

Academic Performance Analysis of Accountancy Students at FEARP-USP Served by INCLUSP/PASUSP

Abstract

Objective: This study aims to analyze whether there is a difference between the academic performance of accounting students at FEARP-USP who benefit from the bonus system on the USP entrance exam and that of non-benefitted students.

Method: A quantitative study was undertaken by applying analysis of difference of means to new students between 2010 and 2014.

Results: No significant differences of means were observed between the students who received the bonus or not, neither in the average grade with nor without fail marks. When considering the analysis of all subjects, however, a significant difference is observed in the average without fail marks, where the students with bonus demonstrate a higher performance. In addition, it is highlighted that the students who ranked better on the entrance exam, without considering the bonus, display a significantly higher academic performance.

Contributions: This study contributes to the field of study on affirmative actions by empirically analyzing the concerns studied in confrontation with the literature and the area on academic performance, discussing the impact of the variables “Affirmative Actions” and “Entrance Exam Ranking” on student performance.

Key words: Higher Education, Accounting Education, Affirmative Actions.

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1. Introduction

According to article 205, Chapter III, Section I, of the Constitution of the Federative Republic of Brazil (1988), education is the right of everyone and the duty of the State and of the family, with the purpose of full development, preparation for the exercise of citizenship and qualification for work. The Federal Constitution of 1988 guarantees universal access only to basic education though - from kindergarten to high school, so access to higher education is achieved through the intellectual capacity and economic, social and financial conditions of each individual.

In Brazil, higher education has undergone profound changes, especially in terms of its expansion, which affected not only the availability of places, but also the profile of the population served (Franco, 2008). Despite the increase in the number of places available, access remains restricted for the low-income population, mainly because more than 70% of the available places are offered by the private sector (INEP, 2013) and lower-income students still see access to university as something almost impossible (Piotto & Nogueira, 2013). Given this scenario, it was necessary to create affirmative actions that encourage and facilitate the entry and permanence of the economically less privileged population in the country to Higher Education Institutions (HEIs).

The discussions about affirmative actions aimed at higher education in the Brazilian scenario began after 2002, when the state universities of Rio de Janeiro adopted the first quota system (Piotto & Nogueira, 2013). According to Pinheiro (2014), the main concern with the adoption of affirmative action to enroll students from the public education system is the drop in the quality of teaching, as the quota students tend to have a basic education level of lower quality and, supposedly, would not follow the development of the other students.

In order to verify if there is really a drop in the quality of teaching after the adoption of these affirmative actions, studies that involve the academic performance of the students benefited have been developed mainly in federal and state universities (Cardoso, 2008; Matos, Ferreira, Pinheiro & Dalmas 2010; Nabeshima, Machado, Martins, Coto & Dias, 2011; Dallabona, 2011; Bezerra & Gurgel, 2012; Waltenberg & Carvalho, 2012; Matos, Pimenta, Almeida & Oliveira, 2012; Peixoto, Ribeiro, Bastos & Ramalho, 2013; Piotto & Nogueira, 2013; Golgher, Amaral & Neves, 2014; Mendes Jr, 2014; Carvalho & Cerqueira, 2015).

The analysis of the literature review carried out by the authors indicates that performance data of accounting students have been investigated in a single study (Golgher, Amaral & Neves, 2014). In addition, a small number of specific evaluations exists on the academic performance of students who benefit from the bonus system on the entrance exam to the University of São Paulo (USP). In this line, only the work by Nabeshima et al. (2011), which evaluates students from the School of Dentistry between 2007 and 2010; and the work by Matos et al. (2012), which analyzed the data of students who entered 118 courses in 2007 were found.

Thus, the aim in this paper is to answer the following question: Are there differences in academic performance between students from the Accounting course at FEARP-USP, served or not by the USP bonus system?

Thus, the objective in this paper is to verify if there is a difference in performance between the Accounting students who benefitted from the social inclusion program or not at the School of Economics, Business Administration and Accounting at Ribeirão Preto. To achieve this goal, the averages of 11 subjects from the first year of FEARP's Accounting course were analyzed and statistical tests were performed to analyze possible differences among the students surveyed.

The study of affirmative actions is justified on the basis of the various concerns presented in the literature. The main concerns regarding affirmative actions include the possible drop in the entry of non-quota students and the possible drop in the quality of teaching, as the quota students tend to have a lower-quality educational background and supposedly would not follow the development of the other students (Pinheiro, 2014). There is also the fear that there is an overload in universities to meet those students with deficient basic education and that, as these students often come from low-income families, they usually work for their maintenance at the university, a factor that can increase the dropout rate (Dalabona & Schiefler Filho, 2011).

This paper is organized in five sections, starting with this introduction. The second part presents the discussion about Brazilian higher education and the affirmative actions present, while the third section presents the methodological design adopted to develop this study. Finally, the fourth and fifth parts present the results and discussion and the conclusions, respectively.

2. Theoretical Framework

In this part, texts are presented and discussed that supported the development of this study. First, Brazilian higher education is discussed in its current context, followed by the discussion about affirmative actions at the Brazilian universities. Finally, the University of São Paulo's Social Inclusion Program is presented.

2.1 Brazilian Higher Education: current context

The right to education was first established in 1948, in the United Nations Organization's (UN) Universal Declaration of Human Rights (ONU). In Brazil, the declaration of the Right to Education is established in article 6th of the Federal Constitution (1988) and, according to article 205th, education is a right of all and a duty of the State.

Although education is a right of all, universal access is only guaranteed for basic education – from kindergarten to secondary education -. Hence, equalitarian access to higher education is not guaranteed, and is achieved through individual intellectual capacity and social, financial and economic conditions. The economic and financial factors have gained a determinant role in the access to higher education due to the quality difference between public and private basic education (Castro & Leite, 2006) and the intense expansion movement of Brazilian higher education, in which the availability of places in the private sector surpassed that in the public sector. This affected not only the number of places, but also the profile of the attended population (Franco, 2008). Concerning the total number of places, data from the Department of Education (MEC) appoint that, since the 1980's, the private sector has been responsible for most, as shown in Table 1.

Table 1

Places available

Year	Public Sector		Private Sector		Total
	Places	%	Places	%	
1933	18,986	56.3	14,737	43.7	33,723
1945	21,307	51.6	19,969	48.4	41,275
1965	182,696	56.2	142,386	43.8	325,082
1985	556,680	40.7	810,929	59.3	1,367,609
2004	1,178,328	28.3	2,985,405	71.1	4,163,733
2009	1,523,864	25.6	4,430,157	74.4	5,954,021
2013	1,932,527	26.5	5,373,450	73.5	7,305,977

Source: INEP (2013)

Despite the expansion in the number of places, the lower income population continues with restricted access to higher education. According to Franco (2008), 50% of young people between 18 and 24 years of age whose family income exceeds five minimum wages are enrolled in higher education institutions, whereas only 12% of young people of the same age group whose family income is less than three minimum wages are enrolled in a higher education course.

As a result of the great expansion in the supply of private higher education, income has become a determining factor for access to these institutions, increasing the elitism of this level of education even further. The scenario in public institutions follows the same trend, as 70% of the students entering public institution belong to the 20% economically most privileged population in the country (Castro & Leite, 2006).

In that context, affirmative actions were necessary that encourage the entry and permanence of the economically less privileged population in Brazil, as higher education is a door towards the qualification of labor and, consequently, a synonym for a better life. This social ascent through education is based on the theory of human capital, which assumes that individuals with higher levels of education are more productive and receive higher wages (Alves, 2005).

Conceptually, affirmative actions “are intended to eliminate or reduce imbalances among social groups through actions in favor of these groups” (Dallabona & Schiefler Filho, 2011, p.2) and philosophically rest on distributive and compensatory justice (Bezerra & Gurgel, 2012). These actions can take various forms, such as voluntary or compulsory actions, public or private initiatives, and target audiences that vary according to the action (Dallabona & Schiefler Filho, 2011).

In recent times, in Brazil, most public universities are adopting some affirmative action and, according to Bezerra and Gurgel (2012, p. 5), this adoption of affirmative actions “aims, above all, to make it [the public university] a public place, which all Brazilians can have access to. They also seek to transform an equality de jure into an equality de facto”. The authors also point out that the creation of quotas is an emergency measure and not a definitive measure for the issue of exclusion.

The creation of affirmative actions that encourage the entry and continuation of economically underprivileged students has generated great discussion in society and the academy. The main concerns are the possible decrease in the number of non-quota holders and the possible drop in the quality of teaching, as the quota students tend to have a lower quality education and, supposedly, would not accompany the other students’ development (Pinheiro, 2014).

In this sense, both government and universities have been engaged in the creation of affirmative action programs. These actions include Federal Law 12.711/2012 - known as the Quotas Law - the Social Inclusion Program of the University of São Paulo, the University for All Program (PROUNI), the Student Financing Fund (FIES), among other actions taken at different universities.

2.2 Affirmative actions: The case of Brazilian universities

Based on Pinheiro's (2014) concern about the possible drop in teaching quality, several studies on the academic performance of the students entering through affirmative actions have been carried out. To begin the discussion, a definition is needed of what is meant by academic performance and whether socioeconomic variables - which give entitlement to affirmative action - and the way of entering higher education influence academic performance.

The academic achievement of a student can be defined as the result of an evaluation and can be expressed through a grade or concept (Munhoz, 2004). The simplest measures that can be used are scores on tests or subjects, besides more complete measures such as the average of a given period - such as a semester or a school year (Miranda, Silva, Lemos, Oliveira & Ferreira, 2015).

On the factors that can influence the academic performance of the students in business courses within the Brazilian territory, in the work by Miranda et al. (2015), it was identified that the students' characteristics are the main factor, among which the authors highlight the socioeconomic status. In the work by Ferreira (2015), the academic performance of Accounting students was analyzed through the grades obtained on the ENADE and, among the factors that influenced this performance at the "Student level", the variables income and form of admission can be highlighted. In this sense, in the work by Martins (2017), the academic performance of Accounting students was analyzed, showing that this is influenced, among other factors, by the student's form of entrance into higher education (affirmative or non-affirmative actions).

This shows that the students' entry form and socioeconomic status influences their academic performance, indicating that students who enter through affirmative actions would perform differently from students who enter without affirmative action. Research on the adoption of affirmative action in Brazilian universities began after 2002, when the state universities of Rio de Janeiro adopted the first quota policies (Piotto & Nogueira, 2013). The studies on the topic usually discuss and analyze not only the academic performance of the students benefited by the affirmative actions, but also their dropout and their trajectory before entering the university.

Bezerra and Gurgel (2012) analyzed the academic performance and dropout rates of students from the State University of Rio de Janeiro (UERJ) in 2005 and 2006 in five distinct courses - Administration, Law, Chemical Engineering, Medicine and Pedagogy. The results show that the quota holders' performance on the entrance exam is lower than that of non-quota students, however, without differences in the academic performance of both. With regard to dropout, the rate for non-quota students is 21.81%, against 10.80% - less than half - for quota holders. By expanding the sample to all courses at UERJ, Mendes Junior (2014) finds results that differ from Bezerra and Gurgel (2012).

Mendes Junior (2014) analyzed the graduates in 43 UERJ courses in the period from 2009 to 2011. The results of the study infer that the non-quota students present a higher performance than the quota holders and that this difference increases with the relative difficulty of the course - reaching 16.35% of difference between the groups. Regarding dropout, the study corroborates the work by Bezerra and Gurgel (2012), showing a lower dropout rate among the quota holders. Mendes Junior (2014) also emphasizes that the quota students, despite an inferior performance, have a higher graduation rate than non-quota students.

Peixoto et. al. (2013) compared the academic performance of the students benefiting from the quotas with that of the students who got into the Federal University of Bahia the traditional way. The results show that, when the averages are compared directly, the students who did not benefit from the quotas present higher academic performance. When segregated by knowledge area, however, the performance of the quota students in humanities is higher. The difference in the students' performance is explained by the deficient basic education of quota students, especially in the area of mathematics.

Cardoso (2008) evaluated the academic performance of new students in the second semester of 2006 at the University of Brasília (UnB). The evaluation compared students who entered through the universal system and the quota system. The author also divided the analysis by course area (Humanities, Sciences and Health) and subgroups of courses of greater and lesser prestige.

The data analysis by Cardoso (2008) indicated that, in the most prestigious courses, the students who entered through the universal competitive system scored higher averages in the areas of humanities, sciences and health, but with a significant difference in the area of sciences only. In the less prestigious courses, the students obtained higher averages in the areas of humanities and sciences, but without a significant difference of means. In the general analysis of UnB, the average of the students who enter through the universal system is 3% superior to that of the quota students, but without a significant difference.

Matos et. al. (2010) analyzed the averages of first-year students at the University of Londrina (UEL) in 2005 and 2006, in a universe of 5,713 students. The UEL has three entrance systems, one universal quota (U), one quota for students from public schools (EP) and another for the quota of black and mulatto students from public schools (N). During the period analyzed, EP and N students represented 55.9% of enrolled students. The average of all students in 2005 was 7.31 and there was no significant difference of means among students of all categories. In 2006, the overall average was 7.34 and a difference was observed between the groups. The lowest score was found in the N group with an average of 6.67. The authors point out, however, that there is no significant difference in the analysis per course.

Dallabona and Schiefler Filho (2011) evaluated the averages of new students in the courses of the Universidade Tecnológica Federal do Paraná (UTFPR), Curitiba campus, between the first semester of 2008 and the second semester of 2010. The university in question adopts a quota system in which 50% of the places are destined for students from public schools. The authors' analysis comprised a universe of 3,035 regular students and grouped the courses of the university in four types (Engineering, other baccalaureate courses, Teaching Diplomas and Technologies). The analyses indicate that the weighted average of non-quota students was higher in the Teaching Diploma category only, although no significant differences of means were observed in all groups.

In the study by Dallabona and Schiefler Filho (2011), it is also appointed that, among the 20 courses analyzed, non-quota students scored higher averages in only six, without a significant difference. In four of the 14 courses where the quota holders performed better, significant differences of means were found. The authors further highlight that the weighted averages of female non-quota students were higher than those of all other students.

Piotto and Nogueira (2013) discuss the college experience of new USP students through the USP Social Inclusion Program (INCLUSP/PASUSP). According to the authors, one of the main challenges for the effectiveness of affirmative actions is to encourage the students to take part in the entrance exam, as they often consider getting into university as something unachievable. After getting into college, the students reported relationship difficulties with peers due to social differences.

Golgher, Amaral and Neves (2014) estimated a statistical model to analyze the Global Semester Performance (GSP) of students who did nor did not receive bonuses in the UFMG entrance exam in 2009 and 2010. The authors used social, demographic and economic variables as controls. The results show that the difference between the groups - with and without bonus - is small or, as in most cases, null. As previously explained, this is the only study that provides information from Accounting students. In this case, the data indicate that there is no significant difference in academic performance between quota and non-quota students in the Accounting course.

Waltenberg and Carvalho (2012) developed another analysis of quota and non-quota students' performance. The authors used the scores from the specific exams of the National Examination of Higher Education (ENADE), comparing the grades of students admitted through some affirmative action with those who did not enter through affirmative action. The analysis considered 13 courses and, on average, 18.5% of the participants came from affirmative actions, mainly in the teaching diploma courses. As previously explained, this is the only study to point out information from Accounting students. In this case, the data indicate that there is no difference between Accounting students.

The analysis by Waltenberg and Carvalho (2012) shows that the average grade of students coming from public educational institutions and who entered without affirmative action is four points higher than that of students who entered through affirmative actions, and this difference is statistically significant. Among students from private educational institutions, no statistical difference was observed.

Also analyzing data from the ENADE, Carvalho and Cerqueira (2015) evaluated whether there was a grade difference between quota holders and free-competition students. The analysis was based on the specific tests for the courses of law (ENADE 2012) and medicine (ENADE 2013). The data show that, among the law students, there was no significant difference in scores between quota and non-quota students. Among the medical students' tests, however, a significant difference was observed, with non-quota students obtaining a higher average score than the quota students.

Campos, Machado, Miranda and Souza Costa (2017) analyzed the dropout level among business students who entered a federal university through affirmative action and students who entered the same university through places for open competition. The authors' results show that there are no significant differences between the two groups' dropout, showing that affirmative actions did not significantly affect the dropout rates. In the work of Campos et al. (2017), the need to analyze not only the entrance forms, but also the permanence of these students in higher education is emphasized.

2.3 Social inclusion program of USP

The discussion about the creation of quotas at USP began in 1995 with the perspective of creating and implementing a policy that would increase the access of black students, however, the university only adopted a bonus system in 2006. Instead of a bonus system based on the candidate's ethnic origin, the system takes into account the socioeconomic conditions (Piotto & Nogueira, 2013).

Created in 2006, INCLUSP aims to progressively increase the percentage of high school students entering public schools without compromising academic meritocracy or reducing the quality of incoming university students. The program works by means of a bonus in the grade of the two selection process phases for the candidates who prove to have fully completed high school in public schools. In 2007 and 2008 the bonus was 3%, with the difference that, in 2008 the candidate could choose whether or not to receive the bonus (Matos et al., 2012).

After an analysis of the results obtained in 2007 and 2008, it was concluded that there was a need to deepen the measures of the program. In 2009, after implementing the changes, the candidate could have a bonus grade of up to 12%, divided among 3% of initial bonus for public school students, a bonus of up to 6% referring to the student's performance on the National Exam (ENEM) and a bonus of up to 3% referring to the USP's Serial Assessment Program (PASUSP), which was created in 2008 for students in the third year of regular high school education at schools affiliated with the São Paulo State Department of Education (Matos et al. 2012). The fact of using the bonus already in the first phase of the entrance exam shows the University's effort to enhance social inclusion.

Currently, the program works by granting a 15% bonus to candidates who prove that they have completed primary and secondary education in public schools, plus an optional bonus for candidates who self-declare PPI - black, mulatto or indigenous - or a 12% bonus to candidates who prove that they have taken only secondary education in the public network.

According to Pinheiro (2014), one of the main concerns with the bonus programs is the benefited students' academic performance. In this sense, Nabeshima et al. (2011) investigated the performance of students who received the program bonus and students without the bonus. Therefore, the authors analyzed the grades on subjects taught in the first semester of the dentistry course, distinguishing between specific and basic subjects, and distinguishing the course period - evening and fulltime - between 2007 and 2010. The study appoints that the two student groups behave similarly, but that the performance of the INCLUSP students in the specific subjects of the fulltime course surpassed that in the basic subjects.

Matos et al. (2012) analyzed the impact of the INCLUSP program on the access of public school students to university. The authors point out that, although they are encouraged to take the entrance exam, the participation of students who have completed high school in public schools has decreased in the period from 2001 to 2010, having peaked in the year 2006, when 45.12% of the entrance exam candidates had studies in the public school network, while 2010 represented the lowest percentage of the period, totaling 26.60%.

Regarding the academic performance, the authors indicate that the average of the INCLUSP participants was equal to or higher than the university average in 64 of the 118 courses offered, demonstrating that the increased access of this student profile does not compromise the quality of the teaching offered by the institution. It should be emphasized that the study does not indicate the period analyzed, nor does it present the statistical background of the analysis.

2.4. The accounting course at FEARP-USP

The School of Economics, Business Administration and Accounting at Ribeirão Preto of the University of São Paulo was created in 1992 as an extension of FEA-USP in São Paulo. The unit currently offers four undergraduate courses, including the Accounting course, which is the focus of this research. The course offers 45 places per year and, in October 2015, there were 207 students enrolled in the course.

2.4.1 Profile of new accounting students at FEARP-USP

To help and analyze the school performance, the focus of this research was to obtain information about the profile of the student in the Accounting course at FEARP-USP. It should be emphasized that there is no data crossing between the analysis of the student profile and the students' academic performance.

The candidate for entrance examination at USP, developed by the University Foundation for Vestibular (FUVEST), has to complete a socioeconomic assessment sheet at the time of enrollment. On the sheet, various data are requested, and this information is subsequently consolidated and made available on the FUVEST website. In the case of FEARP, the new students' profile was analyzed after the final call - the last moment for admission during the first semester of the course. This analysis was developed based on the profile of all students in the four courses offered at FEARP, with one separate analysis for Accounting students only. The numbers presented below are a condensation of the data between 2010 and 2014, which is the focus of analysis in this research.

Within the focus of this research, the first point of analysis is the student's indication in favor of the bonus system INCLUSP and PASUSP. On average, 19% of new FEARP students choose the bonus system, but this average increases to 33% when analyzing the Accounting students only. This greater presence of Accounting students with bonus in the entrance exam permits more reliable statistical analyses than in other courses at the school.

Some factors of the socioeconomic questionnaire may explain this difference. For example, in terms of the origin in primary and secondary education, it can be observed in Table 2 that accounting students, compared to the whole unit, more frequently come from public education.

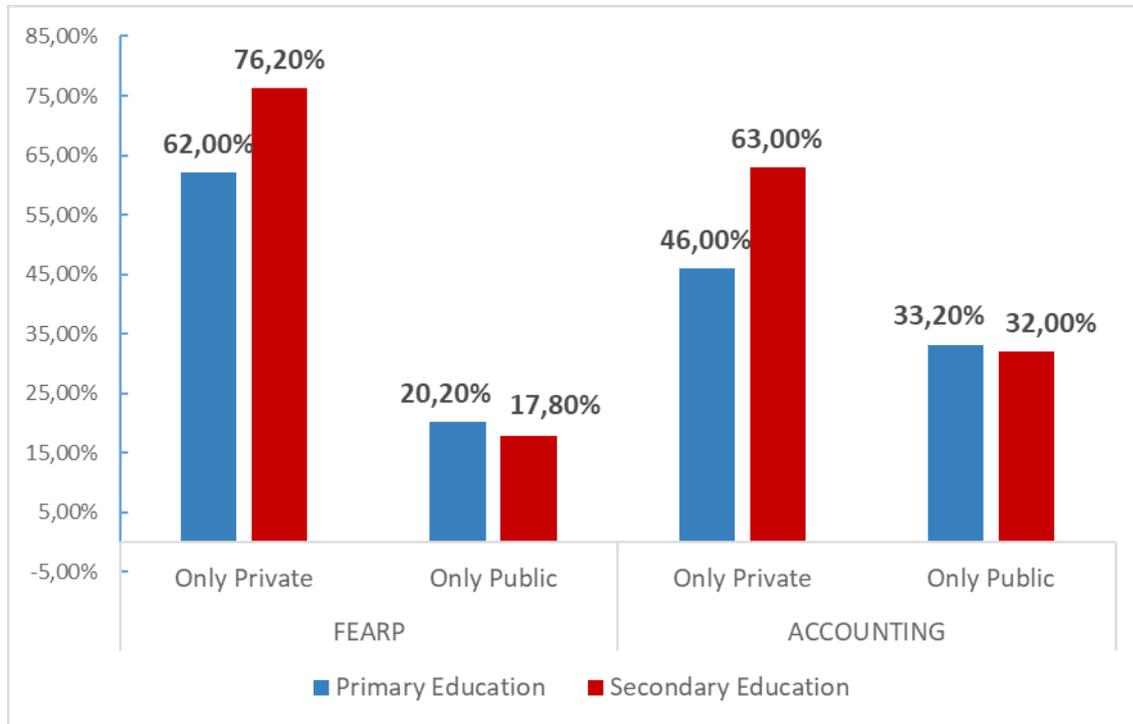


Figure 1. Origin of primary and secondary education

Source: Elaborated by the authors based on data from FUVEST (2015)

In terms of income, the mean income of FEARP students is 8.9 minimum wages. Specifically for Accounting students, it corresponds to 6.6 minimum wages. In addition, on average, only 18.8% of the students who enter FEARP indicate having a paid job, against 39% for new Accounting students.

Another relevant piece of information related to the origin of graduates is the fact that, on average, at FEARP, 31% of new students had already started another higher education course, with or without completing it. Among accounting students, this average amounts to 50%. That is also reflected in the new students' average age, being 19.4 years at FEARP and 20.7 years in Accounting.

3. Methodological procedures

The research design is based on the typology proposed in Beuren (2006). Thus, in terms of objectives, it is a descriptive study, as it describes the behavior of the research population. What the approach to the problem is concerned, it is a quantitative study, having used statistical tools for the data analysis.

As mentioned, the objective in this study is to verify whether a performance difference exists between the Accounting students who benefitted and did not benefit from the social inclusion program between 2010 and 2014. Therefore, the average grades were collected for 11 subjects taught in the first year of the Accounting course at FEARP-USP, being:

- First Semester
 - Introduction to Accounting I (SUB1)
 - Mathematics and Calculus Applied to Accounting (SUB2)
 - Economic Theory (SUB3)
 - Applied Informatics (SUB4)
 - Administration Theory (SUB5)
 - Introduction to Sociology (SUB6)
- Second Semester
 - Legal Entities (SUB7)
 - Portuguese for Business (SUB8)
 - Financial Mathematics (SUB9)
 - Fundamentals of Systems Analysis (SUB10)
 - Introduction to Accounting II (SUB11)

The analysis of the subjects was carried out according to the following variables:

- i. Average of students with or without bonuses in the entrance exam, through the INCLUSP and PASUSP systems: the analysis was based on the average considering the fail marks and the average without fail marks. The average for passing a subject at USP is 5.0. An analysis was also carried out not by subject, but by the year of entry;
- ii. Classification in the entrance examination: the course offers 45 places, not all of which are occupied on the first call. We used the classification 23 as a cut-off point, that is, the students classified until the 23rd position are placed in the first group and, from the 24th onwards, in the second group;
- iii. Merging of the first two based on the analysis of students with and without bonus, from the grouping of classification in the entrance exam;
- iv. Differences in number of pass grades.

To evaluate possible differences of means among the students, the Mann-Whitney non-parametric means test was used with a 95% confidence level, which was compared with the groups previously presented. For the other analyses, the Chi-square test was used, which is a non-parametric test that verifies whether or not the frequency at which a given event is observed in a sample deviates significantly or not from the frequency at which it is expected.

3.1 Construction of the database

As there is a lot of student movement within USP through internal transfers, re-entry by entrance exam, among others, the student base for the research was elaborated according to the following premises:

- a. Students who re-entered the course through a second entrance exam, for whatever reason, were excluded at the second entrance;
- b. Students who re-entered the university entrance examination, but who came from the course in Business Economics and Controllership, at this same unit, were also excluded, as they had already completed 95% of the subjects in their course of origin;
- c. Students who entered by internal or external transfer;
- d. Students who dropped out before the end of the first semester were excluded.

After excluding the individuals following the above criteria, the final base was composed of 218 students, 154 of whom had no bonus (70.6%) and 64 with a bonus (29.4%). To analyze the academic performance of these students, 2,074 grades of subjects were analyzed, being 1,414 of students without bonus (68.2%) and 660 of students with bonus (31.8%).

4. Results and discussions

In order to carry out the research, we found that analyzing the subjects for each of the years of the period studied was not feasible due to the small number of data. Therefore, the analyses were based on the data of all available years (2010 to 2014).

The first analysis of means was done for each of the 11 subjects the students had taken. The data in tables 2 and 3 show that no significant difference of means in relation to the analyzed variables was found only for SUB6 and SUB7. The content of the two disciplines is focused on humanistic areas.

In the comparison between students with and without bonus, a significant difference was only observed in the mean grade with fail marks for SUB10, in which the students with bonus obtained a higher average.

When analyzing the student's classification in the entrance exam, it was observed that no significant difference was observed only in the mean scores for SUB4, SUB6 and SUB7 while, in the mean scores with fail marks for SUB2 and SUB5, the average of the student with a higher classification than 23 was better than that of the students with a score of up to 23. In the means without fail marks, all students with a score of up to 23 had a higher average, although this difference is not always significant.

When analyzing the average of the students with classification up to 23, with and without bonus, no significant difference is observed. When analyzing students with scores above 23, on the other hand, significant differences are observed in the means with fail marks for SUB2, SUB4 and SUB10, and in the mean without fail marks only for SUB4. In SUB2, the students with bonus had a lower average and, in SUB4 and SUB10 the students with bonus obtained a higher average.

Table 2

Subjects first semester

Type of grade	Category	Sub 1		Sub 2		Sub 3		Sub 4		Sub 5		Sub 6	
		Mean	Mann	Mean	Mann								
With Fail Marks	With bonus	6.892	0.070	5.765	0.417	5.993	0.649	7.719	0.146	7.275	0.543	7.374	0.070
	No bonus	6.376		6.157		5.993		7.600		7.333		6.835	
Without Fail Marks	With bonus	7.229	0.206	6.717	0.831	6.954	0.238	8.386	0.067	7.373	0.473	7.446	0.106
	No bonus	6.972		6.777		6.706		8.193		7.493		7.117	
With Fail Marks	Entrance exam until 23	6.942	0.007*	6.485	0.003*	6.421	0.040*	7.852	0.214	7.766	0.000*	7.326	0.137
	Entrance exam superior to 23	6.211		5.695		5.650		7.466		6.934		6.776	
Without Fail Marks	Entrance exam up to 23	7.328	0.014*	1.411	0.011*	6.924	0.259	8.272	0.519	7.858	0.000*	7.326	0.387
	Entrance exam superior to 23	6.821		1.193		6.660		8.232		7.107		7.149	
With Fail Marks	Ent. exam up to 23 - With Bonus	7.425	0.103	6.557	0.340	6.412	0.811	7.674	0.536	7.758	0.682	7.663	0.129
	Ent. exam up to 23 - No Bonus	6.717		6.455		6.425		7.926		7.769		7.157	
Without Fail Marks	Ent. exam up to 23 - With Bonus	7.556	0.207	7.129	0.400	6.946	0.945	8.180	0.646	7.758	0.588	7.663	0.129
	Ent. exam up to 23 - No Bonus	7.215		7.044		6.914		8.310		7.903		7.157	
With Fail Marks	Ent. exam sup. to 23 - With Bonus	6.466	0.282	5.197	0.049*	5.683	0.657	7.753	0.012*	6.917	0.663	7.151	0.277
	Ent. exam sup. to 23 - No Bonus	6.084		5.923		5.633		7.338		6.942		6.593	
Without Fail Marks	Ent. exam sup. to 23 - With Bonus	6.953	0.506	6.305	0.412	6.962	0.121	8.547	0.003*	7.079	0.635	7.274	0.431
	Ent. exam sup. to 23 - No Bonus	6.749		6.559		6.520		8.092		7.122		7.085	

Source: Elaborated by the authors based on research data

Table 3

Subjects second semester

Type of Grade	Category	Sub 7		Sub 8		Sub 9		Sub 10		Sub 11	
		Mean	Mann	Mean	Mann	Mean	Mann	Mean	Mann	Mean	Mann
With Fail Marks	With bonus	7.325	0.595	6.895	0.862	5.16	0.952	6.681	0.023*	6.143	0.538
	No bonus	7.320		6.938		5.055		5.851		6.121	
Without Fail Marks	With bonus	7.689	0.317	7.211	0.974	6.668	0.977	7.047	0.205	6.549	0.700
	No bonus	7.477		7.207		6.600		6.812		6.483	
With Fail Marks	Entrance exam until 23	7.579	0.063	7.226	0.014*	5.678	0.004*	6.644	0.001*	6.498	0.003*
	Entrance exam superior to 23	7.109		6.672		4.595		5.705		5.806	
Without Fail Marks	Entrance exam up to 23	7.732	0.080	7.481	0.015*	6.748	0.222	7.155	0.014*	6.716	0.026*
	Entrance exam superior to 23	7.391		6.976		6.484		6.669		6.304	
With Fail Marks	Ent. exam up to 23 - With Bonus	7.472	0.894	7.254	0.738	5.876	0.896	7.192	0.265	6.535	0.466
	Ent. exam up to 23 - No Bonus	7.627		7.215		5.591		6.404		6.480	
Without Fail Marks	Ent. exam up to 23 - With Bonus	7.783	0.829	7.544	0.689	6.530	0.344	7.192	0.796	6.780	0.584
	Ent. exam up to 23 - No Bonus	7.709		7.455		6.854		7.136		6.684	
With Fail Marks	Ent. exam sup. to 23 - With Bonus	7.218	0.531	6.612	0.609	4.600	0.891	6.306	0.040*	5.825	0.773
	Ent. exam sup. to 23 - No Bonus	7.052		6.700		4.592		5.437		5.797	
Without Fail Marks	Ent. exam sup. to 23 - With Bonus	7.616	0.243	6.942	0.693	6.829	0.362	6.927	0.116	6.343	0.909
	Ent. exam sup. to 23 - No Bonus	7.279		6.991		6.333		6.537		6.282	

Source: Elaborated by the authors based on research data

After the analysis by subjects, the mean grades were evaluated per semester and for all course subjects. As shown in Table 4, the main differences were found in the analysis of the entrance exam classification, that is, the students who ranked up to the 23rd place have higher averages than those with a lower classification - 24th downwards -, both in the first and in the second semester, considering average grades with or without fail marks. These results indicate the influence of background knowledge on academic performance, corroborating the results of Miranda et al. (2015). It is also observed in Table 4 that there is a significant difference in the annual average without fail marks, with a higher average among students with bonus. And in the annual average without fail marks of students who ranked higher than 23, students with bonus have a higher average.

Table 4
Differences per semester

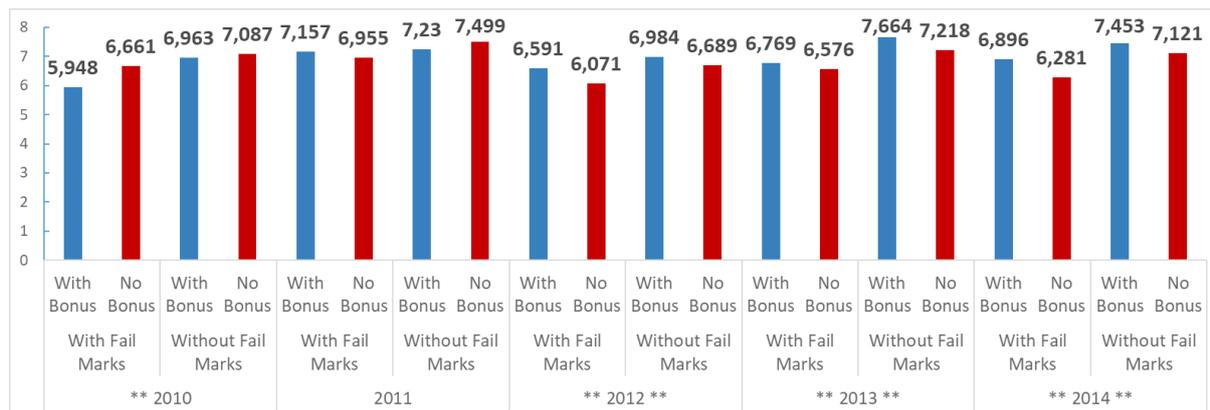
Type of Grade	Category	1st Semester		2nd Semester		1st full year	
		Mean	Mann	Mean	Mann	Mean	Mann
With Fail Marks	With bonus	6.861	0.186	6.451	0.181	6.679	0.065
	No bonus	6.739		6.259		6.525	
Without Fail Marks	With bonus	7.389	0.087	7.063	0.278	7.246	0.049*
	No bonus	7.250		6.956		7.123	
With Fail Marks	Entrance exam until 23	7.152	0.000*	6.731	0.000*	6.963	0.000*
	Entrance exam superior to 23	6.480		5.983		6.260	
Without Fail Marks	Entrance exam up to 23	7.494	0.000*	7.192	0.000*	7.361	0.000*
	Entrance exam superior to 23	7.124		6.810		6.989	
With Fail Marks	Ent. exam up to 23 - With Bonus	7.269	0.309	6.866	0.441	7.089	0.197
	Ent. exam up to 23 - No Bonus	7.100		6.671		6.906	
Without Fail Marks	Ent. exam up to 23 - With Bonus	7.557	0.480	7.187	0.920	7.393	0.539
	Ent. exam up to 23 - No Bonus	7.465		7.195		7.346	
With Fail Marks	Ent. exam sup. to 23 - With Bonus	6.553	0.389	6.131	0.242	6.366	0.170
	Ent. exam sup. to 23 - No Bonus	6.444		5.910		6.208	
Without Fail Marks	Ent. exam sup. to 23 - With Bonus	7.248	0.105	6.955	0.152	7.121	0.036*
	Ent. exam sup. to 23 - No Bonus	7.065		6.739		6.926	

Source: Elaborated by the authors based on research data

It is highlighted that the analysis of the average with fail marks, considering a 95% confidence level did not present a difference but, when considering a 90% confidence level, there would be a significant difference when, again, the students with a bonus would have a better average performance.

When analyzing the students' results by year of entry, it can be observed in graph 2 that, in almost all periods, significant differences of means were found, both with and without fail marks. In 2010, there was a difference only in the average with fail marks and the students without bonus had a higher average, which did not occur in the average without fail marks. Between the years of 2012 and 2014, there were significant differences though, both in the averages with and without fail marks and, in all periods, the average of the students with bonus was higher.

Considering the students' averages with fail marks during the entire analysis period (2010 to 2014), the result found in this study corroborates Golgher, Amaral and Neves' (2014) study, in which no significant difference was observed among the Accounting students. As already noted, however, this cannot be confirmed in the analysis by year of entry.



Graph 2. Evaluation per year of entrance

Source: Elaborated by the authors based on research data. Obs.: ** represents statistically significant difference of means

At the end of each subject, the students can be classified in four situations: passed, failed by grade, failed by attendance or failed by grade and attendance. The pass differences analyzed were between students with and without bonus, and also according to the entrance exam classification.

The data in Table 7 strengthen some of the findings presented earlier, mainly concerning their classification on the entrance exam, that, the students with better classifications did not only obtain higher averages, but also higher pass rates in the subjects, again indicating the influence of the students' background on their academic performance.

Table 5

Pass rate in subjects

Período	Bonificação			Classificação Vestibular		
	Qui-Quadrado	Sim	Não	Qui-Quadrado	Até 23	Acima de 23
2010	0,001*	78,1%	91,5%	0,000*	95,6%	80,3%
2011	0,015*	97,9%	88,0%	0,258	89,4%	92,7%
2012	0,230	88,5%	86,3%	0,812	86,2%	87,5%
2013	0,341	86,7%	87,1%	0,001*	93,5%	80,6%
2014	0,239	90,7%	83,3%	0,010*	94,5%	82,3%
Todos anos	0,768	88,6%	87,6%	0,000*	91,7%	84,8%

Source: Elaborated by the authors based on research data.

With regard to the students with and without bonus, differences can be observed only in the years 2010 and 2011. In 2010, the best results are found for the students without bonus, as observed in Table 6. In 2011, the students with bonus obtained a higher approval rate.

It is generally perceived that students entering through affirmative actions do not perform worse, going against the concerns pointed out by Pinheiro (2014) that the inclusion of these students in higher education courses would diminish their quality. Another point to be highlighted is the influence of the classification in the entrance exam, indicating that the students' background influences their academic performance, as shown in the studies by Miranda et al. (2015), Ferreira (2015) and Martins (2017).

5. Final considerations

According to the analysis of the literature, it is important to analyze the results of public policies and affirmative actions focused on education. Inclusion policies in higher education have occurred in a variety of ways, mainly through quotas and bonus systems. Studies have shown that, overall, there is no difference between students from these inclusion systems and students without bonus when their academic performance is analyzed and, as demonstrated, these analyses have expanded, but some areas, such as accounting, have not been addressed.

In view of the above, this study analyzed whether there is a difference in academic performance between Accounting students who benefit or not from the Social Inclusion Program at FEARP-USP. The analysis of the data showed that the fact that the students received some bonus to enter the university because they came from public school does not make them less able to obtain an appropriate academic performance within the University. In addition to having a proper academic performance in the university, many times, the analysis of the data shows that their performance can be superior to that of the students who did not have a bonus in the entrance exam, which ends up being reflected and validated in the semester and annual analyses.

It is also observed that what truly influences the academic performance in the University is the students' classification in the university entrance exam, regardless of whether they benefitted from the bonus. In eight of the eleven subjects taught in the first year of the Accounting course at FEARP-USP, the students with the lowest grade in the college entrance examination had lower performance levels than the students with the highest classification.

As a limitation, there is the fact that no larger time period was covered in the analysis, neither in terms of entry periods, as the USP bonus programs began in 2006, and in terms of a more longitudinal analysis involving the four course years.

As a suggestion for future work, we present studies that deepen the discussion about differences in dropout among the students benefitted or not by bonus systems, in the line of work done by Cardoso (2008), Bezerra and Gurgel (2012), Mendes Jr (2014) and Campos et. al. (2017). In addition to the analysis of performance data during the course, monitoring graduates who received a bonus or not is suggested, as in the research developed by UERJ (2011).

It is also suggested to analyze the performance of students in the business area through ENADE, like in the studies by Waltenberg and Carvalho (2012) and Carvalho and Cerqueira (2015). This research focus cannot be developed with USP students yet though, as the institution only voluntarily started to take part in the ENADE system in 2015.

As entering higher education involves the construction process of a new "I", that is, a new identity, qualitative research about the students' socialization process is suggested. Based on the work by Campos et al. (2017), research on the permanence of students who benefitted from affirmative actions is suggested, also considering the main difficulties they face in order to maintain or drop out of the course.

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