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"Determinants of the decision to go to college in Argentina"

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Increasing attention to higher education policies in the knowledge-based society makes important to understand the relationship between socio-economic family characteristics and educational choices. This paper considers the decision to go to college in Argentina as a family's economic decision. The goal is to investigate the impact of family income on the decision to go to a university versus the decision to go to a community college in Argentina. Using a probit model of the decision to go to college, the results of this paper show that the income of the rest of the family has a positive and statistically significant impact on the decision to go to college. A multinomial logit model (where the choices are no college, community college or university) shows that the income of the rest of the family is important in order to determine the probability to go to a community college versus the other two possibilities. Family income also has a positive impact in the decision to go to a university versus the other two choices. This model also shows that parents education is an important factor in explaining the decision to go to a university as well as to go to a community college.

Key words: higher education, equity, family income, university, community college

JEL Classification: I2, O1

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1. Introduction

Economic development is highly correlated with the development of higher education (De Meulemeester and Rochat (1995)). Global wealth is concentrated more and more in skills and knowledge, compared to physical capital. In the US, human capital is estimated to be at least three times more important than physical capital (Bassanini and Scarpetta (2002)). Participation in the knowledge-based society of this century demands new skills, increasing the demand for higher education. In this sense, there is a growing interest on the design and implementation of higher education policies in developing countries to satisfy this demand (Schultz (1993)).

Globalization is also widening the gap between the rich and the poor (Haines (2001)). Inequality within Latin American countries certainly has increased dramatically over the last 20 to 30 years (Berry (1998), Londono and Szekely (2000)). The goal of equity in the access to higher education is one of the keys to reduce social inequalities (Wolfe (1991)).

Therefore many developing countries have, on one side, increasing needs of higher education skills because of the new information and communication technologies. On the other side, these countries need to reduce social inequalities, which are product of globalization.

Argentina is a good example of a Latin American country facing all these changes and challenges. Its increasing economic openness has increased its vulnerability to globalization and the emergence of the knowledge economy (Ocampo (1998)). This paper considers equity in the access to higher education for the Argentinean case.

The goal of this paper is to investigate the decision to go to college as a family's economic decision. Specifically, this research will investigate the impact of family income and other socioeconomic factors on the decision to go to a university versus the decision to go to a community college in Argentina. The central proposition is that family income can be viewed as an important determinant of the decision to go to college and

that there can also exist a differential impact on the decision to go to a university versus the decision to go to a community college.

This research approaches this particular problem in both a theoretical way and an empirical way. The theoretical part shows a model where the family decision is to buy the good “college education” for one of the children in this family (who is prepared to go to college). Within the possibility of going to college, you can buy two different kinds of goods: the “community college” good or the “university” good. The final decision would depend on which choice maximizes the indirect utility derived from buying or not one of these goods, which will depend on the characteristics of this family.

In the empirical part of the paper, the main purpose is to see if particular characteristics of the family determine the decision to go to college of the children in this family. In particular, it is interesting to see the impact of family income in the decision to go to college of this child. In this sense, this paper presents different ways to see the theoretical model. First, the paper shows a probit model with the simple decision to go to college or not, without distinguishing between the goods “community college” and “university”. After that, there is a probit model where college students compose the sample, and the interest in this case is about the decision to go to a community college versus going to a university. Finally and closer to the theoretical model, this paper presents a multinomial logit where the decision has three alternatives: no college, community college and university.

2. Background and significance

This research paper provides new evidence on the relationship between family income and the decision to go to college of the children in this family. The family can be seen as the economic decision unit. Parents together with their children decide if the child in age and academic status to start college does that, or if he/she makes a different choice. They decide if the family as a whole can afford a child continuing the college level of education, or if the child has to go to the labor market instead. It is important to know that

the permanent income should be considered as the determinant of this kind of decision. The current income is not considered a good measure in general. However, the current income measures the liquidity constraints of this family each period, and this variable could be very important in economies with imperfect credit markets like the Argentinean one (Galindo and Schiantarelli (2002)).

Of course, the decision to go to college does not depend only on family income. One of the determining factors of the "value" of education within the household is the parental level of education, for two reasons. The first one is related to parents' preferences. If parents have a college degree, they will probably have a stronger preference to buy the good college education for their children compared with parents who did not reach this educational level. In general, parents with higher levels of education give relatively more importance to their children's education, instead of encouraging them to go to work. This can also be attributed to an asymmetric information problem. Parents with higher levels of education know the value of a going to college by their own experience and their peers'. On the other side, parents with low levels of education do not know the monetary and social value of higher education and therefore they do not incentive their children to go to college. On the other hand, higher parental education is correlated to higher permanent income of this family. Therefore, the level of education can be also considered as a proxy of permanent income.

Another aspect that will be crucial is the period of time that the person is going to spend in college. Of course, the returns to education are greater in the case of going to a university, and also, these two goods bring happiness to the family (the parents are proud of having children in college, the future earnings of their children will be higher, etc).[2]

[2] Kane and Rouse (AER, 1995) provide a careful study of the labor market returns differences between these two kinds of institutions. However, it must be noticed that the Argentinean university system is much more specialized than the US university system. Many of the careers have curricula similar to graduate careers (such as Medicine, Ingeneering, etc).

The objective of the paper is to investigate the impact of family income on the decision to go to a university versus the decision to go to a community college. The central proposition is that family income can be viewed as an important determinant of the decision to go to college, and that there can be a difference impact if the person is thinking of going to a university versus going to a community college. Answering this question could be crucial to determine public policies regarding equity in the access to college. Since the Federal Government of Argentina spends a big part of its budget on the college level of education, it seems to be very important to know which part of the society receives these benefits.

The college level of education of Argentina has four different types of institutions. They are public universities, private universities, private community colleges and public community colleges. Community colleges in Argentina are composed by teacher training institutions (*Institutos superiores de formación docente*), technical training (*Institutos de Formación Técnica*), art education and various "short courses" (duration 1-4 years). For the purpose of this paper, these four types of institutions can be divided in two: universities and community colleges. There are 36 public universities, 43 private universities and around 1,700 community colleges (this is the total of public and private community colleges; more than half of them are public institutions). Public universities and public community colleges are free and they are distributed all over the country such that almost everybody has access to them. Unfortunately, detailed information of attending a private institution is not available for all the regions covered by the Permanent Household survey. According to statistics of the Ministry of Education, the total number of students is almost a million students, and 86% of them are in public institutions. In the community colleges, the total number of students is 230,000 students in the public sector and 130,000 students in the private sector.

Since public universities and public community colleges are tuition free, part of the costs of going to college are the costs of traveling and the cost of college supplies. But the most important cost is the opportunity cost (the present value of the stream of wages you could have obtained during the years invested in college education). In Argentina, as in many

other developing countries, the family decision may depend on whether the child needs to go to work to help support his/her family. To make this decision, one important factor to have in mind is family income; particularly, the income of the rest of the family (i.e., income of the entire family except the student).

Going to a community college and going to a university are different goods since the first decision implies two years' opportunity cost while the university decision implies losing five years' opportunity cost. It is important to point out that there is no possibility of transferring from a community college to a university in Argentina; this is a major difference between Argentina and the United States. In the US, a student can transfer from a community college to a university after two years of study and acquire a university degree at the end of the four years. This is also important for the purpose of this paper because it simplifies the distinction between community colleges and universities.

3. Review of the literature

According to Griliches (1974), one of the major assumptions of the theory of family decision making process is the existence of a common utility function. Gary Becker (1974) shows that, by introducing the notion of "caring" (or the interdependence of utilities), one can show that the family will behave as it has a common utility function.

Following family decision making kinds of models, Rosenzweig and Evenson (1977) present a household time-allocation model. This model explicitly takes into account how the economic contribution of children in agricultural areas of less-developed countries is applied to direct-level data pertaining to the rural population of India. Joint family decisions concerning fertility and the allocation of male and female child time to schooling and work activities are examined empirically in a simultaneous equations system. The properties of the formal model are used to derive inferences from the parameter estimates with respect to the shadow price configuration influencing these joint decisions.

Behrman, Pollak and Taubman (1982) developed a general preference model for analyzing parental allocation of resources among their progeny. The implications for this model for the distribution of educational resources and earnings potentials among siblings are examined. A particular version of the preference model is estimated using data on the education and earnings of adult male twins. The estimates imply that parents care about offsprings' earnings inequality and provide more (less) resources to the less (more) able than is consistent with an investment model.

Once we establish that the decision to buy the good college education will be a family's decision, we need to know more about the impact of family income on individual welfare (related to family background). Layard and Zabalza (1979) present evidence on the relationship between individual welfare and family income. The first question in the paper is if family income is more explicable than individual earnings. Due to assortative mating, they arrived to the conclusion that schooling explains 20 percent of the experience-constant annual income of families, compared with under 15 percent of the experience-constant earnings of men. They explain this outcome using the model of family labor supply. They argue that a lifetime income framework is needed here and show how different policies can be evaluated using explicit equity-efficiency tradeoffs.

In a different approach, but trying to answer a similar question, John Shea (1998) examines the impact of parental income on children's human capital. The author measures children's human capital using wages, labor earnings and years of schooling. This paper asks whether parental income per se has a positive impact on children's human capital accumulation. Previous research has established that income is positively correlated across generations. This does not prove that parents' money matters, however, since income is presumably correlated with unobserved abilities transmitted across generations, this paper estimates the impact of parental income by focusing on variation due to parental factors (union, industry, and job loss experience) that arguably represent luck. When he examines a nationally representative sample, he finds that changes in parental income due to luck have at best a negligible impact on children's human capital.

On the other hand, he finds that parental income does matter in a sample of low income families. These findings are potentially consistent with models in which credit market imperfections constrain low-income households to make sub-optimal investments in their children.

1. The model.

In our model of the decision to go to college, the family will decide if the potential student will go to college or go to work. We will assume here that the options are to go to college full-time or not. The possibility of going part-time is not considered. This decision is made at some particular period t of time. This period t is the period in which the family has to plan not only the consumption of the goods this period but also has to make the decision of buying the good college education. This decision will imply rejecting the possibility of having this child's wage for two to five years. If the child is going to a community college, the family would not have two years of wages; if he/she goes to a university, they would give up five years of wages.

To simplify, consider two periods. The first period will be the period in which the young person is at home (studying at a community college, studying at a university or working). The second period will be the period in which this person moves out. He is working (with a college degree or not depending on which option the family have chosen) and part of the earnings goes to the parents (in general, they go to the rest of the family).

Therefore, the family will try to maximize the following:

$$\max_{j} U(Y^f + Y^k_j) + \delta\, U(\theta^k_j\, Y_j) \qquad (1)$$

The choices in this maximization are j = {no college, community college, university}. The restrictions in the parameters are $0<\delta<1$ and $0 \leq \theta_j \leq 1$, where δ is the discount rate and θ_j is the share of the earnings that go to the rest of the family once the child is outside the household.

The other variables are Y^f (family income in the first period), Y^k_j (income that the child can contribute during the period in which the child is studying), and Y_j (earnings of the child once he is working after the period in which the child is studying).

The income will depend on the decision to go to college or not, and it is denoted by the subscript j. For each choice variable j we will have a different Y^k_j and Y_j. This will give the family a different value of the indirect utility function V_j*.

Knowing which variables affect the indirect utilities, we can infer the determinants of the decision to go to college and the decision about where he will study (community college or university). From this theoretical framework, it seems to be a good idea to use of a Multinomial Logit approach. This model could include specific variables and we will have from the theoretical model an idea of which variables will be significant in determining the decision to go to a community college, to a university or do not go to college.

2. Data

The data are from the Permanent Survey of Households, INDEC (National Institute of Statistics and Census, Argentina). The results of this survey are provided in three waves per year since 1974. This survey has cross-sectional information about the decision to go to college or not, since we can see two characteristics of the individual: if he is attending school at the moment of the survey and the maximum attained level of education. Before May 1998, the survey's information about college was not divided in community college and university attendance. But since this year, the survey changed its format and specifically asked about this difference. However, there is no distinction between going to a private or a public institution. Unfortunately, the country's statistics lack of information about direct costs of going to a private institution.

The survey has information about potential explanatory variables of the decision to study or not. Unfortunately, ability, which is mentioned as an important explanatory variable, is unobservable in this survey. If we think that ability is correlated with other explanatory variables, there exist some possibility of bias that has to be taken into account when analyzing the results. The potential explanatory variables include age, sex, parents' education, parents' labor status, number of siblings, siblings' education, siblings' labor status, regional variables, siblings' ages, etc. Another restriction is that we have only information for the siblings living in the household.

Siblings' education can affect the potential student's decision by two channels. The first one is a demonstration effect, if an older brother (sister) has a college degree; it is more likely that the potential student has more desire to go to college. Second, if an older brother (sister) has finished college, may be he (she) is working, helping to support their family and this support makes it easier for the potential student to make the decision to go to college (see Butcher and Case, 1994). Siblings' age could affect the potential student's decision because of the effect of age on family expenditure. At different ages, children have different needs, so it is important to know how this affects the decision to go to college. We are also interested in knowing the effects of having a larger number of siblings.

The sample is restricted to individuals aged 18 to 23 who are a son or a daughter in this household, because the main interest is on the relationship between family income and the decision to go to college, so we need to have people who have parents in their households. It is assumed here that the individuals that live in the household are more likely to support the parents compared with children living outside the household.[3] Of

[3] Again, there is only information about the children living in the household at the moment in which the survey was done. Therefore, there is no information about possible transfers from relatives living outside the household to the family living in this household. The problem with this lack of information is that the coefficient of the variable income of the rest of the family can be biased. If the income of the members living outside the household has a positive effect on the probability to go to college, the estimated effect in this paper (without this information) will be biased downwards.

course, the third and more important restriction to be a potential student is to have at least complete high school.

3. Preliminary analysis

It is interesting to see if there are systematic differences by outcome. The first group to be considered is the group of potential students. As we said before, these are individuals aged 18 to 23 who are son or daughter in the household, and they have completed "at least" high school. The second group consists of community college students and the third one is composed by university students.

Table 1 provides sample means and standard errors for some variables that are considered important to study this problem for October 1998 (all the areas covered by the survey). Once the sample is restricted to people with at least high school, 18 to 23 years old and being a son/daughter in the household, the sample size is reduced to 4,740 observations.

The adjusted income of the family except the potential student (or the actual student) is higher for the families of those going to the university, compared to those going to a community college. Both the income of the community college students' families, as well as university students' families are higher than the potential students families' (which include those studying at college and those who could but decided not to go to college).

Regarding age, there are no differences between community college students and university students. The mean for the sex variable is quite different for these two groups. The participation of females in community colleges is greater than in universities, considering that the indicator variable for sex is equal to one for males. This might be because community colleges are composed largely by teacher training institutions, where female students are the majority. From this table we can also see that males are 51% of the potential students. However, the community college students are composed by only 30% of males and the university by 45%. This can be caused by a higher opportunity cost of going to college for males, which diminishes the participation of men in college.

university students are more likely to have parents with incomplete or complete university. Community college students are more likely to have parents with less than university. In the case of the average level of education of siblings, we can notice that there are no big differences between the means, except that the university students are more likely to have siblings with incomplete or complete university.

Table 2 shows the distribution of the goods community college and university among quintiles of income. The first column shows the population[4] divided in quintiles of income. The concept of income used is income adjusted by economies of scale within a household and by sub-report of earnings. The sources of income for each member of the household are five. They are income if you are paid on a wage-basis, income as self-employed, income from utilities and benefits, income from rents and dividends, and income as a retiree. The total individual income is the sum of these five sources. The total family income is the sum of the total individual income for all members of the family. This total income is adjusted by under-reported income. That is, depending on the source of income and using national statistics about which source has higher probability of being under-reported, the total income will be adjusted to reflect that.[5] Other adjustment done reflects the fact that there are economies of scale within a household. Therefore, the measure of income will be total adjusted family income. Later in this paper, we will be interested in constructing a variable that indicates adjusted income of the rest of the family. The rest of the family's adjusted income is just the total adjusted family income minus the total income of the potential student.[6]

As we can observe from the third column of Table 2, potential college students are concentrated in the higher quintiles. Also, the percent of potential students is strictly

[4] All figures are population-weighted.

[5] The adjustment consists of computing the total income by source (wages, self-employment, etc) from the Permanent Household Survey and compare it with the total income by source that comes from National Accounts information in 1993. This computation generates adjustment coefficients for each income source. Since there is no information for other years rather than 1993, I assumed a constant source of income sub-reporting problem. For a more detailed explanation, see Camelo ().

increasing with the quintiles of adjusted income. Probably, there are inequality problems in the distribution of high school students across the different levels of income, but this topic exceeds the scope of this research work.

As we can see from columns (5) and (7), as well as from Figure 1 (that shows the percentage of potential students who actually go to a university and to a community college, by quintile of income), the distribution of community college students across quintiles is more variable than the distribution across quintiles of university students. In the case of university students, the percentages are clearly increasing across quintiles of income. On the other hand, the percentage of people going to a community college is strictly increasing up to the fourth quintile of income but declines in the last quintile.

From the preliminary analysis, we can have an idea of the relationship between family income and the probability to go to college. The idea is that there exists a strictly positive relationship between family income and the probability to go to a university, but the relationship between family income and the probability to go to a community college is not that clear, even though there exists a positive trend.

7. Models of higher education choice

We can use an econometric model to estimate the probability to go to college. The model used here is a probit binary choice model to estimate the probability to go to college, conditional on a group of variables which define the socioeconomic status of this person.

We first want to know if the income of the rest of the family is important to explain the probability to go to college (without considering the differences between going to a community college or to a university). To do that, we will estimate a probit model where the dependent variable equals one if the potential student goes to college, and zero otherwise.

[6] It would be interesting to replace this variable for a potential income variable, i.e., the levels of education can be considered a proxy for potential income.

In this model, the probability to go to college is a function of the vector of covariates X. This vector of covariates X includes age; age squared; an indicator variable equal to 1 if it is a man and 0 otherwise; an indicator variable for the head of household's educational level as the maximum level attained by the most educated parent; dummy variables for the maximum educational level of the siblings living in the household (the maximum education of any of the siblings, whoever has the greatest one) and number of siblings. The coefficients β_i coming directly from calculating the probit model do not admit an immediate interpretation, except for the sign and the significance level. Therefore, the marginal effects will be presented at the mean values to make the probit estimates comparable to those from linear probability models.[7]

7.1. Probit Model of college choice

In this section, we are going to estimate the probability to go to college in general, without distinguishing the choices within this decision (go to a community college or go to a university). The results of the probit regression are shown in Table 3.

Table 3 shows that the income of the rest of the family has a positive and significant impact on the decision to go to college. Age is also an important determinant of the probability to go to college, the older you are the greater the probability to go to college.[8] This relationship is not linear since the coefficient of age squared is negative and significant. Being a girl has a positive impact on the probability to go to college. All the dummy variables for parental educational level are significant beginning from having parents with incomplete high school (as maximum level). Note also that the marginal effects increase (in general) when the maximum parental educational level increases. The variables representing siblings'

[7] We know that from binary dependent variable models:
$E(y/x) = 1 * P(y=1) + 0 * P(y=0) = P(y=1) = F(x'\beta)$
$dP(y=1)/dx_i = f(x'\beta) * \beta_i$
Therefore, for the Probit model we have:
$d\Phi(\text{go to college}=1)/dx_i = \phi(\bar{X}\bar{\beta}) * \beta_i$

maximum educational level are also significant. The number of siblings has a negative impact in the probability to go to college.

7.2. Probit Model within the group of college students

If the decision to go to college was already made, we may want to see the determinants of the probability to go to a community college versus the probability to go to a university. To see the differences in the impact of the covariates in this decision, we estimate a probit model where the dependent variable is an indicator variable equal to 1 if the student go to a university and equal to 0 if he/she goes to a community college. The sample is composed by 1,867 students, where there are 423 community college students and 1,444 university students. These results are shown in Table 4.

First of all, notice that the income of the rest of the family is not a significant factor in determining the decision to go to a university versus going to a community college. One important determinant to go to a community college is having the most educated parent with incomplete community college as maximum educational level. This has a positive impact in the probability to go to a community college. On the other hand having parents with incomplete or complete university has a positive impact in the probability to go to a university. Having a sibling with incomplete university level of education impacts positively on the probability to go to a university.

One of the most important findings was that being a man has a positive impact in the probability to go to a university. Alternatively, being a girl has a positive effect in the probability to go to a community college. This can be explained by the high percentage of people going to a community college to be a schoolteacher. This career attracts female students. The number of siblings is also important to estimate the probability to go to a university. The greater the quantity of siblings the smaller the probability to go to a university.

[8] It is important to remember that the range of age in this study is 18-23 years of age.

7.3. Multinomial Logit

We can consider that there are three alternatives for families with a child who is prepared to go to college. The choices are no college, go to a community college and go to a university. We can estimate a multinomial logit to compare these three alternatives. In this case, the dependent variable equals zero if the potential student does not go either to a community college or a university, equals 1 if he goes to a community college, and equals 2 if he goes to a university.

The base category (reference category) is "potential student that is not going to college". The relative risk ratios presented in Table 5 represent the odds ratios given by logistic. The Multinomial Logit results are similar to the models shown before in this paper.

The income of the rest of the family has a positive and significant impact on the determination of the decision to go to both a community college and a university. This is compatible with our preliminary results of Table 2 and Figure 1. The richer the family the higher the probability to go to a university or a community college. Age, gender, number of siblings and higher levels of parental education dummy variables are statistically important in determining the probability to go to college.

But a different effect compared with what we have found before is related to the siblings' education. Compared with not going to college, siblings' education matters more in the case of determining the probability to go to a university compared to a community college. As we have said before, this is what we expected. First, because there exists some kind of demonstration effects among the kids of a family. The fact that one of the children have chosen beforehand to go to a university would have a positive effect in the sibling's decision to go to a university. And we can also expect that this effect would not be so strong for the case of the decision to go to a community college. As we said before, there is another channel through which we can see this effect. If the older brother (sister) has finished college, may be he (she) works, helping to support the family and this support makes it easier for the potential student to make the decision to go to college. In

this sense, the fact that the siblings' education has a stronger effect in the case of the decision to go to a university can be explained because the cost to go to a university is higher than the cost to go to a community college. Therefore, the fact that there is a sibling with a higher level of education working to help paying the costs to go to college could be more important in the university case.

It is also important to notice that parental education is an important factor in explaining the decision to go to college. The more educated the parents the higher the probability to go to a university as well as to a community college.

8. Conclusions

The increasing attention to higher education policies in the knowledge-based society makes important to understand the relationship between socio-economic family characteristics and educational choices. Latin American countries are no exemption in the globalization process with its increase need for a more skilled labor force. Argentina, among other Latin American countries, faces all these challenges in terms of higher education.

This paper considers the decision to go to college as a family's economic decision. The goal was to investigate the impact of family income on the decision to go to a university versus the decision to go to a community college in Argentina.

From the preliminary analysis, we can see that the percentage of people going to a community college is strictly increasing up to the fourth quintile of income but declines in the last quintile. The university students' sample as a percentage of potential students is strictly increasing by quintile of income. Also, community college students' percentages are much flatter than the university students' percentages.

From the probit model of college choice, this paper finds that the income of the rest of the family is important in order to determine the probability to go to college (positive effect).

From the second probit model, the income of the rest of the family is not important in determining the probability to go to a university versus a community college.

Finally, from the multinomial logit model, the income of the rest of the family is important in order to determine the probability to go to a community college versus the other two possibilities. The income of the rest of the family has also a positive impact in the decision to go to a university versus the other two choices.

Parental education is also important in determining the decision to go to college. The fact that both family income and parental education are the most important factors in explaining the decision to go to college implies an intriguing question. The question is if there exists a cycle where some families go to college and get high incomes, and their children go to college and also have high-income paths and so on. If this is true, this might derive on the creation of *elites*, where everybody in a family goes to college and have high incomes, whereas there is a part of the population that does not enter in this cycle and it is out of the university system.

In this case, the “free” university system might not be enough in order to pursue the objective of equity in the access to higher education for all the society. One policy to be considered would be a program of complementary scholarships to subsidy low-income students so they can access higher education.

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Figure 1
Comparison between Participation Rates of university students and community college students

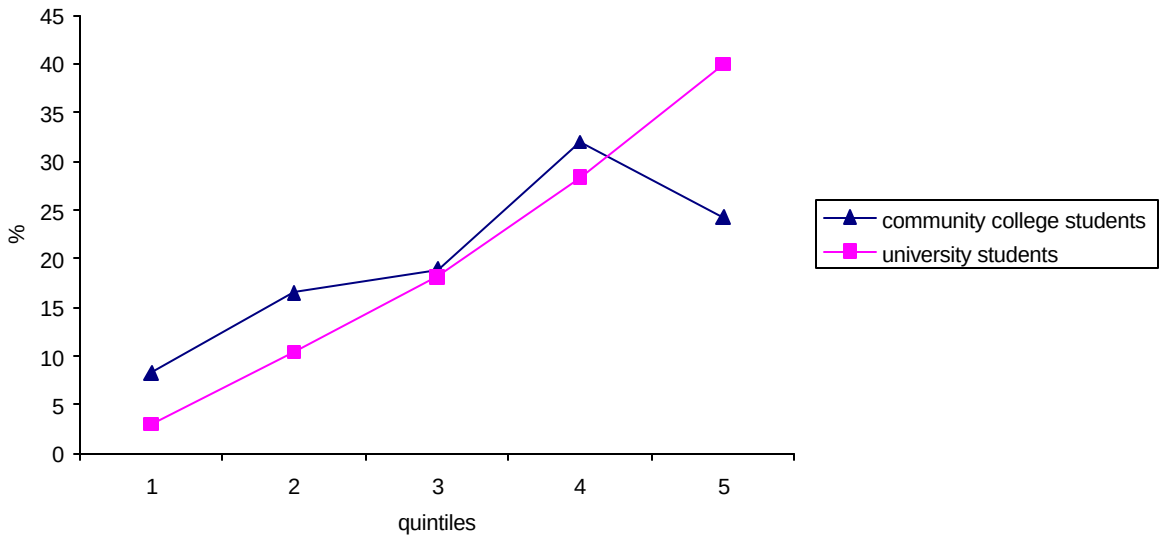

Table 1. Descriptive Statistics, community college Students and university Students

Characteristics	potential students	community college students	university students
Age	20.04	20.54	20.59
	(1.70)	(1.56)	(1.60)
Male (dummy variable equal	0.51	0.30	0.45
to 0 if female and 1 if male)	(0.50)	(0.46)	(0.50)
Adjusted income (family	673.08	751.36	997.64
except potential student)	(1018.89)	(1147.70)	(1326.30)
Complete primary school	0.23	0.20	0.11
(head of household)	(0.42)	(0.40)	(0.32)
Incomplete high school (head	0.25	0.19	0.15
of household)	(0.44)	(0.40)	(0.36)
Complete high school (head of	0.21	0.24	0.23
household)	(0.40)	(0.43)	(0.42)
Incomplete community college	0.02	0.11	0.01
(head of household)	(0.14)	(0.32)	(0.11)
Complete community college	0.05	0.08	0.07
(head of household)	(0.21)	(0.27)	(0.25)
Incomplete university (head of	0.10	0.09	0.21
household)	(0.30)	(0.29)	(0.41)
Complete university (head of	0.09	0.05	0.19
household)	(0.29)	(0.23)	(0.40)
Complete primary school	0.04	0.01	0.01
(Siblings)	(0.21)	(0.12)	(0.12)
Incomplete high school	0.38	0.37	0.35
(Siblings)	(0.49)	(0.48)	(0.48)
Complete community college	0.01	0.03	0.02
(Siblings)	(0.12)	(0.16)	(0.13)
Incomplete university	0.06	0.05	0.11
(Siblings)	(0.23)	(0.22)	(0.32)
Complete university (Siblings)	0.02	0.02	0.04
	(0.13)	(0.15)	(0.19)
Sample Size	4740	423	1444

Notes:

1. Standard errors are in parenthesis.
2. The head of household's educational level is the maximum level attained by the most educated parent.
3. Note that the sum of the sample size of the community college students plus the university students is equal to 1,867 that is the sample size of the Probit regression in Table 4.

Table 2. Participation rates in community colleges and universities

adjusted income quintile	potential students (18-23 years, high school complete)	% potential students	community college students	% community college students	university students	% university students
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	142146	12.89	7355	8.34	12329	3.04
2	195550	17.74	14590	16.53	42336	10.44
3	235452	21.36	16673	18.9	73782	18.19
4	269387	24.43	28189	31.95	114949	28.34
5	260023	23.58	21432	24.29	162161	39.98
Total	1102558	100	88239	100	405557	100

Source: Permanent Household Survey, INDEC, Argentina, May 1998.

Table 3. Probit estimates.
Probability to go to college in general.

Characteristics	Marginal Effects on Probability to go to College
Income of the rest of the family	0.081 (**)
	(0.009)
Age	0.147(**)
	(0.028)
Age Squared	-0.002(**)
	(0.001)
Male	-0.183(**)
	(0.015)
Parental education (complete primary school)	0.047
	(0.032)
Parental education (incomplete high school)	0.071(**)
	(0.025)
Parental education (complete high school)	0.240(**)
	(0.032)
Parental education (incomplete community college)	0.495(**)
	(0.039)
Parental education (complete community college)	0.330(**)
	(0.041)
Parental education (incomplete university)	0.457(**)
	(0.029)
Parental education (complete university)	0.427(**)
	(0.032)
Siblings' education (complete primary school)	-0.154(**)
	(0.037)
Siblings' education (incomplete high school)	0.083(**)
	(0.019)
Siblings' education (complete community college)	0.135(*)
	(0.065)
Siblings' education (incomplete university)	0.205(**)
	(0.036)
Siblings' education (complete university)	0.208(**)
	(0.063)
Number of siblings	-0.058(**)
	(0.007)
Sample Size	4740

Notes:
1. Standard errors are between parenthesis.
2. Siblings' education equal to incomplete community college was dropped do to perfect collinearity. Baseline: complete high school
3. ** means significant at 95% confidence level, * means significant at 90% confidence level.

Table 4. Probit estimates.
Probability to go to a university (within the group of college students)

Characteristics	Marginal Effects on Probability to go to a university
Income of the rest of the family	0.020
	(0.011)
Age	-0.121
	(0.168)
Age Squared	0.003
	(0.004)
Male	0.099(**)
	(0.019)
Parental education (complete primary school)	-0.060
	(0.069)
Parental education (incomplete high school)	-0.019
	(0.064)
Parental education (complete high school)	0.012
	(0.060)
Parental education (incomplete community college)	-0.454(**)
	(0.097)
Parental education (complete community college)	-0.033
	(0.073)
Parental education (incomplete university)	0.117(*)
	(0.047)
Parental education (complete university)	0.148(**)
	(0.042)
Siblings' education (complete primary school)	0.075
	(0.059)
Siblings' education (incomplete high school)	0.049(**)
	(0.022)
Siblings' education (complete community college)	0.009
	(0.062)
Siblings' education (incomplete university)	0.113(**)
	(0.027)
Siblings' education (complete university)	0.035
	(0.052)
Number of siblings	-0.026(**)
	(0.009)
Sample Size	1867

Notes:
1. Standard errors are between parenthesis.
2. Siblings' education equal to incomplete community college was dropped do to perfect collinearity. Baseline: complete high school
3. ** means significant at 95% confidence level, * means significant at 90% confidence level.

Table 5. Multinomial Logit Estimates.

	community college students	university students
Income of the rest of the family	0.303	0.408
	(0.068)**	(0.046)**
Age	6.812	6.600
	(0.973)**	(0.655)**
Age squared	-0.159	-0.153
	(0.024)**	(0.016)**
Male	-1.304	-0.709
	(0.121)**	(0.078)**
Parental education (complete primary school)	0.477	0.118
	(0.328)	(0.222)
Parental education (incomplete high school)	0.405	0.275
	(0.329)	(0.219)
Parental education (complete high school)	1.021	1.080
	(0.329)**	(0.219)**
Parental education (incomplete community college)	3.550	1.483
	(0.418)**	(0.390)**
Parental education (complete community college)	1.620	1.473
	(0.380)**	(0.263)**
Parental education (incomplete university)	1.437	2.269
	(0.363)**	(0.235)**
Parental education (complete university)	0.999	2.176
	(0.399)*	(0.246)**
Siblings' education (complete primary school)	-1.156	-0.597
	(0.431)**	(0.256)*
Siblings' education (incomplete high school)	0.178	0.473
	(0.134)	(0.094)**
Siblings' education (complete community college)	0.626	0.615
	(0.390)	(0.305)*
Siblings' education (incomplete university)	0.350	1.112
	(0.272)	(0.169)**
Siblings' education (complete university)	0.814	1.048
	(0.412)*	(0.292)**
Number of siblings	-0.174	-0.323
	(0.050)**	(0.038)**
Constant	-75.962	-73.844
	(9.963)**	(6.705)**
Sample Size	4740	4740

Notes:

1. Estimated coefficients transformed to relative risk ratios and s.e. in parenthesis.
2. Siblings' education equal to incomplete community college was dropped do to perfect collinearity. Baseline: complete high school.
3. ** means significant at 95% confidence level, * means significant at 90% confidence level.