

Determinants of university scholarship loss in recipients from a Peruvian social program targeting students from poor and vulnerable families

Determinantes de p6rdida de becas universitarias en un programa social de Per6 dirigitado a estudiantes procedentes de familias pobres y vulnerables

Determinantes de perda de bolsas universit6rias num programa social peruano destinado a estudantes provenientes de fam6lias pobres e vulner6veis

在秘魯一項針對來自貧困及弱勢家庭學生發放的大學獎學金項目中，獎學金丟失的決定因素

Salazar C6ndor, V6ctor 

International Doctoral School CEINDO-CEU, Law and Economics Program.
San Pablo CEU University, Madrid (Spain)

Abstract

The main aim of higher education institutions and a big challenge of policies aimed at funding them is for students to complete their studies. Dropout implies losses, not only for the State but, also, for students and especially those from poor or vulnerable families. Thus, univariate, bivariate and multivariate analyses following a probit model was conducted to address study aims. These aims were to identify determinants of the withdrawal of state-funded university scholarships from a Peruvian scholarship program called "Beca 18". This was carried out using the program's own database to analyse the association between scholarship withdrawal and variables of interest. The methodology applied demonstrated acceptable goodness of fit indices. Findings identified eight main determinants of scholarship withdrawal. Determinants are listed as follows, alongside the characteristics predicting a greater risk of university dropout: place of origin of the scholarship recipient (residing outside of the capital), mother tongue (indigenous mother tongue), age at which the scholarship was received (older age), intake year in which the scholarship was awarded (receiving the scholarship during the first year of the program), modality (receipt of a scholarship specifically targeting vulnerable individuals), degree subject (studying Education, Humanities and Art), place of study (studying at a national university), type of university ownership (studying at a public university). Discussion revolves around strengthening interventions and improving the design of retention strategies for scholarship holders.

Keywords: higher education, dropout, factors, scholarships, university.

Resumen

La culminaci6n de los estudios es el objetivo final de los sistemas de educaci6n superior y el mayor reto de las pol6ticas de financiamiento, en tanto la deserci6n implica no solo una p6rdida para el Estado sino tambi6n para los estudiantes, en especial, aquellos que proceden de familias vulnerables. As6, bajo una metodolog6a que incluye an6lisis univariados, bivariados y multivariados a partir de un modelo probit, el presente estudio tiene por objetivo identificar los determinantes de la p6rdida de becas universitarias proporcionadas por el programa estatal de becas en el Per6, denominado "Beca 18", utilizando la base de datos del programa y analizando la asociaci6n entre la p6rdida de becas y variables de inter6s. Los resultados muestran que la metodolog6a utilizada cumple con las bondades de ajuste y significancia, y que los factores determinantes de la p6rdida de becas son ocho (8), presentando en cada uno mayor probabilidad de deserci6n en los siguientes grupos: lugar de procedencia del becario (quienes residen fuera de la capital), lengua materna (cuando es ind6gena), edad en que el becario recib6 la beca (a mayor edad, mayor probabilidad), cohorte seg6n a6o de otorgamiento de la beca (quienes la recibieron los primeros a6os del Programa), modalidad (quienes reciben becas para personas vulnerables), carrera (quienes cursan Educaci6n, Humanidades y Arte), lugar de estudio (quienes estudian en universidades nacionales), tipo de gesti6n de la universidad (quienes estudian en universidades p6blicas). La discusi6n gira en torno al reforzamiento de la intervenci6n y dise6o de estrategias de retenci6n de los becarios.

Palabras clave: educaci6n superior, deserci6n, factores, becas, universidad.

Received/Recibido

Jan 24, 2022

Approved /Aprobado

Jun 12, 2022

Published/Publicado

Jun 30, 2022

Resumo

A conclusão dos estudos é o objetivo último dos sistemas de ensino superior e o maior desafio para as políticas de financiamento, uma vez que a desistência implica não só uma perda não só para o Estado mas também para os estudantes, especialmente os provenientes de famílias vulneráveis. Assim, utilizando uma metodologia que inclui análises univariadas, bivariadas e multivariadas baseadas num modelo probit, este estudo visa identificar os determinantes da perda de bolsas universitárias fornecidas pelo programa estatal de bolsas no Peru, denominado "Beca 18", utilizando a base de dados do programa e analisando a associação entre a perda de bolsas e variáveis de interesse. Os resultados mostram que a metodologia utilizada obedece à bondade da aptidão e significado, e que os fatores determinantes para a perda de bolsas são oito (8), com maior probabilidade de abandono escolar em cada um dos grupos seguintes: local de origem do bolsheiro (quem reside fora da capital), língua materna (quando é indígena), idade em que o bolsheiro recebeu a bolsa (quanto mais velho o bolsheiro, maior a probabilidade), coorte de acordo com o ano em que a bolsa foi atribuída (quem a recebeu nos primeiros anos do Programa), modalidade (quem recebe bolsas para pessoas vulneráveis), curso (quem estuda Educação, Humanidades e Artes), local de estudo (quem estuda em universidades nacionais), tipo de gestão universitária (quem estuda em universidades públicas). A discussão gira em torno do reforço da intervenção e da conceção de estratégias de retenção para os bolsheiros.

Palavras-chave: ensino superior, abandono escolar, fatores, bolsas, universidade.

摘要

学业的顺利完成是高等教育体系的最终目标，但也是对财政的巨大挑战，因为辍学不仅为国家，也为学生本身带来严重的损失，特别是对那些来自弱势家庭的学生。因此，该研究在多元概率比回归模型的基础上，通过单变量、双变量和多变量分析，使用秘鲁国家奖学金项目“Beca 18”数据库中的数据，对变量及奖学金丢失结果间的关系进行分析，试图确定影响大学奖学金丢失的因素。结果表明使用的方法符合拟合优度和显著性差异性。结果证实共有8个影响奖学金丢失的决定因素，同时也发现每个因素里最可能导致辍学的条件：奖学金生的籍贯（住在首都外的学生）、母语（土著语）、收到奖学金时的年龄（年龄越大，可能性越大）、奖学金授予的时间群组（奖学金项目最初几年）、类型（收到专门针对弱势群体的奖学金生）、学业（教育、人文及艺术专业的学生）、学习地点（在国家大学学习的学生）和大学管理模式（公立大学学生）。研究最后围绕对奖学金生加强干预以及设计扣留政策这两个方面进行了讨论。

关键词: 高等教育、辍学、因素、奖学金、大学

In recent decades, higher education has gained prominence as a pathway towards societal development (Fernández Lamarra & Pérez Centeno, 2016). Strong evidence of the profitability of higher education, especially with regards to completing university studies (Parodi et al., 2017; Sánchez et al., 2016; Adrogué, 2006), has led the State to implement public policies increasing public access to it. However, in Latin America and the Caribbean, a significant gap remains between the introduction of policies and the actual implementation of interventions (United Nations Educational, Scientific and Cultural Organization, 2020). As indicated by Lemaitre (2018), approximately half of students who drop out from higher education in Latin

America do so at the end of the first year of studies. This reflects vocational challenges or a misalignment of academic demands and student characteristics. Early research interest into the determinants of dropout has related it with family background, individual attributes and academic attainment prior to enrolling in higher education, in addition to institutional factors and social integration (Tinto, 1975). Other studies have also pointed to factors pertaining to academic attainment, environmental factors and socialization (Bean & Metzner, 1985; Bean, 1980). More recent research has followed similar trends, identifying factors related with psychological, socioeconomic and academic variables (Viale Tudela, 2014; Apaza & Huamán, 2012).

Further, models have been proposed that encompass personal factors, such as prior academic attainment, alongside institutional and circumstantial variables, such as funding mechanisms and socio-economic factors, respectively, amongst others (Garzón Umerenkova & Gil Flores, 2017). In the German context, Klein (2019) provided evidence to support a model proposed by Tinto (1975), arguing that both academic factors and social integration determine student decisions to drop out.

Various studies have highlighted socio-economic conditions as a factor predicting dropout from higher education. Specifically, in Colombia, Laverde Monroy & Triana Martínez (2018) observed higher dropout rates in students with lower socioeconomic status, especially during the first three (3) semesters. They also found higher dropout rates in men, although no significant relationships emerged with age, contrary to what has been observed in other contexts such as Chile (Pérez et al., 2018; Atal & Hernández, 2016; Barrios, 2011). In the case of Portugal, Casanova et al. (2018) observed a higher dropout rate during the first year of studies, whilst men were also more likely to drop out. With regards to the identified gender difference, this finding may be explained by attitudinal variables, personal interaction, and the social and family environment (Laverde Monroy & Triana Martínez, 2018; Ministry of National Education, 2009). In this sense, various research studies also reveal better access within women (De Garay & Del Valle Díaz Muñoz, 2012; Miranda Guerrero, 2007; Papadópulos & Radakovich, 2005).

In Ecuador, Sinchi Nacipucha & Gómez Ceballos (2018) argue that the main barrier to remaining in higher education is the lack of funding, alongside a lack of effective communication between student support departments and students. With regards to funding, Gallegos et al. (2018) state that this factor has far less influence during the first year of study (when geographical origin and age seem to predominate) than in subsequent years. In South Africa, Fourie (2020) found

that a "sense of belonging" to the institution was a main determinant of student drop out. This reiterates personal factors as determinants, although the role of educational institutions to promote this sense of belonging cannot be ignored.

In the case of Peru, Heredia Alarcón et al. (2015) have stated that vocational and economic factors mainly explain student dropout. In case of the latter, 40% of respondents pointed to financial reasons behind their dropout. Another study in Peru conducted by Peñaloza Luna (2019) reported that the loss of employment of a member of the university student's household increased the risk of dropout. In this sense, Arrau & Loiseau (2003) have highlighted the risk of dropout in low-income students with a low-quality educational background who are the first in their family to embark on higher education (first generation students). This implies that these individuals lack a social network that encourages their continued study. Further, Casanova et al. (2018) found academic background and perceptions of self-efficacy to be related with dropout. In Chile, Larroucau (2015) also found academic variables to be key to explaining dropout. With regards to personal variables, a study conducted by Truta et al. (2018) of the academic commitment of Romanian students found student "dedication" to their studies to be the most important variable behind dropout decisions. On the other hand, Barrios (2011) found that those receiving funding for their university studies were less likely to drop out, whilst higher student income reducing the impact of funding as a determinant. The aforementioned is consistent with that reported in Colombia by Álvarez et al. (2017). These authors found scholarship holders to have a 6% lower dropout rate than those without scholarships.

In another study in Peru, Motta Silva (2021) found that a grant increase of one sol (Peruvian currency) decreased the probability of dropout by 0.7%. This author also observed that students with no possibility of receiving a scholarship were 36% likely to cease their efforts to gain access to higher education. This

emphasises the importance of scholarship programs. In this sense, Rodríguez Urrego (2019) argues that the implementation of financial support programs for university studies, including scholarships or financial support grants, represent direct actions capable of preventing dropout. In this sense, a leading strategy used to tackle the lack of opportunities in certain population is the granting of higher education scholarships. An example of this in Peru comes in the form of a scholarship program called Beca 18. This funds the direct and indirect costs of higher education and specifically targets young people with little economic resources or those living in contexts of vulnerability (Ministry of Education, 2020). Research in the Peruvian context conducted by Ramírez Yparraquirre (2017) shows that variables related with university dropout in scholarship holders are of an individual (academic self-concept, adaptive capacity and academic discipline) and contextual (social relationships, family functioning, perception of equity) nature, with these variables explaining 47.6% of dropout cases. With regards to dropout among Beca 18 scholarship holders in Peru, a number of qualitative studies have also been conducted which have revealed challenges related to the process of adaptation to a new environment (Aramburú et al., 2015; Cotler et al., 2016; Guerrero et al., 2019). These authors recommended that the diversity of this population be considered and that steps be taken to reduce the gap between proposed policy and practice (Rodríguez González, 2020, 2018). Also, in relation to the challenges faced by scholarship programs, Atienza & Aroca (2012) have argued that the centralization of educational provision to mainly focus on capital cities has made it difficult for professionals to address issues in other regions and has led to a "brain drain" of young minds flocking to inner cities.

That discussed above shows that funding policies pertaining to higher education can be effective intervention strategies for reducing dropout. However, although some studies do exist that examine dropout at higher education institutions and the determining factors within

certain populations, little quantitative information exists in relation to social programs funding higher education at a national level, as is the case of Beca 18 in Peru. Such research is required to identify the determinants that influence dropout within scholarship holders and, in this way, be able to draw up recommendations from which interventions can be developed. It is also important for such research to consider that, given the restrictions faced by members of the target population in terms of access to and retention in higher education, any eventual dropout not only implies economic losses for the State but, also, stunted personal trajectories within this population due to the loss of a valuable opportunity to complete university studies. It is important to highlight that, given that this population shares in common a number of important variables such as the nature of their study funding (all are scholarship recipients), socioeconomic aspects (all receive scholarships targeting individuals in conditions of poverty and/or vulnerability) and academic attainment (high achievers in basic education is a requirement for the scholarship), the examination of other determinants of higher education dropout is considered to be of particular interest.

In this sense, the present research aims to identify the factors linked to educational provision and individual aspects of Beca 18 scholarship recipients in Peru that act as determinants of dropout. The methodology employed reflects the need to investigate these factors in university scholarship students since the evidence presented above demonstrates the high profitability of completing university education. The loss of opportunities, therefore, represents a major risk for both scholarship recipients and to the State's investment. As an additional factor, subsequent cohorts initiated into scholarship program are considered as a means to examining advancement of the program in this issue, considering, for example, mechanisms of promoting student retention. As mentioned above, addition program-related variables are considered as determinants of academic dropout in the study

population, alongside other common characteristics considered by existing literature as factors which favour retention (such as the receipt of study funding and high attainment at earlier educational stages) or dropout (socioeconomic status). This represents an important step towards addressing one of the great challenges faced by public policies focused on equal opportunities. Thus, the present research is expected to have implications with regards to assessment of the implementation of a Peruvian scholarship program, since its inception to the time of writing. It will also contribute towards making policy recommendations for other social higher education funding programs as a means towards bettering social development through investment in education.

Method

Study population

The study population consisted of recipients of the Peruvian National Scholarship and Educational Credit Program (PRONABEC), namely, "Beca 18". Since its inception in 2012, this program comprehensively funds the direct and indirect costs of higher education studies. It provides scholarships to young people with high academic attainment living in conditions of poverty. In addition, recipients include young people from vulnerable groups such as orphans or abandoned children, members of communities that are victims of violence and drug trafficking, indigenous people, military service leavers, and those who wish to study intercultural bilingual education in order to promote native languages in the country.

In the present research, the sample was made up of recipients of Beca 18 scholarships who enrolled on program accredited universities between 2012 and July 2019. Various cohorts were extracted from this time period in order to evaluate program development. Concretely, the first three years of program implementation were compared with subsequent years in order to gauge whether retention strategies were put into practice. For instance, standardised tests were introduced in 2016 as a mean to filter out applicants. The total number of recipients during the overall study period (2012-2019) was 22150. Of these, 225 scholarship recipients were eliminated for having had their scholarship rescinded due to death, illness or falsification of documents. In this regard, the final study population was composed of 21925 recipients of the aforementioned scholarship. Variable inclusion was based on information available in the Beca 18 database for the period 2012-2019 and included sociodemographic variables (gender, age at which the scholarship was received, place of origin, mother tongue), institutional variables (type of scholarship, type of university ownership, cohort pertaining to the year in which the scholarship was granted, migratory status, place of study) and academic variables (degree program). It is important to note that, due to the nature of the scholarship, important variables reported by the literature, such as higher education funding, socioeconomic characteristics and academic performance were, in this case, homogeneous, given that the population of interest corresponded to high achieving scholarship recipients living in conditions of poverty, extreme poverty or other vulnerability.

Table 1. Variables and categories of analysis

Variable	Category
Dependent variable	
Loss of scholarship	1= Dropout or poor academic performance 0= No loss (graduates and those still studying)
Independent variables	
Gender	1= Female; 2= Male
Age at which the scholarship was received	1= 17 years or younger; 2=18 to 19 years; 3= 20 years or older
Place of origin (last place of residence)	1= Metropolitan Lima and Callao (capital city). 0= Rest of the country.
Mother tongue	1= Spanish; 2=Quechua/Aymara; 3=Amazonian
Scholarship modality	1= Regular (Beca 18: population living in poverty); 2= Special (Beca 18: vulnerable group). 3= Intercultural Bilingual Education Scholarship.
Type of university ownership	1= Public; 2= Private
Cohort according to year of scholarship	1=Cohort 2012-2014; 2=Cohort 2015-2016; 3=Cohort 2017-2019
Migratory status	1= Enrolled at a university in the place of origin. 2= Enrolled at a university outside of the place of origin.
Place of study	1= Metropolitan Lima and Callao; 2= Other province of Peru; 3= Other country.
Degree study	1= Education, Humanities and Arts; 2=Social Sciences, Business, and Law; 3=Natural, Exact and Computer Sciences; 4=Engineering, Industry and Construction; 5=Agriculture and Veterinary Sciences; 6=Health Sciences.

Source: Developed by the authors.

Data handling and analysis

In the present study, the bespoke Beca 18 database was used. Data covers the period of 2012- July 2019 and was obtained through PRONABEC. The privacy of scholarship recipient personal data was respected at all times, guaranteeing anonymity and ensuring that data was only used for the sole purpose of the present study. Accuracy of the database was determined through the examination of missing data due to the withholding of information or under-reporting and the identification of abnormal data (*outliers*) for each of the variables analysed.

Firstly, data was analysed from a univariate perspective, considering sociodemographic and academic variables of interest in order to characterise the population under study and identify the main determinants of dropout. Following this, bivariate analysis was performed using cross-tabulations. Specifically, all independent variables were crossed with the dependent variable (dropout) to verify the existence of a statistically

significant association according to Pearson's chi-square statistic.

Finally, multivariate analysis was performed to estimate the probability of a scholarship recipient dropping out from their studies. A Probit model approach was taken as this allows for the existence of an underlying latent variable to be determined from which dichotomic evidence can be produced. In the present work, the Probit model included whether the participant was still studying or had graduated or not as the observable variable. Following the input of this information, the model then produces a latent variable which was defined as the likelihood of drop out. In order to determine the goodness of fit of the model, the confusion matrix and the area under the ROC curve were analysed. The Probit model estimated from the explanatory variables considered as potential determinants of academic dropout correctly classified 69.74% of scholarship recipients. Finally, the area under the ROC curve indicated 68.5% certainty that the model was correctly classified.

Results

The present research was conducted with Beca 18 scholarship recipients enrolled on university studies between the years 2012 and 2019. Thus, the study population comprised 22150 scholarship recipients. Over the first three years (2012-2014), 2215, 2896 and 3567 scholarships were awarded, respectively, each year. In the years 2015 and 2016, 7436 and 2028 scholarships were awarded, respectively. In contrast, over the last 3 years of the analysis period (2017 to 2019), 1755, 1119 and 1134 scholarships were awarded, respectively, each

year. With regards to the characteristics of scholarship recipients, Table 2 shows that more than half were women (53.7%). This coincides with previous reports around increasing female access to higher education in the Latin American context, with women coming to represent more than half of the student population (Lemaitre, 2018). Moreover, most of the scholarship recipients came from regions outside of the capital Lima (80%). Likewise, the most common mother tongue was Spanish (86.8%) and that majority received their scholarship when aged 17 years or younger (65%).

Table 2. Characteristics of scholarship beneficiaries attending universities between 2012 and 2019

Category	Number	Percentage
Gender	22,150	100.00
<i>Male</i>	10,247	46.26
<i>Female</i>	11,903	53.74
Place of origin	22,150	100.00
<i>Metropolitan Lima and Callao</i>	4,313	19.47
<i>Rest of the country</i>	17,837	80.53
Mother tongue	22,150	100.00
<i>Spanish</i>	19,227	86.80
<i>Quechua/Aymara</i>	1,904	8.60
<i>Others</i>	1,019	4.60
Age at which the scholarship was received	22,150	100.00
<i>17 years or younger</i>	14,169	64.97
<i>18 to 19 years</i>	6,034	27.24
<i>20 years or older</i>	1,947	8.79

Source: PRONABEC. Developed by the authors.

In this sense, the profile of a Beca 18 scholarship recipient is that of a student from a region outside of the capital city, a native Spanish speaker and aged approximately 17 years at the time of receiving the scholarship (Table 2).

With regards to the scholarship status of recipients, Table 3 shows that, of the 22150 university scholarship recipients in the 2012-2019 period, 58% were studying at the time of the study, whilst 10% had already graduated. However, among those who lost their scholarship, the majority did so as a result of poor academic performance (22.2%), followed by voluntary study dropout (8.67%) and, finally, administrative reasons ([1%] death

administrative errors, etc.). This reveals that, during the first 8 years of the program's implementation, more than one-fifth of scholarship recipients lost their grant as a result of poor academic performance.

For the purpose of the present study, all those who voluntarily renounced their scholarship or had it rescinded following poor academic performance were considered to have lost the scholarship. Cases in which the scholarship was lost due to death, illness, or other external and non-academic causes were excluded. In this regard, in the period 2012-July 2019, 6,849 scholarship recipients lost their scholarships. A total of 89.62% of these cases corresponded to the 2012-2015 period,

with a notable decrease from 2016 onwards. It is important to specify that, in the period under analysis, 36.85% lost their scholarship after completing 4 semesters of study, whilst only

9.85% of scholarship recipients lost their scholarship in the first semester. A total of 26.1% had already lost their scholarship by the end of the second semester.

Table 3. Status of scholarship recipients attending universities between 2012 and 2019

Category	Number	Percentage
<i>Studying</i>	12,817	57.86
<i>Graduated</i>	2,259	10.20
<i>Voluntarily dropped out</i>	1,923	8.68
<i>Withdrawal due to poor academic performance</i>	4,926	22.24
<i>Withdrawal due to administrative issues</i>	225	1.02
TOTAL	22,150	100.00

Source: PRONABEC. Developed by the authors.

Association matrices

Table 4 shows that more male students lost their scholarship than female students, with 33.08% compared to 29.65%. This reveals a positive association between male gender and scholarship loss.

When considering the scholarship recipient's place of origin according to the

categories established in the present study (Metropolitan Lima and Callao versus the rest of the country) and scholarship loss, Table 5 shows that higher percentages were recorded for scholarship recipients who came from the rest of the country (33.45%) relative to scholarship recipients who came from the capital, Metropolitan Lima and Callao (22.12%).

Table 4. Association between scholarship loss and gender

Gender	Status of scholarship recipient		
	Lost or dropped out	Graduated/still studying	Total
Female	29.65	70.35	100.00
Male	33.08	66.92	100.00
Total	31.24	68.76	100.00
Pearson Chi2 = 29.81 Prob = 0.0000			

Source: Developed by the authors.

Table 5. Association between scholarship loss and place of origin

Place of origin	Scholarship loss		
	Lost or dropped out	Graduated/still studying	Total
Metropolitan Lima and Callao	22.12	77.88	100.00
Rest of the country	33.45	66.55	100.00
Total	31.24	68.76	100.00
Pearson Chi2 = 206.16 Prob = 0.0000			

Source: Developed by the authors.

With regards to the variable describing the native language spoken by scholarship recipients and its relationship with scholarship loss (Table 6), the highest percentage of loss

was recorded in those whose native language was Amazonian native, with 47.09% compared to 30.54% for Spanish speakers and 29.75% for Quechua/Aymara speakers.

Table 6. Association between scholarship loss and mother tongue

Mother tongue-recorded	Scholarship loss		
	Lost or dropped out	Graduated/ still studying	Total
Spanish	30.54	69.46	100.00
Quechua/Aymara	29.75	70.25	100.00
Native Amazonian	47.09	52.91	100.00
Total	31.24	68.76	100.00

Pearson Chi2 = 125.05 Prob = 0.0000

Source: Developed by the authors.

With regards to the age at which the scholarship was received (Table 7), analysis according to age group and scholarship loss (17 years or younger, 18 to 19 years, and 20 years or older) shows higher percentages in

scholarship recipients who were age 20 years or older at the time of receiving their scholarship, with 39.48% compared to 32.18% and 29.71% in the 18-to-19-year and 17 years or younger age groups, respectively.

Table 7. Association between loss of scholarship and age at which scholarship was received

Age	Status of scholarship beneficiary		
	Lost or dropped out	Graduated/still studying	Total
17 years or younger	29.71	70.29	100.00
18 to 19 years	32.18	67.82	100.00
20 years or older	39.48	60.52	100.00
Total	31.24	68.76	100.00

Pearson Chi2 = 78.25 Prob = 0.0000

Source: Developed by the authors.

When considering the intake year and its influence on scholarship loss (Table 8), the highest loss percentage was recorded in the

2012-2014 cohort, with 41.68% compared to 31.88% and 7.41% for the 2015-2016 and 2017-2019 periods, respectively.

Table 8. Association between scholarship loss and cohort according to year in which the scholarship was granted

Cohort	Scholarship recipient status		
	Lost or dropped out	Graduated/still studying	Total
2012-2014	41.68	58.32	100.00
2015-2016	31.88	68.12	100.00
2017-2019	7.41	92.59	100.00
Total	31.24	68.76	100.00

Pearson Chi2 = 1492.19 Prob = 0.0000

Source: Developed by the authors.

With regards to scholarship stream, Table 9 presents the three possible streams granting Beca 18 scholarships (1. Regular: for individuals living in poverty; 2. Special: for vulnerable groups; 3. Intercultural Bilingual Education Scholarship applicants) and their

association with scholarship loss. The highest loss percentage is observed in the special stream (33.76%), compared with 30.84% and 21.37% in the regular and intercultural bilingual education streams, respectively.

Table 9. Association between scholarship loss and type of scholarship

Category	Status of the scholarship beneficiary		
	Lost or dropped out	Graduated/ still studying	Total
Regular (poverty)	30.84	69.16	100.00
Special (vulnerable)	33.76	66.24	100.00
Intercultural bilingual education	21.37	78.63	100.00
Total	31.24	68.76	100.00

Pearson Chi2 = 42.93 Prob = 0.0000

Source: Developed by the authors.

When analysing the variables according to university degree and its relationship with scholarship loss (Table 10), the highest loss percentage (35.71%) is observed in relation to Agriculture and Veterinary Science studies (degrees related to Agriculture, Forestry and Aquaculture, as well as Veterinary Science), followed by Natural, Exact and Computer Sciences ([33.15%] degrees related to Life Sciences, Physical and Chemical Sciences, Mathematics, Statistics, and Computer

Science), with lower percentages seen in for Natural, Exact and Computer Sciences (15%] degrees related to Life Sciences, Physical and Chemical Sciences, Mathematics, Statistics, and Computer Science) and Engineering, Industry and Construction ([32.62%] degrees related to Systems and Telecommunications Engineering, Industrial and Production Engineering, Construction Engineering, Sanitary Engineering, and Architecture, amongst others).

Table 10. Association between scholarship loss and degree study

Degree study	Scholarship loss		Total
	Lost or dropped out	Graduated/ still studying	
Agricultural and Veterinary	35.71	64.29	100.00
Health Sciences	27.22	72.78	100.00
Natural, Exact and Computer Sciences	33.15	66.85	100.00
Social Sciences, Business and Law	25.77	74.23	100.00
Education, Humanities and Arts	26.24	73.76	100.00
Engineering, Industry and Construction	32.62	67.38	100.00
Total	31.24	68.76	100.00

Pearson Chi2 = 92.03 Prob = 0.0000

Source: Developed by the authors.

On the other hand, degree programs associated with the lowest scholarship losses reported percentages that ranged between 25% and 27%, approximately. Such percentages were reported by students of Social Sciences, Business and Law, Education, Humanities and

Arts, and Health Sciences. With regards to the country in which studies were being undertaken, Table 11 reveals that more scholarships were lost by students enrolled at national universities (31.37%), compared to 23.43% at international universities.

Table 11. Association between scholarship loss and the country in which studies were being undertaken

Location	Scholarship loss		Total
	Lost or dropped out	Graduated/still studying	
International	23.43	76.57	100.00
Domestic	31.37	68.63	100.00
Total	31.24	68.76	100.00

Pearson Chi2 = 10.59 Prob = 0.0011

Source: Developed by the authors.

With regards to the place of study (Lima / Not Lima) and its relationship with scholarship loss, Table 12 reveals a higher loss percentage within scholarship recipients studying outside

of the capital city, Lima, with 34.51% compared to 28.71% of scholarship recipients studying in the capital city.

Table 12. Association between scholarship loss and place of study

Place of study	Scholarship loss		Total
	Lost or dropped out	Graduated/still studying	
Metropolitan Lima	28.71	71.29	100.00
Rest of the country	34.51	65.49	100.00
Total	31.24	68.76	100.00

Pearson Chi2 = 84.61 Prob = 0.0000

Source: Developed by the authors.

Table 13 presents scholarship loss as a function of university ownership type. As can be observed, a higher loss percentage was

reported at public/state-funded universities (39.9%) relative to private universities (29.53%).

Table 13. Association between scholarship loss and university ownership type

Type of management	Status of the scholarship recipient		Total
	Lost or dropped out	Graduated/still studying	
Public	39.90	60.10	100.00
Private	29.53	70.47	100.00
Total	31.24	68.76	100.00

Pearson Chi2 = 151.37 Prob = 0.0000

Source: Developed by the authors.

Table 14 presents scholarship loss as a function of place of study. In this case, the proportion of students who lost their scholarship was virtually the same (31.00% versus 30.93%) within those who were undertaking their studies in their place of

origin and those who were doing so outside their place of origin. In this case, the chi-square statistic was not significant ($p < 0.05$) showing that there was no influence of place of study on scholarship loss.

Table 14. Association between scholarship loss and place of study

Place of study	Scholarship loss		
	Lost or dropped out	Graduated/continues studying	Total
Studying in the place of origin	31.00	69.00	100.00
Studying outside the place of origin	30.93	69.07	100.00
Total	30.96	69.04	100.00
Pearson Chi2 = 0.01 Prob = 0.9106			

Source: Developed by the authors.

Probit model

Table 15 presents initial outcomes pertaining to model estimation. In general terms, estimated coefficients for all explanatory variables were statistically significant at the level $p < 0.01$ and $p < 0.05$, with the exception of gender, speaking Quechua/Aymara as a native language and attending a university that granted between

1,000 and 1,600 scholarships. Positive coefficients indicate a higher probability of scholarship loss, with positive coefficients being produced in relation to variables pertaining to scholarship stream ('special'), age at which the scholarship was received ('18 to 19 years' and '20 years or older'), mother tongue ('native-Amazonian'), place of study ('outside of Lima') and place of origin ('rest of the country').

Table 15. Probit model estimates pertaining to scholarship loss in Beca 18 recipients 2012-2019

Probit regression							
SCHOLARSHIP LOSS	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
TYPE OF UNIVERSITY OWNERSHIP							
Private	-.248	.03	-8.39	0	-.306	-.19	***
SCHOLARSHIP GRANT YEAR COHORT							
2015-2016	-.221	.021	-10.36	0	-.263	-.179	***
2017-2019	-1.269	.034	-36.98	0	-1.336	-1.201	***
SCHOLARSHIP STREAM							
Special	.141	.026	5.40	0	.09	.192	***
Intercultural Ed. Bilingual	-1.133	.152	-7.44	0	-1.432	-.834	***
GENDER							
Male	.012	.019	0.60	.546	-.026	.05	
AGE AT WHICH SCHOLARSHIP WAS RECEIVED							
18 to 19 years old	.098	.022	4.52	0	.056	.141	***
20 years or older	.258	.035	7.40	0	.19	.326	***
PLACE OF STUDY							
Place of origin	-.094	.024	-4.00	0	-.141	-.048	***
Another country	-.379	.079	-4.79	0	-.535	-.224	***
PLACE OF ORIGIN							
Rest of the country	.203	.028	7.15	0	.148	.259	***
MOTHER TONGUE							
Quechua/Aymara	.017	.036	0.48	.63	-.053	.087	
Amazonian	.49	.046	10.71	0	.401	.58	***
DEGREE STUDY							
Social Sciences, Business and Law	-.733	.141	-5.22	0	-1.009	-.458	***
Natural, Exact and Computer Sciences	-.601	.141	-4.26	0	-.878	-.324	***
Engineering, Industry and Construction	-.536	.139	-3.85	0	-.809	-.263	***
Agricultural and Veterinary Sciences	-.716	.145	-4.93	0	-1.001	-.432	***
Health Sciences	-.675	.146	-4.62	0	-.961	-.389	***
Constant	.349	.143	2.43	.015	.068	.63	**
Mean dependent var		0.312	SD dependent var			0.463	
Pseudo r-squared		0.087	Number of obs			21925	
Chi-square		2358.636	Prob > chi2			0.000	
Akaike crit. (AIC)		24909.959	Bayesian crit. (BIC)			25061.871	

Notes: *** $p < .01$, ** $p < .05$, * $p < .1$

Source: Developed by the authors.

Negative coefficients produced in the Probit model indicate a lower probability of university scholarship (Beca 18) loss. Negative coefficients were produced in relation to students who were enrolled at a private university, were granted their scholarship as part of the 2015-2016 and 2017-2019 intake cohorts, entered via the Bilingual Intercultural Education stream, were undertaking their

studies outside of country, and were enrolled on Social and Natural Sciences, Engineering, Agricultural and Veterinary Sciences, and Health Sciences courses.

Table 16 presents marginal effects estimates (or partial derivatives) associated with the Probit regression coefficients produced between the explanatory variables and the binary variable of scholarship loss.

Table 16. Marginal estimates predicting scholarship loss

	Delta-method					
	dy/dx	Std.Err.	z	P>z	[95%Conf.	Interval]
TYPE OF UNIVERSITY OWNERSHIP						
Private	-0.083	0.010	-8.170	0.000	-0.103	-0.063
SCHOLARSHIP AWARD YEAR COHORT						
2015-2016	-0.081	0.008	-10.350	0.000	-0.096	-0.066
2017-2019	-0.337	0.007	-48.450	0.000	-0.351	-0.324
SCHOLARSHIP STREAM						
Special	0.046	0.009	5.340	0.000	0.029	0.063
Intercultural bilingual Education	-0.249	0.018	-13.750	0.000	-0.285	-0.214
GENDER						
Male	0.004	0.006	0.600	0.546	-0.008	0.016
AGE AT WHICH SCHOLARSHIP WAS RECEIVED						
18 to 19 years old	0.032	0.007	4.480	0.000	0.018	0.046
20 years or older	0.086	0.012	7.190	0.000	0.062	0.109
PLACE OF STUDY						
Place of origin	-0.030	0.008	-4.030	0.000	-0.045	-0.016
Another country	-0.114	0.021	-5.320	0.000	-0.155	-0.072
PLACE OF ORIGIN						
Rest of the country	0.064	0.009	7.380	0.000	0.047	0.081
MOTHER TONGUE						
Quechua/Aymara	0.006	0.011	0.480	0.631	-0.017	0.028
Amazonian	0.169	0.016	10.380	0.000	0.137	0.201
DEGREE STUDY						
Social Sciences Business and Law	-0.248	0.049	-5.050	0.000	-0.344	-0.152
Natural, Exact and Computer Sciences	-0.207	0.049	-4.190	0.000	-0.304	-0.110
Engineering, Industry and Construction	-0.186	0.049	-3.810	0.000	-0.282	-0.090
Agricultural and Veterinary Sciences	-0.243	0.050	-4.830	0.000	-0.342	-0.144
Health Sciences	-0.230	0.051	-4.550	0.000	-0.330	-0.131

Note: dy/dx pertaining to factor levels represents the discrete change from the base level.

Source: Developed by the authors.

With regards to the variable describing the *place of origin* of the scholarship recipient, recipients from outside of the capital were estimated to be 6.4% more likely to lose their scholarship than those from Metropolitan Lima and Callao. This implies a bias resulting from the centralisation of scholarships and serves to highlight that the number of scholarships destined to the capital city should be considered. Concerning the *native language* variable, 16.9% higher probability of scholarship loss was found in scholarship recipients whose mother tongue was neither Spanish nor Quechua when compared with scholarship recipients whose mother tongue was Spanish. This finding is interesting as it may indicate that students whose native language is not Spanish may experience a degree of difficulty when it comes to integrating into universities at which the majority of the students speak Spanish as a native language.

With regards to *the age at which the scholarship was received*, when compared to those who started university at 17 years of age or younger, those starting when aged between 18 and 19 or when older than 20 years were 3.2% and 8.6% more likely, respectively, to lose their scholarship. In this sense, it is possible that underlying socioeconomic factors are at play that hinder academic performance in older students and lead them to drop out of university in order to be able to work. When considering *the year in which the scholarship was awarded*, relative to the 2012-2014 intake cohort, the 2015-2016 intake cohort were 8.1% less likely to lose their scholarship, whilst the 2017-2019 intake cohort was 33.7% less likely to lose their scholarship. This implies that the scholarship grant program under study has been effective at improving and adjusting its processes, monitoring recipients and, ultimately, decreasing scholarship loss. Further, the general economic situation is an underlying non-observable variable that could increase the risk of future scholarship loss. With regards to *scholarship stream*, outcomes reveal that, in comparison with students in the regular stream, students in the special stream

were 4.6% more likely to lose their scholarship loss, whilst those in the Intercultural Bilingual Education stream were 24.9% more at risk. This is an interesting finding since the grant stream with fewer recipients tends to present with a higher risk or probability of scholarship loss. This aspect deserves more attention from the program.

With regards to *degree type*, relative to students undertaking degrees related with education, arts and humanities, students undertaking Social Sciences, Business and Law degrees, Agricultural and Veterinary Sciences degrees, Health Sciences degrees, Natural, Exact and Computer Sciences degrees and Engineering, Industry and Construction degrees were 24.8%, 24.3%, 23.0%, 20.7% and 18.6% less likely to lose their scholarships, respectively. In the case of *the place of study* variable, 3.0% greater risk of scholarship loss was found in scholarship recipients who were undertaking their studies outside of the city than those studying in the city. Likewise, outcomes show that those studying in a different country were 8.6% more likely to lose their scholarship than those studying in Lima. With regards to *university ownership*, 8.3% less risk of scholarship loss was found in scholarship recipients attending private universities than in those attending public universities. In this case, the economic costs associated with continued study and students' socioeconomic status may contribute towards the tendency seen towards less scholarship loss at private universities.

Discussion and conclusions

The study population was made up of scholarship recipients involved in the Beca 18 program in Peru and, therefore, all participants were receiving funding to complete higher education. In this sense, many research studies have previously highlighted funding as an important factor for preventing (Sinchi Nacipucha & Gómez Ceballos, 2018; Garzón Umerenkova & Gil Flores, 2017). It is logical that, given that financial hardship increases the risk of dropout (Peñaloza Luna, 2019; Heredia Alarcón et al., 2015; Arrau & Loiseau, 2003),

such subsidies will favour study continuation (Motta Silva, 2021; Rodríguez Urrego, 2019; Álvarez et al., 2017; Barrios, 2011).

Most of scholarship recipients during the study period (2012-2019) were women. This is in line with previous evidence indicating that the access gap has reduced in recent years, with some studies even reporting greater access amongst women (Lemaitre, 2018; De Garay & Del Valle Díaz Muñoz, 2012; Miranda Guerrero, 2007; Papadópulos & Radakovich, 2005). Further, present findings showed greater scholarship loss in men. This is in line with what was previously observed by Casanova et al. (2018) in Portugal, who found that men were more likely to drop out of higher education. Similar findings have also emerged in the Colombian context, for example, with attitudinal sex differences being pointed to as a possible explanation (Laverde Monroy & Triana Martínez, 2018), whilst other authors have highlighted differences in social, family and peer support (Ministerio de Educación Nacional, 2009).

Roughly 8 out of 10 scholarship holders came from regions outside of the capital, which sets the tone for the design and/or reinforcement of decentralization policies to support quality education provision. Indeed, as previously observed (Atienza & Aroca, 2012), the centralisation of provision to capital cities inhibits the ability to address national issues. This aspect is underscored by the fact that scholarship recipients whose place of origin was outside the capital were at greater risk of scholarship loss. This may reflect the disadvantage faced by this group. In fact, findings according to language revealed that scholarship recipients whose native language was not Spanish reported around 17% more scholarship loss than other scholarship recipients. Whilst it is an aim of policy implemented through Beca 18 to target vulnerable populations such as native Amazonian communities, this finding also reflects the need to promote strategies specifically aimed at supporting their continuation within higher education following the granting of access.

Present findings also revealed greater scholarship loss within students who were older at the time of receiving their grant. This is consistent with that reported in previous studies in Chile in which the older the age of entry, the greater the probability of dropout (Pérez et al., 2018; Atal & Hernández, 2016; Barrios, 2011). In contrast, Laverde Monroy & Triana Martínez (2018) did not find a significant relationship in the Colombian context.

More than one-fifth (22.2%) of scholarship loss occurred for academic reasons, making this the main reason for loss. In other contexts (Londoño Ardila, 2013), it has been observed that most students with academic difficulties do not seek psycho-pedagogical counselling. This makes it necessary to ensure the effectiveness of strategies promoting the use of these services within the institution and the correct management of information to identify students at academic risk. Both of these approaches will ensure the continuation and completion of higher education studies. It is important to point out that the completion of higher education, especially university studies, generates significantly greater economic returns (Parodi et al., 2017; Sánchez et al., 2016; Adrogué, 2006).

In addition, present findings revealed that less than 10% of recipients lost their scholarship during the first semester of study, whilst almost 40% of recipients did so after completing the first 4 semesters (two years of university studies). This is in contrast with that reported by previous studies in which loss rate was higher during the first year, for instance, in Portugal (Casanova et al. (2018) or in Latin America, in general (Lemaitre, 2018). Other specific cases, such as in Colombia (Laverde Monroy & Triana Martínez, 2018), identified higher dropout during the first three semesters and related this with socioeconomic status. This could have been a factor in the present study in which the study population comprised students receiving economic support, which may have acted as a protective factor against dropout. Further, in Chile, Gallegos et al. (2018) found that the first year of study led to

more dropout, with geographical origin and age also having an influence, although finding was more important in later years. Given that, in the present study, dropout was seen to increase after two years of higher education, it is necessary to analyse associated determinants in more detail. Previous evidence reflects, in the case of Peru, that although the first year of study is important for reinforcing academic actions and adapting to the new setting (especially for students who come from cultural/economic contexts with more pronounced differences), it is necessary to establish retention mechanisms throughout university education. Targeting the full university life course and not just the first year of studies, and emphasising academic attainment throughout university education is key given that dropout often leads to a longer overall study cycle that is more costly both economically for the State and personally for the student.

Turning attention to academic performance, it is deemed necessary to reinforce approaches towards academic evaluation which consider both the content and duration of the studies to which they are intended to give access, alongside the needs of the target population. Considering that no standardised exam exists in Peru for access to the higher education system, in general, annual standardised exams should be held on the basis of which scholarship candidates can be selected. Together with consideration of academic attainment in basic education, this would favour study continuation and reduce dropout in scholarship recipients. In this regard, Larroucau (2015) found that standardised admission test scores were determinant of university dropout in Chile.

The fact that greatest scholarship loss was observed in degrees predominantly related with Engineering and Basic Sciences, whilst least loss emerged in those related with Social and Health Sciences, could stem from the specific characteristics of these disciplines. In contexts such as Chile, greater dropout has previously been seen in students undertaking

science degrees relative to those studying education and humanities (Larroucau, 2015).

With regards to scholarship loss and place of study, it should be noted that qualitative studies conducted with a similar population found that living away from the family, living in an unfamiliar place, new lifestyles and the need to adapt to a new environment all presented challenges to study continuation (Guerrero et al., 2019; Cotler et al., 2016; Aramburú et al., 2015). Although the aforementioned aspects warrant greater attention from the program and higher education institutions, present findings did not reveal a relationship between moving away from the city of origin to undertake university studies (migration) and scholarship loss.

Thus, **the factors or determinants of the withdrawal of scholarship recipients from the Beca 18 program in Peru**, are as follows:

Place of origin: scholarship recipients coming from outside the capital city are more likely to drop out. This gives grounds, as mentioned above, to analyse the effectiveness of strategies to ensure the cultural relevance of scholarship recipient development. Such strategies could include the implementation of a support network at the university in order to coordinate/monitor the scholarship program and ensure that interventions can be carried out using a preventive approach.

Mother tongue: scholarship recipients whose mother tongue was neither Spanish nor Quechua were more likely to lose their scholarship. This shows that scholarship recipients belonging to a cultural minority are at greater risk of dropping out. This finding reinforces previous discussion regarding the emphasis that should be placed by higher education institutions and scholarship programs on the cultural relevance of academic provision as a means to addressing diversity and reducing gaps (Rodríguez González, 2020, 2018).

The age at which the scholarship was received: those who received the scholarship at an earlier age (17 years or younger) were less likely to lose their scholarship than those

who received it at later ages, with those being around 20 years of age or older when they received the scholarship experiencing particularly high loss. One possible explanation for this may be related to the longer period between graduating from high school and beginning higher education. In this sense, those who wait longer to begin university studies may have to make a greater effort at the time of returning to education. It is also necessary to note that specific streams exist for which age limit requirements for access are more flexible and this may also explain this finding. Similar outcomes were also reported by the Colombian Ministry of National Education (2009), who observed that students entering at a later age were up to 17% more likely to drop out than students who entered higher education at a younger age and that differences increased further with advancing age. This reflects the need for sustained support throughout academic life.

Cohort according to the year the scholarship was granted: in the first cohort, which corresponded to the first 3 years of the implementation of Scholarship 18, a higher probability of scholarship loss was found, with rates then decreasing over the following years. This calls for an analysis of access and follow-up characteristics pertaining to recipients in the examined cohorts (academic and socio-affective, for example) in order to identify, reinforce and maintain good practice. Indeed, this finding could reflect effective learning of the program itself concerning the retention mechanisms implemented over time. It may also point to an effective use of selection evaluation, such as the exam for scholarship applicants introduced in 2016. In this sense, Larroucau (2015) observed that performance on standardised admission tests was a main determinant of university dropout in Chile.

Scholarship stream: Greater scholarship loss was found in relation to the special access stream. This stream targets aspirants exposed to diverse disadvantage and shows that emphasis should be placed on conducting in-depth analysis of academic motives and the cultural relevance of academic provision for

young people from these populations. Individuals in this group are also likely to be influenced by the mother tongue determinant, which may reinforce further the vulnerability experienced by those accessing studies through this stream.

Degree program: findings show a higher probability of scholarship loss among scholarship recipients undertaking degrees related with Education, Humanities and Arts relative to those undertaking degrees related with Social Sciences, Business and Law, Agriculture and Veterinary Sciences, Health Sciences, Natural, Exact and Computer Sciences, and Engineering, Industry and Construction. In contrast, Larroucau (2015) found a higher probability of dropout among students undertaking science-related degrees in Chile relative to those undertaking education and humanities. This gives grounds for examination of the specific motives leading vulnerable populations to undertake these degrees in the Peruvian context.

Place of study: findings show a higher probability of scholarship loss in national universities than in international institutions. This may be explained by a number of factors which should be addressed by future studies. One potential area of interest may be found at the contextual level given that retention mechanisms (and their effectiveness) may differ between national and international universities. This may also be reflected in the fact that, in terms of the quality of eligible institutions, Peruvian universities involved in the program were of recognised quality at a national level, whilst, in the case of international scholarships, international quality criteria would be used as a reference. This means that eligibility criteria for scholarships are more comprehensive at an international level. Further, there was a greater risk of scholarship loss among recipients enrolled in studies outside the capital city. This shows the importance of reinforcing retention strategies at a national level by coordinating all regions and adapting interventions to specific issues. This, in addition, calls for an analysis of the profile of educational institutions. In the

present case, this could include comparisons of the retention strategies employed by university management in the capital and the rest of the country and may shed light on the impact of the centralisation of educational provision to the capital. Previously, Atienza & Aroca (2012) argued that such centralization would be detrimental to provision and reduce access to a qualified workforce when tackling diverse issues at a national level.

University ownership: a lower risk of scholarship loss was found among scholarship recipients who attended private universities. This, on the one hand, shows the need to strengthen retention mechanisms at public universities, especially when targeting the most vulnerable populations. On the other hand, it provides evidence of the relevance of investing in the private sector. It would also be informative to examine differences between the two sectors in terms of follow-up and intervention with scholarship recipients. For instance, private institutions introduced a tutoring program during the early years of the scholarship program but public universities did not offer this service.

One of the limitations of the present study is that it was limited to a single country, Peru. However, Beca 18 is a particularly interesting proposal since it is a comprehensive scholarship that combines educational quality, cultural relevance and a firm commitment to higher education as a driver of development, making it an ideal candidate for replication and evaluation in other contexts. Another limitation pertains to the examined population which, in being comprised of scholarship recipients attached to a scholarship program, does not necessarily reflect higher education recipients in the examined country. Nonetheless, findings are specific to scholarship recipients, from all regions of the country, who, given their position of vulnerability, represent an ideal sample based on which interventions can be designed in order to reach other populations living in conditions of poverty and/or vulnerability. Finally, it should be indicated that personal variables were considered which may

influence dropout decisions. Such variables may be related to aspects of social integration or socialisation, as observed in the work of Tinto (1975), Bean (1980) and Bean & Metzner (1985) or, more recently, Klein (2019). This latter research validated a model proposed by Tinto (1975) which urged the importance of social integration, whilst also touching on findings that a sense of belonging (Fourie, 2020), study commitment (Truta et al., 2018), and academic self-concept, adaptability and academic discipline (Ramírez Yparraguirre, 2017) are important determinants.

Present findings reveal the complexity of the loss of university scholarships. They serve to outline important aspects to be addressed by interventions, especially Beca 18. This will be useful for directing such programs as educational policy and putting appropriate actions in place to guarantee the completion of higher education studies. This, in turn, will equip young people to capitalise on the opportunity for personal betterment and to break the cycle of poverty, whilst, at the same time, providing a pool of capable young people.

Identification of the determinants presented in the present study provides a window of opportunity for future studies to examine in greater depth the economic and cultural aspects behind scholarship loss. Such studies should adopt mixed approaches as qualitative data is useful for steering the direction of public policies in this regard. Furthermore, future research should identify personal variables that may be relevant to the issue of dropout, especially in the case of populations living in poverty and/or situations of vulnerability (including populations, for example, whose mother tongue is not Spanish). Based on this, interventions should not be limited only to funding higher education but, also, to the effective monitoring of academic life in order to ensure that opportunities provided by the State are taken advantage of. Finally, it is recommended that future studies consider the importance of academic motives for dropout. This could entail an in-depth study

of the issue at an educational level and the policy proposals conceived to tackle it.

References

- Adrogué, C. (2006). *Desempleo y retornos a la educación superior en la Argentina (1974-2002)*. Anales, 41^a Reunión Anual de la Asociación Argentina de Economía Política.
- Álvarez, M. J., Castro, C., Corredor, J., Londoño, J., Maldonado, C., Rodríguez, C., Sánchez, F., Velasco, T., Ángel, D. M., Ayala, M. C. & Pulido, X. (2017). *El Programa Ser Pilo Paga: impactos iniciales en equidad en el acceso a la educación superior y el desempeño académico*. Documento CEDE, 59. Universidad de los Andes.
- Apaza, E. & Huamán, F. (2012). Factores determinantes que inciden en la deserción de los estudiantes universitarios. *Apuntes Universitarios*, 2(1), 77-86. <https://doi.org/10.17162/au.v0i1.306>
- Aramburú, C., Núñez, D. & Martínez, J. (2015). *Motivaciones de los postulantes seleccionados e ingresantes de Beca 18 que deciden no seguir la beca*. Programa Nacional de Becas y Crédito Educativo.
- Arrau, F. & Loiseau, V. (2003). *Deserción en la educación superior en Chile*. Biblioteca del Congreso Nacional de Chile.
- Atal, D. & Hernández, L. (2016). *Factores de permanencia o abandono de los estudiantes de primer año de la Universidad Central de Chile - Cohorte 2016*. Séptima Conferencia Latinoamericana sobre el Abandono en la Educación Superior. Universidad Nacional de Córdoba.
- Atienza, M. & Aroca, P. (2012). Concentración y crecimiento en Chile: una relación negativa ignorada. *Eure*, 38(114), 257-277. <https://doi.org/10.4067/S0250-71612012000200010>
- Barrios, A. (2011). Deserción universitaria en Chile: incidencia del financiamiento y otros factores asociados. *Revista CIS*, 9(14), 59-72.
- Bean (1980). Dropouts and turnover: The Synthesis and Test of a Causal Model of Student Attrition. *Research in Higher Education*, 12(2), 155-187. <https://doi.org/10.1007/BF00976194>
- Bean, J. P. & Metzner, B. S. (1985). A conceptual Model of Nontraditional Undergraduate Student Attrition. *Review of Educational Research*, 55(4), 485-540. <https://doi.org/10.3102/00346543055004485>
- Casanova, J. R., Fernandez-Castañón, A. C., Pérez, J. C. N., Gutiérrez, A. B. B. & Almeida, L. S. (2018). Abandono no Ensino Superior: Impacto da autoeficácia na intenção de abandono. *Revista Brasileira de Orientação Profissional*, 19(1), 41-49. <https://doi.org/10.26707/1984-7270/2019v19n1p41>
- Cotler, J., Román, A. & Sosa, P. (2016). *Educación superior e inclusión social: Un estudio cualitativo de los becarios del Programa Beca 18*. Programa Nacional de Becas y Crédito Educativo.
- De Garay, A. & Del Valle Díaz Muñoz, G. (2012). Una mirada a la presencia de las mujeres en la educación superior en México. *Revista Iberoamericana de Educación Superior*, 3(6), 3-30. <https://doi.org/10.22201/iisue.20072872e.2012.6.54>
- Fernández Lamarra, N. R. & Pérez Centeno, C. G. (2016). La educación superior latinoamericana en el inicio del nuevo siglo. Situación, principales problemas y perspectivas futuras. *Revista Española de Educación Comparada*, 27, 123-148. <https://doi.org/10.5944/reec.27.2016.15044>
- Fourie, C. M. (2020). Risk factors associated with first-year students' intention to drop out from a university in South Africa. *Journal of further and higher education*, 44(2), 201-215. <https://doi.org/10.1080/0309877X.2018.1527023>
- Gallegos, J. A., Campos, N. A., Canales, K. A. & González, E. N. (2018). Factores determinantes en la deserción universitaria.

- Caso Facultad de Ciencias Económicas y Administrativas de la Universidad Católica de la Santísima Concepción (Chile). *Formación Universitaria*, 11(3), 11-18. <https://doi.org/10.4067/S0718-50062018000300011>
- Garzón Umerenkova, A. & Gil Flores, J. (2017). El papel de la procrastinación académica como factor de la deserción universitaria. *Revista Complutense de Educación*, 28(1), 307-324. https://doi.org/10.5209/rev_RCED.2017.v28.n1.49682
- Guerrero, G., Rojas, V., Cueto, S., Vargas, J. & Leandro, S. (2019). *Implementación de programas de inclusión social en territorios con población vulnerable ¿Cómo está cambiando Beca 18 la vida de los y las jóvenes del valle de los ríos Apurímac, Ene y Mantaro (VRAEM)?* Documento de Investigación 96. Educación y aprendizajes. Grupo de Análisis para el Desarrollo – GRADE.
- Heredia Alarcón, M., Andia Ticona, M., Ocampo Guabloche, H., Ramos-Castillo, J., Rodríguez Caldas, A., Tenorio, C. & Pardo Ruiz, K. (2015). Deserción estudiantil en las carreras de ciencias de la salud en el Perú. *Anales de la Facultad de Medicina*, 76, 57-61. <https://doi.org/10.15381/anales.v76i1.10972>
- Klein, D. (2019). The interplay between academic and social integration in explaining higher education dropout intentions. An empirical application of Tinto's integration model in the German context. *Zeitschrift Fur Erziehungswissenschaft*, 22(2), 301-323. <https://doi.org/10.1007/s11618-018-0852-9>
- Larroucau, T. (2015). Estudio de los factores determinantes de la deserción en el sistema universitario chileno. *Revista Estudios de Políticas Públicas*, 1(1), 1-23. <https://doi.org/10.5354/0719-6296.2015.38351>
- Laverde Monroy, M. B. & Triana Martínez, H. D. (2018). *Deserción y retención en los programas de la Corporación Universitaria de Colombia Ideas*. Especialización Gerencia en Calidad de Producto y Servicios. Universidad Libre de Colombia.
- Lemaitre, M. J. (2018). *La educación superior como parte del sistema educativo de América Latina y el Caribe. Calidad y aseguramiento de la calidad*. UNESCO, CRES, IESALC.
- Londoño Ardila, L. F. (2013). Factores de riesgo presentes en la deserción estudiantil en la Corporación Universitaria Lasallista. *Revista Virtual Universidad Católica del Norte*, 38.
- Ministerio de Educación (2020). *Decreto Supremo N° 018-2020-MINEDU, Reglamento de la Ley N° 29837, Ley que crea el Programa Nacional de Becas y Crédito Educativo*. MINEDU.
- Ministerio de Educación Nacional (2009). *Deserción estudiantil en la educación superior colombiana. Metodología de seguimiento, diagnóstico y elementos para su prevención*. Imprenta Nacional.
- Miranda Guerrero, R. (2007). Mujeres, educación superior e igualdad de género. *CPU-e, Revista de Investigación Educativa*, 4, 1-30. Universidad Veracruzana.
- Motta Silva, J. F. (2021). *El rol de las becas en educación superior*. Trabajo de investigación de Pregrado en Economía y Negocios Internacionales. Universidad Peruana de Ciencias Aplicadas.
- Papadópulos, J. & Radakovich, R. (2005). Educación superior y género en América Latina y el Caribe. En *Estudio Comparado de Educación Superior y Género en América Latina y el Caribe* (Cap. 8). IESALC, UNESCO.
- Parodi, S., Ramírez, I. & Thompson, J. (2017). *Tasas de retorno de la inversión en educación en República Dominicana (2000-2015)*. Banco Interamericano de Desarrollo, BID. <https://doi.org/10.18235/0000830>
- Peñaloza Luna, M. (2019). *Shocks adversos y otros factores que inciden en la deserción universitaria*. Tesis de Maestría en

- Economía. Pontificia Universidad Católica del Perú.
- Pérez, A. M., Ruff Escobar, C., Ruiz Toledo, M., Benites Gutiérrez, L. & Morong Reyes, G. (2018). Prediction modelo f first-year student desertion at Universidad Bernardo O'Higgins (UBO). *Educ. Pesqui.*, 44(e172094), 1-22. <https://doi.org/10.1590/S1678-4634201844172094>
- Ramírez Yparraguirre, M. Y. (2017). *Factores individuales y de contexto que inciden en la deserción universitaria de los estudiantes del Programa Beca 18*. Tesis de Doctorado en Educación. Universidad César Vallejo.
- Rodríguez Gonzáles, Y. (2018). Becas para educación superior: avances y tensiones en la promoción de la equidad en Perú. Voces y Silencios. *Revista Latinoamericana de Educación*, 10(2), 18-31. <https://doi.org/10.18175/VyS10.2.2019.2>
- Rodríguez Gonzáles, Y. (2020). Políticas de inclusión en educación superior. El programa nacional Beca 18. *Revista de Sociología*, 31, 39-54. <https://doi.org/10.15381/rsoc.v0i31.19275>
- Rodríguez Urrego, M. (2019). *La investigación sobre deserción universitaria en Colombia 2006-2016. Tendencias y resultados*. Artículo de investigación. *Pedagogía y Saberes*, 51, 49-66. <https://doi.org/10.17227/pys.num51-8664>
- Sánchez, F., Munari, A., Velasco, T., Ayala, M. & Pulido, X. (2016). *Caracterización de la educación media en Colombia. Beneficios económicos y laborales de la educación media y acceso a la educación superior*. Ministerio de Educación Nacional, Universidad de Los Andes.
- Sinchi Nacipucha, E. R. & Gómez Ceballos, G. P. (2018). Acceso y deserción en las universidades. Alternativas de financiamiento. *Alteridad, Revista de Educación*, 13(2), 274-287. <https://doi.org/10.17163/alt.v13n2.2018.10>
- Tinto, V. (1975). Dropout from Higher Education: A Theoretical Synthesis of Recent Research. *Review of Educational Research*, 45(1), 89-125. <https://doi.org/10.3102/00346543045001089>
- Truta, C., Parv, L. & Topala, I. (2018). Academic Engagement and Intention to Drop Out: Levers for Sustainability in Higher Education. *Sustainability*, 10(12), 4637. <https://doi.org/10.3390/su10124637>
- UNESCO (2020). *Informe de Seguimiento de la Educación en el Mundo 2020 – América Latina y el Caribe – Inclusión y educación: todos y todas sin excepción*. UNESCO.
- Viale Tudela, H. E. (2014). Una aproximación teórica a la deserción estudiantil universitaria. *Revista Digital de Investigación en Docencia Universitaria*, 8(1), 59-76. <https://doi.org/10.19083/ridu.8.366>

Author / Autor

Salazar C3ndor, V3ctor (vic.salazar.ce@ceu.es)  0000-0001-6017-8095

PhD student in law and economics at the International Doctoral School CEINDO-CEU San Pablo Madrid. Social researcher and expert in conducting and directing social programs. Social psychologist by the Universidad Peruana Cayetano Heredia (UPCH), master's in public health (UPCH) and master's in project management and social programs (UPCH).



Revista ELectr3nica de IInvestigaci3n y EValuaci3n Educativa
E-Journal of Educational Research, Assessment and Evaluation

[ISSN: 1134-4032]



Esta obra tiene [licencia de Creative Commons Reconocimiento-NoComercial 4.0 Internacional](https://creativecommons.org/licenses/by-nc/4.0/).

This work is under a [Creative Commons Attribution 4.0 International license](https://creativecommons.org/licenses/by-nc/4.0/).