2nd International Conference on Higher Education Advances, HEAd´16, 21-23 June 2016, València, Spain

Dropout: Demographic profile of Brazilian university students

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Abstract

This study analyses dropout in higher education, a worldwide problem seen in the literature of developed and developing countries. The aim of the study is to explain dropout in Brazil's private higher education. Dropout is defined as the interruption of studies by students in higher education enrolled for any length of time, regardless of university change before its conclusion. This research uses data from students, which are the main population in higher education. Thus, the research is based on a survey questionnaire conducted to a higher education student population. These students can be divided in two categories to be compared: the regular private higher education students and the college students who have stopped their studies. The empirical study begins by a characterization of the respondents, followed by a logistical regression in order to identify the determinants of dropout. Age, change of marital status during the course, having scholarship and asking for funding were considered as determinants of dropout. Results of this research give contribution to young students, the society, the government, private higher education institutions and indirectly to the companies.

Keywords: Dropout; Private Higher Education; Determinants of dropout, Logistical regression.

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1. Introduction

The aim of this article is the identification of factors that take students to withdraw from Brazil's private higher education before concluding their studies. This phenomenon does not occur just in universities, but also in the education of adults. However, the focus of this research is exclusively on the university students. Several terminologies are used for "education stopping" before its conclusion, such as school leave and withdrawal, because they are synonyms. In this article the terminology adopted is dropout, whose presented definition means the interruption of studies by higher education students regularly enrolled for any length of time, regardless of university change before its conclusion.

To say that the cause of dropout occurs exclusively due to financial reasons becomes questionable, since dropout involves from low income students to the most financially well-off ones. In addition, in Brazil dropout remains high even with tuition reimbursement programs, namely the financing program that the Federal Government has created with a 3.4% interest rate per year for private institutions. In fact, there are many reasons that may influence the student in decision-making for the college dropout. Those reasons have social, academic and demographic features (Schnepf, 2014; Stratton, O'Toole, & Wetzez, 2008).

The study of dropout in the private higher education in Brazil evaluates the identification and confirmation of dropout relation to demographic, economic and social factors and also to academic quality. A study in Italy showed a relation among dropout and demographic and economic factors, and also academic quality (Ghignoni, 2015). Other studies indicate that the early leave of university students results in loss in social, governmental, business, personal and family amplitude (Zotti, 2015; Hanushek & Wößmann, 2010; Stratton, O'Toole, & Wetzez, 2008).

To identify the factors that lead to dropout in private higher education in Brazil will result in a valuable contribution that can support higher education institutions for a strategic planning in order to reduce the percentage of top national dropout. Other contributions of this study are extended to university students, to the Brazilian society and to the industry as a whole, as they will also benefit from the results of this investigation under the following aspects: (1) students, by being able to receive incentives to become more qualified and increase their human capital; (2) the society, by increasing the educational level of the Brazilian population, which puts the country in a more favorable position for its growth and development; (3) the industry, which will benefit in general from the hiring of labor that is more qualified and ready for operation.

2. Literature Review

Dropout is a global problem that occurs even in developed countries, where the implantation of enrollment fees may affect significantly the decision to stop the studies (Bradley & Migali, 2013). Countries as the United States of America and the United Kingdom have witnessed substantial increases in abandonment rates in the universities, while enrollment grows in university courses. The funding depends on the credit grants according to age, academic performance, wage and professional prospects (Johnson, 2013; Rothstein & Rouse, 2011; Stinebrickner & Stinebrickner, 2008).

Dropout in higher education can represent a very high cost for students, especially if there is an association between low wage and unemployment risk (Arulampalam, Naylor, & Smith, 2005). The financial factor may be one of the causes of dropout, but not the single one. The family income has become an increasingly important factor in the determination of college enrollment in the United States of America (Belley, Frenette, & Lochner, 2014). The association between this family income and the reduction of employability rate diminishes the access to higher education, increasing as a result higher education dropout.

There is also evidence that the higher the education level of the parents and their economic conditions, the greater the chances of students completing their courses, as well as the smaller the schooling and the lower the financial resources, the greater the chances of stopping the study and withdraw (Ghignoni & Zotti, 2015).

In addition, there are studies indicating that students education is directly related to the job market and the higher the educational level, the greater the chances of placing on the market when compared to young people who have lower educational degree (Zotti, 2015). Business organizations are strong influencers for the permanence of students in universities and for the conclusion of their higher studies, because organizations expect a good educational level from their employees (Stratton, O'Toole, & Wetzez, 2008). This time, the job market can be another factor related

to the presence or withdrawal of the students from educational institutions. There is no follow-up study on the professional life of students who have abandoned their studies in exchange for their professional activity, either by choice or necessity. In contrast the crisis in the job market in developed countries, as in Italy, can be a reduced incentive for young people to continue their university studies (Ghignoni, 2015).

The permanence in the studies can still be linked to the quality of the higher education institution. A university with a good quality education tends to have the highest number of graduating students in their courses (Hanushek, Lavy, & Hitomi, 2008). In fact, there is evidence that in developed countries the focus of quality teaching affects students' decisions whether to stay or leave (Schnepf, 2014).

There are other aspects already studied by the authors (Kingston, 2008; Pertegal-Felices et al., 2014), both as personal and emotional factors, but in this study these aspects will not be investigated, due to its limitation; this suggestion for further research for other articles may be taken into account.

3. Methodology

The aim of this work is to identify the determining factors for the permanence or withdrawal of students in Brazil's private higher education. Considering the goals, the population in this research study is formed by all the higher education students in in-person courses in private universities in the southeast of Brazil. From this target population we define as population under study all students enrolled in all areas of knowledge in the school semesters from 2010 to 2015. Before the goal to be achieved, and taking into account the results of empirical research referenced in the literature review, we consider three dimensions that may influence both the permanence and the completion of studies: 1) teaching, which include items concerning academic issues: progress, quality and academic performance (Ghinoni, 2015; Hanushek, Lavy, & Hitomi, 2008; Atuahene & Owusu-Ansah, 2013); 2) economic and financial factors, which include evaluation of financing-related items, provision of scholarship, costs for maintenance and course attendance (Ghignoni, 2015; Schnepf, 2014; Hanushek & Wößmann, 2010; Stinebrickner & Stinebrickner, 2008; Stratton, O'Toole, & Wetzez, 2008; Arulampalam, Naylor, & Smith, 2005); 3) sociodemographic factors related to students and family (Ghignoni, 2015; Schnepf, 2014; Bradley & Migali, 2013).

Data collection was done via electronic interview, for which a 59-query questionnaire was developed. The questionnaire was introduced in a safe software for data collection and a pre-test was conducted prior to the start of data collection. Eight thousand and two hundred students were contacted and invited by email to join the survey by means of the reply to the questionnaire that was accessible from a link. Three call-backs were conducted and a response rate of 16% was obtained, which resulted in 1,294 valid responses.

In addition to a descriptive analysis of collected data, a logit model was also estimated in order to identify the determinants of dropout. The dependent variable of this logistic regression model was the dropout and the independent variables were gender, age, family's graduate level, student's academic performance, marital status, children during the course, type of scholarship or funding to bear the studies cost, identified as merit or business scholarship and the University for All Brasilian Program (ProUni) or Student Finance Fund (FIES) scholarship.

4. Results

4.1. Descriptive results

The results showed the female gender prevails and that 85.7% of the 1,294 interviewed students are single. Most of these students consider themselves white, they are young with an average age of twenty-three years and three months, and most of these students attend a four-year degree. It was found that 27.7% of the students are unemployed, being internship and scholarship excluded for this situation. It was also demonstrated that 25.1% of the youngsters work from 21 to 40 hours per week, and 21.1% work more than 40 hours per week. The family income of 24.4% of these students is low and varies from one and a half to three minimum wages, which is equivalent to $328.34 (exchange rate used throughout the article: BRL/USD=3.6034 on March 30th 2016) up to $656.66. It is noticeable that for 18.2% of the students the total family income is over 10 and up to 30 minimum wages, from $2,188.90 up to $6,566.66.

In regard to the characteristics related to higher education, the reasons for the attendance and choice of university are due to the parents, who are the ones that encourage their children to get a degree, representing 55.5%. For 21.1% of the interviewed students no one encouraged them to study at a university. The main reasons for choosing a course were the vocation, the good integration in the job market that the profession can provide and the professional valorization the course offers. Results show that 69.9% of the young students did not join in graduation by means of affirmative action policies or social inclusion. Among the students who joined by political incentive or action, the combination of income, racial, ethnical criteria or other different system represents 33.7%, i.e., the highest enrollment percentage.

4.2. Econometric results

As mentioned in the methodology, a logistic regression model was estimated in order to identify the determinants of dropout (1 = the student stopped his/her studies; 0 = the student did not stop his/her studies). The categories of independent variables presented in the methodology were also defined as dichotomous variables. The results of the model estimates are shown in Table 1.

The model fits the data adequately with a significant chi-square (χ^2=25.396; df=9; p=0.003) and an overall prediction rate of 97.1%. This means that of the respondents, 97.1% were correctly classified into categories of the dependent variable. The Hosmer-Lemeshow goodness-of-fit statistic shows a good fit (χ^2=1.565; df=8; p=0.992). Furthermore, the overall fit of the binary logit model was assessed with the Cox-and-Snell R-square (0.130) and the Nagelkerke R-square (0.032), which indicate and acceptable fit.

The results presented in Table 1 show that gender is not a significant variable for students withdrawal (p=0.633). The parental educational level does not explain in a significant way the University students dropout either (p=0.823). There is also evidence that school failure or low academic performance (p=0.887), as well as the student having a child during his/her undergraduate studies (p=0.405), are not significant reasons for dropout. Similarly, obtaining scholarship for merit or company is not a determinant of dropout either (p=0.209).

The results indicate that the determinants of dropout are the following: age (p=0.043), marital status change (p=0.003), getting PROUNI or FIES scholarship (p=0.033) and the student asking for funding (p=0.100). This group includes age, and it was found that the younger the college students more likely they remain at the university, and the older they are more likely they withdraw, increasing one time if compared to students with less age.

The results show that when students change their marital status to married, divorced or widowed during the studies the odds of dropout is 5.9 times higher if compared to students who did not changed their marital status. Students with PROUNI or FIES scholarship are less likely to withdraw if compared to students who do not have those types of scholarship. Finally, students who get funding have a higher probability of dropout (4.7 times higher) if compared to those who do not have any kind of funding.

Table 1. Estimates of the parameters

Variable in the model	β	SE	Wald	*p*-value	Exp (β)
Constant	-4.805	0.951	25.538	0.000	0.008
Female	0.210	0.441	0.0228	0.633	1.243
Age	0.057**	0.028	4.105	0.043	1,059
Family with course	0.111	0.497	0.050	0.823	1.118
Low performance	0.062	0.440	0.020	0.887	1.064
Marital status changed	1.778***	0.605	8.646	0.003	5.920
Had children	-0.935	1.123	0.694	0.405	0.392
Merit scholarship	-0.953	0.760	1.575	0.209	0.385
ProUni or FIES scholarship	-1.636**	0.766	4.563	0.033	0.020
Funding	1.557*	0.947	2.701	0.100	4.744

Note: *$p<0.1$; **$p<0.05$; ***$p<0.01$; SE- standard error; -2 log likelihood=196.074.

5. Conclusions

Female participation in higher education has grown in recent years, prevailing the single marital status. The average age of students is 23 years and 3 months. However, gender is not a significant variable that leads students in Brazil's private higher education to withdraw. The courses lasting four years represent 68.3%.

The parents are the ones who encourage students the most to join college (55.5%) and this percentage increases to 62.3%, if other family members are included. The main motives for enrolling in the university is the vocation for the course, good insertion in the job market and the professional valorization the course offers.

Access to higher education is present in all socioeconomic classes, from minimum wage to more than 30 wages, which goes from $218.88 and surpasses $6,566.66. The distribution of the respondents among the scales by income range was balanced. What may lead to the conclusion that access to higher education does not belong only to families with better financial conditions. The study still showed that more than 50% of the interviewed people did not join by social action policies or quotas and scholarship. The system that combines the income and racial ethnical criterion is an important factor for enrollment and permanence of students with lesser purchasing power, as well as by race. Another important factor in regard to income is the criterion for enrollment as the University for All Program - ProUni. The academic quality and reputation of the university, followed by infrastructure, are important factors and the primary determinants for choosing an IES by college students.

In regard to work situation, except internship, a high percentage indicates that 40.9% of the young university students do not work. On the other hand, 46.1% of the youngsters work from 21 to 40 hours per week or more. Working so many hours weekly restricts the time of dedication to studies and may cause low academic performance and school failure Ghignoni (2015). But lower and middle school performance for students are not significant for students' withdrawal in Brazil's private higher education.

The conclusion, therefore, is that the significant reasons that lead university students to withdraw from Brazil's private universities are: marital status, age and funding. Students that experience a marital status change during their studies have a higher probability of dropout than others, older students are more likely to dropout than younger, and students with funding are more likely to dropout. Furthermore, we can conclude that students that benefit from a ProUni or FIES scholarship have a lower probability of dropout than others.

Acknowledgements

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