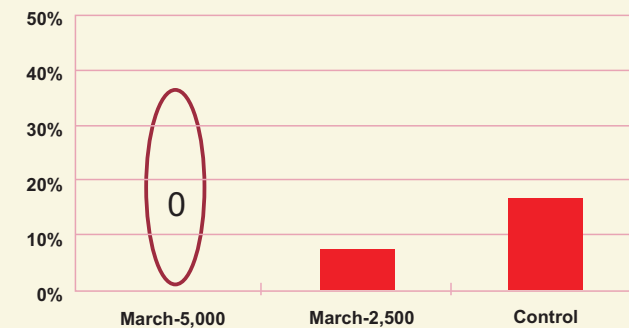


Figure 8. Testing hypothesis 3: March scholars less likely to select free Normal universities than Control students

- Finally our data are clear: When a scholarship is given in March, and when a scholarship is large (5,000 yuan), the application decision of the

Policy Implications

know the extent of their financial aid before they begin the application process, China should consider implementing an ECFA program. The results show, however, that the offers need to be given early enough. Smaller grants appear to have little effect, perhaps because the overall cost of going to college is so high these days

Is this important? The literature-at least outside of China-is clear; when students are being forced to make college admissions decisions that direct them away from those areas for which they are best qualified, not only does the welfare of the student and his/her family fall, the nation suffers from the inefficiencies created by less than optimal matches between students and their interests. ECFA appears to be able to offer a solution to a problem that is distorting decisions now, but, with a bit of effort can be overcome.



For more information about the Rural Education Action Project's work on Financial Aid, and to learn about our many other projects to address rural education problems, please visit:

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