

IMPACT OF STUDENT LOANS ON HUMAN CAPITAL INVESTMENT IN HIGHER EDUCATION

HOW MUCH DOES THE GOVERNMENT LEND AND WHAT CAN STUDENTS AFFORD WITH IT IN COLOMBIA?

IMPACTO DE LOS PRESTAMOS ESTUDIANTILES EN LA INVERSION DE CAPITAL HUMANO EN EDUCACION SUPERIOR ¿CUÁNTO PRESTA EL GOBIERNO Y A QUÉ PUEDEN TENER ACCESO LOS ESTUDIANTES CON ESOS PRÉSTAMOS EN COLOMBIA?

Alexander Fernández

Docente de la Escuela de Ciencias de la Educación - CEAD, de la Universidad Nacional Abierta y a Distancia UNAD, Palmira, Colombia.

alexander.fernandez@@unad.edu.co - alexafe@uv.student.uio.no

Resumen

Los préstamos estudiantiles para acceso a la educación superior en Colombia han venido operando desde 1953, de hecho el país ha sido el primero en Latinoamérica en implementarlos. El artículo, discute que los préstamos nacionales a través de ICETEX no están directamente conectados para el acceso a instituciones con acreditación de alta calidad, por el contrario fortalecen la educación vocacional, especialmente en instituciones privadas con bajos costos en sus programas académicos. De igual manera, estudiantes talentosos que provienen de familias con limitaciones económicas tienen altos limitantes para acceder a los requerimientos para préstamos de largo y mediano plazo, a pesar de los mejoramientos realizados por el ICETEX como agencia encargada de los servicios de préstamos estudiantiles. El análisis es primeramente presentado con la recapitulación de los conceptos de la teoría de capital humano, costos compartidos y préstamos estudiantiles anterior a la contextualización con la situación colombiana sobre tipos de préstamos, cifras y el costo real de la educación superior

en el país. Las conclusiones han sido fundadas en los costos máximos, promedio y mínimo de los préstamos otorgados a través del ICETEX contrastados con el costo real de la educación superior. La asequibilidad de la educación superior en Colombia es extremadamente baja comparada con los países desarrollados, y los préstamos estudiantiles a través de ICETEX se encuentran lejos de ser suficientes para aquellos estudiantes de escasos recursos para acceder a universidades con acreditación de alta calidad. Los resultados del artículo están pensados para motivar aquellos académicos y todos los interesados sobre economía de la educación superior en profundizar y ampliar los estudios que promuevan un balance social eficiente en los préstamos para acceder a la educación superior en el país.

Abstract

Student loan programs in Colombia have been in operation since 1953. In fact, this country was the first Latin American country to implement them. Nevertheless, this article argues that student loans through ICETEX are not directly connected to high

quality accredited institutions; instead they reinforce technical or vocational education, especially in academic programs at private universities with low tuition fees. Additionally, talented students from poor backgrounds still have difficulty meeting the requirements for access to long- and medium-term loans despite the improvements that ICETEX, as a government agency in charge of student loan services, has implemented in recent years. The analysis is first presented by reviewing the human capital theory and the concepts of cost sharing and student loans. Next, we contextualize them, comparing the types and amounts of student loans with the actual cost of education in Colombia. The conclusions were drawn based on estimates of the maximum, minimum, and average amounts loaned through ICETEX, as compared to the actual cost of education. Affordability of higher education in Colombia was found to be much lower than in developed countries, and student loans are far from being enough to enable underprivileged students to gain access to high-quality accredited institutions in this country. The results are meant to motivate academics and

those interested in the economics of higher education to expand the scope of studies that promote a more efficient social balance in the strategy for student loans in this country.

Palabras clave

Asequibilidad, teoría del capital humano, préstamos estudiantiles, costo compartido, costo de la educación, educación superior, subsidios, costos erogados, costo neto.

Keywords

Affordability, human capital theory, student loans, cost sharing, cost of education, higher education, subsidies, out of pocket cost, net cost.

- Clasificación JEL: I22, I24, I25

Introducción

Student loans have been widely advocated as a way of financing the private cost of investing in higher education and more than fifty countries now have loan schemes which enable students to borrow from the government agencies or commercial banks in order to finance their tuition fees or living expenses, and to repay the loans after graduation (Woodhall, 1992 p. 347).

In Colombia, students' loans were introduced in 1953. The agency that provides and collects the loans is The Colombian Institute of Educational Credit and Technical Studies Abroad -ICETEX-

The concept of human capital theory is understood as the rise of human capital through increasing knowledge and skills (Becker, 1964 and Schultz, 1961). World

recessions and the rapid growth of higher education in times of globalization became strong arguments for the introduction of cost sharing (Woodhall, 2004 p. 38), hence student loan is an element of cost sharing that is meant to help needy students' access higher education and then enhance their knowledge and skills.

In most Latin American countries, private universities help the government to supply the demand of the higher education provision. In Colombia, public and private universities share the higher education market under different conditions. Public universities are input-based funded while private universities' main source of revenue is through tuition fees. Access in the public universities is limited and competitive. Only a few talented students are recruited by public universities where tuition fees are according to their parents' level of income. The other group attends elite private institutions which their parents are able to afford, and a third group will require different types of student loans.

The assumption that relies on this analysis is that "affordability", or the ability to pay for higher education, is related to the level of academic quality; hence to the

level of knowledge and skills of human capital. Student loans should provide enough financial assistance for needy students to access high quality university education. The questions that guide this paper are in essence: How much does the government lend to students on the basis of student loans? And, what can students afford with the amount of their loans?

The responses to the above mentioned questions are the outcome of the analysis on existing and empirical data (ICETEX, 2010, and World Bank, 2008). For the first question the main sources are the conditions, payment terms, amount, subsidies, interest and insurance rates, and tuition fees covered to access government student loans through ICETEX in Colombia. The second question is based on empirical data elaborated by the World Bank in 2008 related to the direct cost indicators of education in Latin America including Colombia. The direct indicators are education costs, total cost of education, net costs, and out-of-pocket costs. Costs are given in terms of GDP per capita Purchase Power Parity (World Bank, 2010).

The structure of the paper sequences the human capital, cost sharing, and student loans concepts, together with a brief contextualization of the student loans program and higher education in Colombia. The analysis is founded on the questions' responses and their implications on the impact of student loans on the human capital investment. Conclusions reflect mutual relation among the two questions based on the level of affordability to access higher education institutions and the academic level of such institutions.

Human Capital, Cost Sharing, and Student Loans

Human Capital approach states that education is an investment in human capital (Becker, 1964 and Schultz, 1961). The cost of investment in education and specifically in higher education includes direct and indirect costs. The total cost of education includes the education cost and the living cost. The indirect cost of education can be determined by the opportunity cost. The rapid growth

of the participation in higher education and its high cost are the dilemma of governments, hence the different strategies for costs sharing. Teixeira, Johnstone, Rosa, And Vossensteyn (2006, p.352) address the rationale of cost sharing by concluding that "the higher education needs are voracious and the needs of the government are limited". The main rationale of cost sharing is in general to reduce the public expenditure and to facilitate access to higher education to those from low income backgrounds.

World recessions and the rapid growth of higher education in times of globalization became strong arguments for the introduction of cost sharing (Woddhall, 2004). The basic approach is to have a higher coverage (mass or universal systems) with the least public expenditure and the highest possible quality. Teixeira *et al.* (2006, p.52) conceive the construct of cost sharing as a bearing of the participation of four main parties: Government and Tax-payers, Parents, Students, and Philanthropist. Teixeira *et al.* (2006, p.348) also state that the government policies must balance contradictory objectives on cost sharing and students assistance. The ideal combination of government revenues, tuition fees, grants, and student loans should enhance the two main policy objectives: Bringing more revenue from cost sharing and minimizing debt loads on student's behavior.

Teixeira *et al.* (2006) also propose various ways for cost sharing in higher education. One is the imposition of fees for application, examination, graduation, etc. Another way is through an instructional fee on specific cases. And a third mechanism is the elimination of maintenance grants. Furthermore, industrialized and developing countries have opted for three major types of loans: Mortgage loans, income-contingent loans and graduate tax (Barr 2003, Albrecht, 1992).

Currently in 2010, loan programs exist in over 50 developing and industrialized countries (Albrecht, 1992). Some of the programs have been effective and some others have been abandoned due to disappointing experiences from the financial efficiency perspective (p. 360). The main rationales on the introduction of loans as an element on the construct of cost sharing are in general to reduce the public expenditure and to allow

those from low income backgrounds to participate in higher education. A third rationale can be stated as having students to contribute with a partial cost of their education, which means to pay their part in the investment on human capital. Student loans are based on trust towards society for a better future. Trust means a risky investment on the eyes of the private financing sector, but a guarantee investment for the government on the intention of having a more knowledgeable and skillful human capital.

In fact, Teixeira *et al.* (2006) describes student loans as one element of sharing which seek two purposes. The first purpose operates as mechanism for students with limited economic resources and the second purpose is that loan repayments cover a substantial portion of the initial cost of money including defaults and administrative expenses. Additionally, Albrecht (1992) presents specific characteristics on the three types of loans on a parallel regarding government's role, financial aspects of the loan, payment strategies and terms, as well as the need of individual accounts.

Student Loans in Colombia

The Colombian Institute of Educational Credit and Technical Studies Abroad –ICETEX– was incorporated in 1953 as a student loans program. Woodhall (1987) states that the Colombia's agency's slogan rationale could best define the rationale of student loans in general: "We lend to the student and the professional pays us back". All in all, the institute is meant to promote higher education through loans and its collection for students with low economic possibilities and good academic performance (ICETEX, 2010). The agency not only promotes and finances studies within the country but also provides financial assistance for studies abroad for 24% of new students who access higher education every year. The financing of the investment is with the participation of the nation, departments and municipalities, as well as the productive sector, private savings and international cooperation.

ICETEX defines educative loans as "A social and financial benefit for students with academic merits with not enough economic resources to access and complete

higher education". Four types of government student loans are offered and collected through ICETEX. The first type of loan is for students willing to access higher education at the vocational, technological or university levels. The second type of loans is for those students accessing post-graduate education within the country or abroad. The third type of loan is for researchers and scholars enrolled in international studies and professionals in general who need to reinforce or learn a second language. The fourth type of loan is simply for those students in need of getting a computer. The focus of the question will consider only the first type of students accessing undergraduate programs at the university level.

Higher Education in Colombia

Colombia is a 200 year old Latin American nation whose new constitution in 1991 opened the country towards a new model of development, trade liberalization and privatization of social institutions. The country's higher education multiple sector system is made up by 282 higher education institutions among technical professional, technological, university institutions, and universities (SINIES a, 2010). Universities are the highest level centers of tertiary education where bachelor, specialization, master, and doctoral programs are offered. There are 79 universities located mostly in the three main cities of the country where thirty-five percent of the population live.

Universities in Colombia can be categorized in three groups: Elite private universities, public universities, and low fees-low quality universities (Patrinos, 1990 p.164). Elites rather go to private universities. More than 200 non-university and university institutions are private but fifty-five percent out of 1.4 million students attend public institutions. Private universities are meant to be not-for-profit institutions; their main source of revenue is through tuition fees. Accessing private institutions is possible to students after completing secondary education and taking the National School Examination (ICFES 2010).

Entrance regulations depend on the demands of each private institution. Accessing public universities is

filtered by indicators on the results of the national or institutional entrance examinations according to the different programs. Still, every public university as the private institutions creates their own entrance policies and regulations. Private and public universities and university programs are accredited by the National Accreditation Committee -CAN- as part of the top system level under two types: Qualified registered programs and high quality programs. The members of the committee are seven international renowned Colombian scholars in charge of the policies, strategies, and process concerning the two types of accreditation. So far, eighteen universities and almost five-hundred out of over six-thousand programs have been high quality accredited (SINIES c, 2010).

Tuition fees in private institutions range from 10% to 110% of the national GDP per capital PPP (UNIMINUTO, 2010 y UNIANDÉS, 2010). Tuition fees in Public universities are highly subsidized and students' tuition fees are estimated based on their parents' income. Since most students come from middle classes, their share is considerably of low cost. Access in public universities is also limited and competitive. Under these circumstances, there has been a continuous growth of the higher education system regarding the number of students. The numbers reflect from nine-hundred-thousand students in the year 2000, to one-and-a half million students in 2009, covering twenty-four percent of the population at the university age. An average of two-hundred-thousand new students enrolls every academic semester in the last four years (SINIES b, 2010).

Analysis

As stated in the introduction, the analysis is founded on the response to the questions that out-line this paper as they are: How much does the government lend on the basis of student loans in Colombia? And, what can students afford with the amount of their loans? The sources to access relevant information are ICETEX (2010) and World Bank (2008).

Each question is presented separately.

HOW MUCH DOES GOVERNMENT LEND ON THE BASIS OF STUDENT LOANS?

Students choose between mid and long term loans which are categorized in this paper by the conditions, payment terms, amount, subsidies, and interest and loan insurance rate (see Table 1). Mid-term programs are meant for talented students with not enough economic resources to access higher education. Students must show evidence of outstanding score on the National School Examination and they also need to be sponsored by a qualified cosigner. The conditions of the loan stipulate that sixty-percent repayments of the full amount be repaid during the same academic period and forty percent before next period.

The process has to be conducted every academic period and continuity is subject to punctual repayments tradition. The maximum amount lent per academic year is the equivalent to 48% of the national GDP per capita PPP; the interest rate is 16.9% annual, and loan insurance rate is 2% effective upon disbursement. Subsidies apply only for those students coming from the stratum levels one and two; the maximum amount of the subsidy is 25% of every academic period loan. Loans might cover up to 100% of tuition fees and payment transactions among ICETEX and the host universities are done directly.

Long term loans require that students had obtained a rank between the first five-hundred to eight-hundred best students of their region on the national school examination. Conditions regarding academic performance in university and Co-signer profile are the same as in mid-term loans. Additional subsidies apply for students coming from the stratum levels one and two. Repayments will start a year after the last academic period (Completion or drop-out).

Most universities programs in Colombia at the undergraduate level take ten academic semesters. As a learning methodology of punctual payment culture, students start paying compulsory estimated proportions of the loan interest while being students. The process has to be renewed every academic semester and continuity is linked to punctual payment culture.

Type of Loan/ Category	Mid-Term Loans	Long-Term Loans
Conditions	Talented Student/Co-signer	Talented Student/Co-signer
Payment Terms	60% + 40% within the academic period.	1 year after completion of studies or drop-out.
Highest amount per academic year	48% GDP per capita	67% GDP per capita for tuition fees + 32% per capita for living cost.
Subsidies	25% of tuition fees (Stratum 1 and 2)	25% of tuition fees (Stratum 1 and 2)
Interest Rate	16.9% annual	15.7% (-2.5% for Stratum 1 and 2 and -1.9% for Stratum 3)
Loan Insurance Rate	2%	2%
Tuition fees max. Cover	100%	75%

▲ Table 1. Type of loan and category

In the case of long term loans, the maximum amount lent per academic year is equivalent to 67% of the GDP per capita PPP for tuition fees. Thirty-two percent of the same GDP per capita a year is approved for living cost in case the students live in a different location from their host university. Tuition fees are covered up to 75% of the real cost and payment transactions among the loan entity and the universities as in the mid term loans case are done directly.

Table 1 shows a descriptive comparison between the mid and long term students loans. It can be stated that on the conditions for students accessing a student loan, having Co-signer is equal or more relevant than being a talented student for both types of loans. The Co-signers income profile plays a relevant role on the amount of the loan. The student loan rational is then more focus on the second purpose presented by Teixeira et al (2006) that is that loans repayments cover a substantial portion of the initial cost of money including defaults and administrative expenses.

Payment terms on midterm loans are actually contradictory with the government entity slogan of "We lend to the student and the professional pays back". Since repayments have to be done within the same

academic period while the "the student is a student", the financial responsibility relies on their parents. Long term loans show to solve this situation but they are subject to budget viability, hence mid-term loans are more feasible.

In relation to the question, Table 2 represents the highest amounts lent in mid-term and long-term type loans. The highest amount lent in mid-term loans is calculated by adding 48% of the GDP per capita for tuition fees and twenty-five percent stratum conditioned subsidies, and subtracting 16.9% annual interest and two percent insurance rates.

On calculating long-term loans maximum amount, sixty-seven percent of the GDP per capital for tuition fees is added to thirty-two percent GDP per capita for living cost and twenty-five percent stratum conditioned subsidies . The result is then subtracted from a proportional amount of the interest rate through the punctual payment culture strategy which is 8% on the case of the highest amount of loan and two percent insurance rate.

As a result, the maximum amount lent by each type of loan is 43% and 95.8% both of representing the GDP per capita PPP (World Bank 2008).

Type of Credit/ Highest Amount Lent	Mid-term Loans	Long-term Loans
Highest Amount Lent	(48% of GDP per capita+25% out of tuition fees stratum conditioned subsidy)-(16.9% interest rate + 2% loan insurance rate)	(67%GDP per capita PPP + 32% GDP per capita PPP+3.5 GDP per capita PPP)-(8% interest rate + 2% loan insurance)
Total	43.4% of the GDP per capita (PPP).	95,8% of the GDP per capita (PPP).

▲ Table 2. Highest amount lent by government according to type of loan.

WHAT CAN STUDENTS AFFORD WITH THE AMOUNT OF THEIR LOANS?

World Bank (2008) intended to estimate the affordability and accessibility of higher education in Mexico, Brazil and Colombia to better understand the impact of assistance policies and increased enrollment. They followed the methodology of Usher and Cervenán (2005) "Global Higher Education Rankings: Affordability and Accessibility in Comparative Perspective". The focus of this paper will only consider affordability.

Affordability or the ability to pay for higher education was measured based on four indicators taking into account only direct costs of education. The four indicators are the combination of five cost components: education costs, living costs, grants, student loans, and tax breaks (Table 3). Education cost includes tuition fees for private education institutions in Colombia. Additionally to tuition fees, the cost of education includes compulsory supplementary fees and the cost of study materials. Tables 4, 5, and 6 reflect the average, lowest, and highest tuition fees in Colombia.

Living cost as the costs of living and space will also be used in this analysis based on the findings of World Bank (2008). Grants are understood as all non-repayable assistance to students. Student loan is the term given to all repayable assistance to students. In the current analysis, the student loans are as described in the first

question of this paper. Tax Breaks are additional strategies that governments apply to help parents paying for tertiary education though they do not apply in Colombia. Finally, out-of-pocket cost represents the amount that families have to pay during studies. The analysis is expressed in terms of GDP per Capita purchasing power parity (World Bank, 2010).

For the purpose of this analysis, net costs and out-of-pocket costs will not include grants or tax breaks. The reason why grants and tax breaks will not be considered in this formula is that grants have been estimated as subsidies in the first question analysis. In relation to tax breaks as it has been mentioned, they do not apply in Colombia.

Based on the findings made by World Bank 2008, and the purpose of this paper, it is intended to estimate the education and out-of pocket costs for those students who have accessed the mid and long term student loans offered by ICETEX for private university education.

Indicator (per GDP/capita)	Formulas
Education Costs	Education Costs
Total costs	(Education Costs) + Living Costs
Net costs	(Education Costs + Living Costs - Grants) - Tax Breaks
Out-of-pocket costs	(Education Costs + Living Costs - Grants - Tax Breaks) - Loans

▲ Table 3. Affordability indicators Source: World Bank (2008, p. 5)

In general, the total costs of private higher education together with other study additional cost and living cost were already found by the World Bank (2008). What the current analysis updates is the equivalence of prior findings at the same percentage of the current GDP per capita PPP 2010 and more accurate information on the amount of two types of student loans in Colombia. It is accepted that estimations can be bias due to inflation or deflation rates actualizations. Nevertheless, it is assumed that the estimation will not be higher.

Affordability for average tuition fees in private universities on mid-term loans reflect that the total costs of education is 82% and the initial out-of-pocket cost is 39%. Nevertheless, families end up paying the full total cost of education by the end of every academic year (Table 4). On long-term loans, the total out-of-pocket cost is 18% but is less likely that people from lower backgrounds be able to accomplish the requisitions demanded by ICETEX regarding the Co-signers' profile. In both type of loans additional sources of income need to be found in order to access university education.

Affordability for the lowest tuition fees on mid-term loans shows a lower education cost but also a higher out-of-pocket cost (Table 5). Thus, it is likely that students will access university institutions but will need to struggle finding additional income and avoiding drop-out. On long-term loans, affordability is feasible to access non-highly accredited institutions. For both, average and lowest tuition fees indicators; affordability will not include highly-accredited institutions.

Affordability for the highest tuition fees on mid-term loans is twice as less affordable than average and lowest tuition fees. On long-term loans, affordability for the highest tuition fees is three times less affordable than the average and lowest tuition fees.

All in all, in reference to the average and lowest tuition fee institutions, it can be said that the lower the tuition fees, the lower the student loan and the higher the out-of-pocket cost. Also, mid-term loans require a higher out-of-pocket cost.

In the international context the most affordable tertiary education systems are found in the northern European countries (15%), followed by the continental European

Indicator (GDP/capita)	Formulas	Total
Education Costs	40% + 5%	45%
Total costs	45%+37%	82%
Net costs	N/A	82%)
Out-of-pocket costs (Mid-Term Loans ICETEX)	82% 42,5%	39,5%
Out-of-pocket costs (Long-Term Loans ICETEX)	82% - 63,4%	18,6%

%=GDP per capita PPP World Bank (2010)

▲ Table 4. 2010 Affordability indicators based on average tuition fees in private universities.

Indicator (perGDP/capita)	Formulas	Total
Education Costs	10% + 5%	15%
Total costs	15%+37%	52%
Net costs	N/A	52%
Out-of-pocket costs (Mid-Term Loans ICETEX)	52% - 10%	42%
Out-of-pocket costs (Mid-Term Loans ICETEX)	52% - 28%	19,2%

%=GDP per capita PPP World Bank (2010)

▲ Table 5. 2010 affordability indicators based on lowest tuition fees.

Indicator(perGDP/capita)	Formulas	Total
Education Costs	110% + 5%	115%
Total costs	115%+37%	152%
Net costs	N/A	152%
Out-of-pocket costs (Mid-Term Loans ICETEX)	152% -43,4%	108,6%
Out-of-pocket costs (Mid-Term Loans ICETEX)	152% - 95,8%	56,2%

%=GDP per capita PPP World Bank (2010)

▲ Table 6. 2010 Affordability indicators based on highest tuition fees.

countries (22%) (World Bank 2008). Affordability of higher education in private institutions in Colombia in the average tuition fees cost through mid-term loans is twice less affordable than northern or continental European countries and seven times less affordable in the highest tuitions fee institutions. Regarding long-term loans, affordability is three times less affordable in highest tuition fee institutions. Again, it is worth noting that mid-term student loans are more feasible accessing and long-term loans are budgetary restricted.

Affordability through student loans can measure the ability to pay for higher education hence the limitations on human capital investments for those students with limited resources. Based on the initial assumption presented on the introduction part of this paper, it can be said that the Colombian student loan program does not provide enough financial assistance for needy students to access high quality private university education.

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Alexander Fernández

Licenciado en Administración Educativa de la Universidad de San Buenaventura de la ciudad de Cali y resista del programa de Maestría en Educación Superior en las Universidades de Oslo - Noruega -, Tampere - Finlandia-, Aveiro - Portugal. Ha trabajado por seis años en la Universidad Nacional Abierta y a Distancia para la Escuela de Ciencias de la Educación como líder local atendiendo las licenciaturas en Filosofía y Etno-educacion además de diversos programas de especialización, alternamente con la administración de cursos virtuales para el programa nacional de inglés.

Desde mediados del 2009 es parte del programa Higher Education Erasmus Mundus Master (HEEM), becado por la comisión Europea en el consorcio coordinado por la Universidad de Oslo y con la participación de las Universidades Tampere en Finlandia y Aveiro en Portugal.