THE IMPACT OF REDUCING SUBSIDIES TO THE UNIVERSITY RESTAURANT ON STUDENT ACCESS AT UNIVERSITY OF BRASILIA IN BRAZIL

O impacto da redução dos subsídios ao Restaurante Universitário no acesso estudantil da Universidade de Brasília no Brasil

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ABSTRACT

This work seeks to identify the impact of reducing subsidies granted by the University of Brasília to pay for undergraduate students' access to the Institution's University Restaurant, seeking to compare results by type of meal, by personal characteristics of restaurant users and by campuses. The Differences-in-Differences method and ordinary least squares linear regression were used to analyze the database with 24,341 students, with information from the period between March and October 2018. The control group was composed of students who had 100 % of subsidized meals and students with a lower subsidy were part of the treatment group. The results of this research provide evidence that there was a negative impact on access to the RU for undergraduate students who are not participants in the Student Assistance Program. The data indicate that consumption in general fell by around six meals per month, compared to the control group, controlled for all variables in the models. It can also be seen that the greatest impact occurred at lunch, followed by dinner and then breakfast. In relation to the Campus, when compared, it is observed that the FUP and FGA treaties have negative impacts compared to the Darcy Ribeiro campus, while the FCE have positive impacts.

Keywords: Subsidies, University Restaurant, Method differences in differences.

RESUMO

Este trabalho busca identificar o impacto da redução de subsídios concedidos pela Universidade de Brasília para o custeio do acesso dos estudantes de graduação ao Restaurante Universitário da Instituição, buscando comparar resultados por tipo de refeição, pelas características pessoais dos usuários do restaurante e por campi. Foi utilizado o método das Diferenças-in-Diferenças e regressão linear por mínimos quadrados ordinários para analisar a base de dados com 24.341 estudantes, com informações do período compreendido entre março a outubro de 2018. O grupo de controle foi composto pelos estudantes que possuem 100% das refeições subsidiadas e fez parte do grupo de tratamento os alunos que possuem um subsídio menor. Os resultados desta pesquisa trazem evidências de que houve impacto negativo no acesso ao RU por parte dos estudantes de graduação que não são participantes do Programa de Assistência Estudantil. Os dados indicam que o consumo em geral caiu cerca de seis refeições mensais, comparativamente ao grupo de controle, controlado por todas as variáveis dos modelos. Verifica-se ainda que o maior impacto ocorreu no almoço, seguido do jantar e depois do café da manhã. Em relação ao Campus, quando comparado, observa-se que os tratados FUP e FGA apresentam impactos negativos em comparação ao campus Darcy Ribeiro, enquanto o FCE, positivos.

Palavras-chave: Subsídios, Restaurante Universitário, Método diferenças em diferenças.

1 INTRODUCTION

Universities restaurants – RUs are important organisms for the functioning of a university, providing the academic community with meals of adequate nutritional value and, in most cases, with prices below the market equivalent. In many cases, RUs are the best food option for the poorest students and those with logistical difficulties to eat with the proper quality. In addition, restaurants are a space for social interaction for the university community.

For Covarihäter et al. (2013) the service provided by the university has a social impact that can be reflected in terms of student health, lower food costs for students with lower financial conditions and, at the same time, an optimization in time for students who have different class schedules during the day.

However, with the current Brazilian fiscal crisis, public universities needed to make changes in part of their structures to adapt to the decrease in the collection capacity and the consequent transfer from the State. Silva et al. (2018) warn of the main consequences of budget restrictions in Federal Institutions of Higher Education – IFES, where the financial and budgetary aspects are presented as possible restrictions to organizational performance and are supposed to directly influence several variables, from the maintenance of the existing structure, personnel expenses, equipment purchases and physical expansion. Federal Higher Education Institutions (IFES) are not immune to these adversities and find restrictions in maintaining essential activities and even more in actions aimed at university expansion and expanding access to higher education (Silva et al., 2018, p. 33).

Matias-Pereira (2017) summarizes well the relationship between fiscal crisis, budget and public management. The author says that the negative effects of the world economic crisis have started to demand good governance from governments and politicians, especially in the administration of economic policy. In this way, the need for responsible management was imposed, with emphasis on the good administration of public finances, thus requiring an efficient system of information on the financial, budgetary and patrimonial reality of public entities. The public budget, in which annual revenues and expenses are defined, has become an important marker in this effort, since the collection and application of financial resources by the Public Administration are closely related to the budget, which provides the necessary means to meet social demands and provision of public interest, in particular, public policies. The idea of budget becomes intrinsic to the concept of public management (Matias-Pereira, 2017, pp. 118-119).

In the case of RUs, one of the alternatives was the outsourcing of services and the change in the systematic of meal prices. In this context, at the University of Brasília (UnB), in 2018, there was a significant change in meal prices. The university reduced the subsidized amounts, so that some categories started to pay the full amount of meals.

One question is what impact will this price change have on the quantity of meals demanded? In the specific case of UnB, how does this eventual impact change in magnitude depending on the campus or even depending on the characteristics of the users of this service? This article seeks to identify the impact of such a reduction in student access to restaurants, seeking to compare the impact by type of meal (breakfast, lunch and dinner), by personal characteristics of RU users, as well as by campus (Darcy Ribeiro, Ceilândia, Gama and Planaltina).

It is based on the initial premise that changing meal prices has a negative impact on access to the UK for students who are not part of the group benefiting from full student assistance.

2 THE UNIVERSITY RESTAURANT OF THE UNIVERSITY OF BRASÍLIA

The UnB RU was inaugurated in 1975. Its built area is over 6,000 m² and has cafeterias over 1,500 m², serving breakfast, lunch and dinner for students, teachers and UnB servers, in addition to the external community. There are restaurant units on the Darcy Ribeiro, Ceilândia, Gama, Planaltina and Fazenda Água Limpa campus. Only the restaurant located on the Darcy Ribeiro campus is open every day of the week (UNB, 2016b).

The RU's mission is to provide the university community with low-cost, adequate and healthy meals that meet the recommendations of the Food Guide for the Brazilian Population of the Ministry of Health, aiming to support the development of teaching, research and extension activities, minimizing dropout. and favoring diplomacy within the scope of UnB. (UNB, 2016a)

From its inauguration until 2015, the management of the RU was carried out by the university itself. However, several factors, especially the need for economic adjustment in the face of the fiscal crisis, culminated in the need for outsourcing of restaurant services by UnB.

In the perspective of Cardoso et al. (2018), another factor that influenced the need for outsourcing in the RU: the creation of REUNI[1], which expanded the access and permanence of students in higher education.

Also according to the authors Cardoso et al (2018) since the implementation of REUNI, instituted by the Federal Government, in 2007, through Decree No. 6,096 of April 24, 2007, the number of students and civil servants at federal universities gradually increased, thus overloading the demand of university restaurants (Cardoso et al., 2018, p. 215).

Corroborating the understanding above, Maia (2008) points out that, in view of the prospect of expanding the number of students at IFES, it was necessary to seek the redirection of the current management model of University Restaurants, in such a way that resources are optimized and demand is met with satisfaction.

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[1] The expansion of higher education has the Support Program for Restructuring and Expansion Plans Jof Federal Universities (Reuni), whose main objective is to expand access and permanence in higher education. With Reuni, the federal government adopted a series of measures to resume the growth of public higher education, creating conditions for federal universities to promote the physical, academic and pedagogical expansion of the federal higher education network. The effects of the initiative can be seen in the significant numbers of the expansion, which started in 2003 and is expected to be concluded by 2012. To see in MEC (2020).

2.1 VALUES OF MEALS[2]

As of 2016, the RU administration started to be outsourced. A food company entered into a service contract with UnB, effective from January 2016 until January 2017, to assume the management of the RU. Subsequently, the contract was extended for another 24 months, effective until January 2019.

In the second semester of 2017, 100% of the meals of students who enter the University through social quotas and who had a family income of less than one and a half minimum wages started to be automatically subsidized. Before this period, it was necessary to request an exemption from the Social Development Directorate (DDS) so that the student could obtain such a right. The subsidy is paid by the University and the PNAES (National Student Assistance Plan).

Still in the second half of 2017, the restaurant reduced the amount paid for the contract with the food company, changing the values of each meal. The full value of breakfast went from R $ 8.74 to R $ 6.99 and lunch and dinner went from R $ 14.76 to R $ 12.98. The academic community is divided into three distinct groups, each with a percentage of the meal subsidized by the University, as shown in Tablet 1. Visitors and outsourced workers are not benefited by the subsidies.

Table 1

Value of RU meals in the second semester of 2017

Groups	Composition	Full meal value		Percentage (and amount) of the subsidy paid by UnB or PNAES		Amount paid by the user for any meal
		Break-fast	Lunch and dinner	Breakfast	Lunch and dinner	
I	Students participating in student assistance programs (with family income per capita below 1.5 minimum wages).	R $ 6,99	R $ 12,98	100% (R $ 6,99)	100% (R $ 12,98)	R $ 0
II	Students who are part of the Graduation Agreement Student Program (PEC-G), which selects foreign students who come from countries with which Brazil has educational and cultural agreements.	R $ 6,99	R $ 12,98	85,70% (R $ 5,99)	92,30% (R $ 11,98)	R $ 1,00
III	Students with per capita family income above 1.5 minimum wages and civil servants	R $ 6,99	R $ 12,98	64,30% (R $ 4,49)	80,80% (R $ 10,48)	R $ 2,50

Source: Prepared by the authors, with data from the University of Brasília (UNB, 2018c).

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[2] One real (R $ 1.00) in Brazilian currency had the equivalent value of twenty US cents in December 2020.

According to the UnB Communication Secretariat (SECOM), the amount paid by users has not been adjusted since 1994 (UNB, 2018b).

However, still in 2017, the Board of Directors of UnB (CAD) instituted a commission to analyze possible scenarios for the restaurant. The commission's objective was to study ways to maintain exemption for students who were in economic vulnerability and to reduce the amounts committed by UnB for funding. After meetings with representatives of students, teachers and administrative technicians, the commission presented proposals to adjust the amounts charged to the university community.

Thus, in June 2018, the CAD approved a new policy for RU subsidies, through Resolution No. 27/2018, maintaining the full value of meals, but this time, decreasing the value of subsidies and changing the composition of groups II and III, so that group I was the only one that did not suffer changes in the final amount paid by the user (UNB, 2018a), as shown in Table 2.

Table 2

Value of RU meals in the second semester of 2018[3]

Groups	Composition	Full meal value		Percentage (and amount) of the subsidy paid by UnB or PNAES		Amount paid by the user for any meal	
		Break-fast	Lunch and dinner	Breakfast	Almoço e jantar	Café da manhã	Breakfast
I	Strict sense undergraduate and graduate students participating in the student assistance program (with per capita family income below 1.5 minimum wages)	R $ 7,00	R $ 13,00	100% (R $ 7,00)	100% (R $ 13,00)	R $ 0	R $ 0
II	Strict sense undergraduate and graduate students with per capita family income above 1.5 minimum wages	R $ 7,00	R $ 13,00	60% (R $ 4,20)	60% (R $ 7,80)	R $ 2,80	R $ 5,20
III	Public servers	R $ 7,00	R $ 13,00	0%	0%	R $ 7,00	R $ 13,00

Source: Prepared by the authors, with data from the University of Brasília (UNB, 2018c).

When Tables 1 and 2 are compared, there is a change in the composition of Groups II and III, where the subsidized value for Group II was reduced and Group III was no longer subsidized. This difference in amounts related to the subsidy was passed on to users, who started to pay a higher amount for meals. In addition, the Resolution, in its article 6, decided to round the value of breakfast to seven Brazilian Real and lunch and dinner to thirteen Brazilian Real.

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[3] Brazilian minimum wage is around 200 dollars a month.

Assuming that the RU has an important role, any and all changes made to the prices offered to the community must have their impact assessed, so that the cost-benefit of any changes can be seen.

3 METHODS

To achieve the objective of the study, an impact assessment of the reduction of subsidies to the RUs in the accesses to the restaurants was carried out. Access from the entire academic community was not evaluated, but only from undergraduate students. The time frame used involved data from March to October 2018. The data analyzed were secondary and were collected at the University of Brasília.

The initial hypothesis was that the reduction in meal subsidies significantly impacted students' access to RUs.

Stata software was used to run the model.

3.1 DATABASE

The database was obtained from the UnB Data Processing Center (CPD-UnB). In all, information from 24,341 students was analyzed.

The variables available in the database and used in the model were course, campus, gender, quota, admission, type of high school (public or private), date of birth (age), if it is part of the student assistance program, if you are active in UnB, way out of UnB (when inactive), number of accesses per month for breakfast, lunch and dinner.

The data referring to the use of the RU located at Fazenda Água Limpa were not recorded by CPD-UnB in this database. Due to the lack of this information and because it is the restaurant with less use, compared to the others, it was excluded from the sample in this study.

3.2 ASSUMPTIONS

The reduction of subsidies to the RU is not a program or a project, but an action implemented by the Rector of UnB in order to reduce spending on the university's restaurants in the face of the financial crisis that the institution has been experiencing. An analysis of potential counterfactual results was performed.

For the application of the method, it is necessary to define:

a) Policy to be analyzed: the reduction of meal subsidies in the RUs. If, on the one hand, the University started to pass on less financial resources to the company that manages the RUs, on the other, this difference was assumed by the users, that is, the students started to pay a higher amount to access and consume meals;

b) Period analyzed (pre-treatment and post-treatment): the period considered prior to treatment was between the months of March and June 2018 and the period after treatment was from August to October 2018. The month of July was discarded of the analysis, since the change in prices for users occurred during that month and the data do not have access dates (only the month), it is not possible to identify which July accesses were before the change and which were after. In addition, being within the school recess, July is a month with less access to the restaurant;

c) Treatment group: students who accessed the restaurants and started to pay a higher price for the meal, that is, who were directly impacted by the analyzed action; and,

d) Control group: students who were not directly impacted by the action, that is, those who had no change in the costs of access to the RU. This public is made up of the Bolsa Família Program beneficiaries, participants in Student Assistance (group I) – access to restaurants was free for the three meals (breakfast, lunch and dinner) before the reduction of subsidies and remained free after the action.

3.3 EMPIRICAL STRATEGY

According to Foguel (2012), building the counterfactual group (control group) is the central issue in the evaluation of public policies. He also considers that the ideal would be to compare the treated group with the same individuals if they were not treated, however, it is impossible to have a group that is in both situations simultaneously, so the challenge is to identify a control group that adequately represents a good against factual treatment group.

In this study, no randomization was performed to identify the treatment group. Among restaurant users there are undergraduate and graduate students, technical and administrative staff, teachers, contractors and the external community. Seeking to maximize homogeneity between groups, the analysis was restricted to undergraduate students.

The criterion for the adoption of the control group was the identification of the only users who were not directly affected by the price increase (treatment): the students participating in Student Assistance. This group is composed of both students who had a socioeconomic vulnerability profile characterized by the University (through the Directorate

of Social Development – DDS) and students who joined UnB through the low-income public school quota policy from the 2nd semester of 2017 (UNB, 2017).

3.3.1 The average treatment effect for treaties (Differences in Differences)

The need to accompany a control group in parallel to the treated group exists to guarantee methodological robustness by not allowing other effects to be contaminated, other than those studied in the final results, as a result of the treatment, a behavior that would already be present if the intervention did not exist.

The Differences in Differences method compares the difference between before and after treatment in the treated group with the difference between equivalent periods in the control group. The difference resulting from the aforementioned differences is the effect of the treatment.

According to Silva Júnior et al. (2013) to estimate the average effect of the treatment, mathematical hope (ε) is used as the linear operator. The average effect of treatment for treaties is identified by TTE:

$$ETT = \varepsilon\{Y_{11}|T=1\} - \varepsilon\{Y_{01}|T=0\} - \varepsilon\{Y_{10}|T=1\} - \varepsilon\{Y_{00}|T=0\}$$

That is, the average treatment effect for the treated (ETT) is equal to the average of the variable result of the treated after treatment ($\varepsilon\{Y_{11}|T=1\}$) minus the average of treated before treatment ($\varepsilon\{Y_{01}|T=0\}$) minus the average of controls after treatment () minus the average of controls before treatment ($\varepsilon\{Y_{00}|T=0\}$).

3.3.2 Estimation by panel data with fixed effect

As presented by Silva Júnior et al. (2013), the use of only the difference of means, for non-random experiments – as is the case of the one presented in this work, produces skewed estimates. The authors also point out that the application of regression methods with panel data can separate the effects of the evaluated action (reduction of subsidies), from observable and / or unobservable variables. The data used in the panel are characterized by the identification of individuals before the action and after the action, of those who were treated and who were not. Thus, it is estimated a linear regression by ordinary least squares for data with fixed effects.

Another consideration presented by Silva Júnior, Pedrosa and Silva (2013) is about the assumptions for using the method: the unobservable variables that affect the result are constant over time and there is a linear function that can translate the real effect of the treatment.

The behavior of the variables of interest associated with the model can be described by the following regression equation:

$$Y_{ist} = \alpha + \theta_i + \gamma t_i + \beta T_i + \delta X_{it} + \mu_{it}$$

Where:

Y_{ist} is the result of interest to student i of group s over time t;

α is the intercept time;

θ $_i$ is what captures the fixed and specific effect for the student i;

γ_{ti} is the coefficient that measures the time dummy;

β is the impact of reducing subsidies on the variable of interest – access to the RU;

T_i is the dummy variable that identifies whether the student is in the treated group;

δ is the vector of coefficients associated with the independent variables;

X_{it} is the matrix of independent variables for each student i over time t;

μ_{it} is the error term.

3.4 APPLICATION OF THE METHOD

Four independent analysis models were created: effect of the treatment on the quantity (1) of meals, (2) of breakfasts, (3) of lunches and (4) of dinners. The variables present in the model, in addition to these, were: treatment (treatment or control), time (before or after treatment), sex, age, quota, campus, time at the University and months – used as dummy control variables for each month. The interactions included in the resulting model were treatment / sex, treatment / quota, treatment / campus, quota / sex and treatment / quota / sex. Other interactions were tested – such as age squared, to capture non-linearity effects – and removed from the model, as they did not present statistical significance.

4 **ANALYSIS OF RESULTS**

Initially, the main descriptive analyzes of the data obtained and used for the construction of the model are presented. 24,341 undergraduate students were analyzed, 80% from the Darcy Ribeiro campus, 9% from Gama, 8% from Ceilândia and 3% from Planaltina.

Of the total, 50.4% are male and 49.6% female. More than 40% enrolled for some type of fee, mainly for a public school fee. About 49% of students attended high school in a private school, while 49.7% in public school, in 1.3% of students this registration was not carried out. Of the students analyzed, at the end of this study, 9% were inactive at the University due to graduation, dismissal or other forms of disconnection.

The minimum age identified among students was 16 years old and the maximum was 74. The average age was 22.3, the most frequent (fashion) was 20 and the central age of all students analyzed (median) was 21 years.

The courses with the most students were, respectively, Letters, Law, Pharmacy, Engineering, Nursing and Accounting Sciences, together they accounted for almost 20% of the total number of students on the four Campus. From the data, 79 courses were identified.

On average, the students analyzed attended the 6th semester in the 2nd / 2018. Half of the students analyzed were up to the 5th semester and the semester in which they had a greater number of students in the period was the 3rd (11.5% of the total). The data identified students who were from the 1st to the 27th semester.

Graph 1 shows the accesses to the RU by sex (male or female) and quota (quota or non-quota), respectively, both in relation to the groups to which they belong (control or treatment).

Graph 1
Access to the RU by sex, quota and group
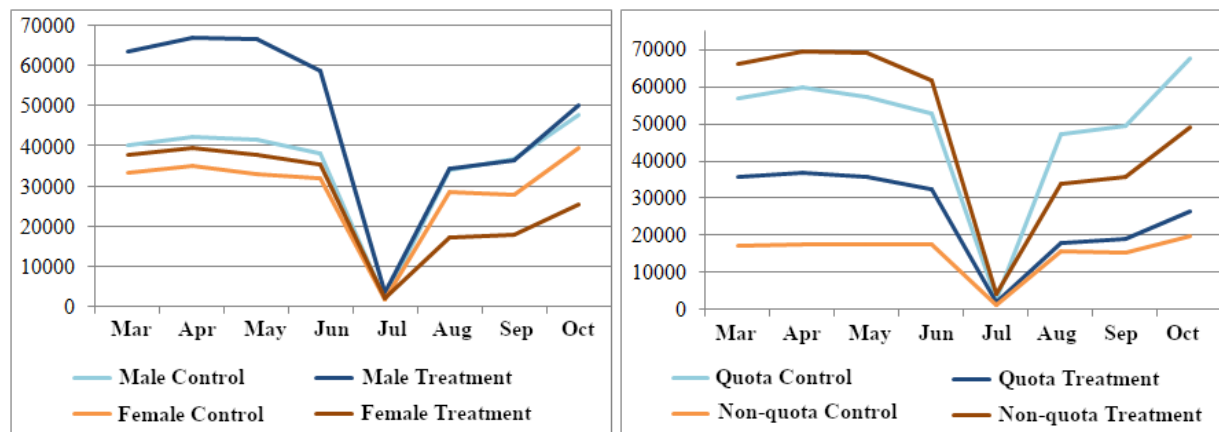
a) Access to the RU by sex and group   b) Access to the RU by quota and group
Source: Prepared by the authors, with data from the University of Brasília.

As can be seen in the aforementioned graph, there is a significant drop in accesses in July, as, in addition to being a month of recess at the University, it was the month of readjustment. It is also verified that the functions that represent control groups show a slight decrease, but in the lines of the treatment groups, the reduction is more expressive.

Still observing Graph 1a, it can be seen that before treatment, accesses by male individuals were much greater by the treated group than by control, however, it is visible that after treatment, the accesses of these two groups significantly approached, that is, the accessions of the treated group fell until the control group was approached. Among female students, the drop in the treated group was much more significant when compared to the respective control group.

Graph 1b shows that the accesses of both treated non-quota holders and treated quota holders fell to almost half of that observed in previous months. The highest numbers of accesses in the first months observed correspond to the categories of treated non-quota students and control quota students, which is done in relation to the total number of students at the University, since most of the UnB quota students come from public schools with low income consequently, they are free and part of the control group. Among non-quota holders, there is a relatively small number of students in vulnerability, so there is a greater composition of the treatment group.

Graph 2 shows the access to the RU by Campus (Darcy Ribeiro, FCE, FGA and FUP) all in relation to the groups to which they belong (control or treatment).

Graph 2
Access to the RU by sex, quota and group
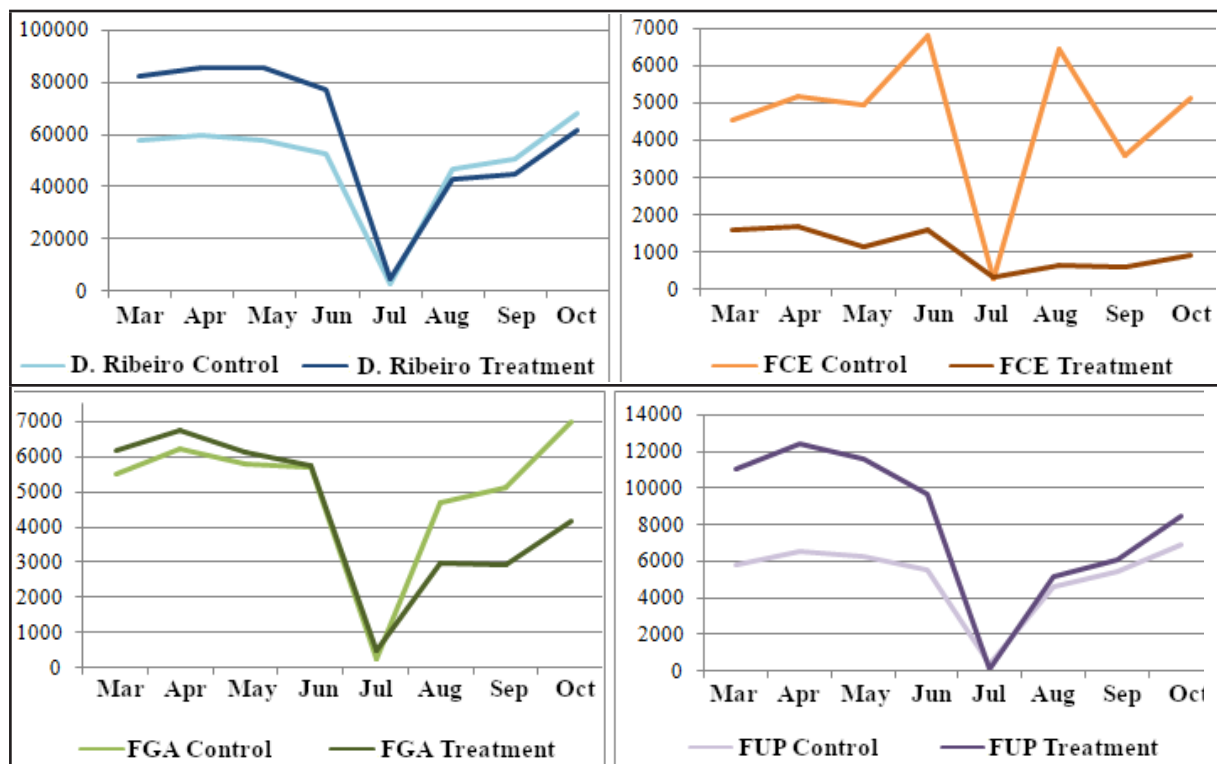
Source: Prepared by the authors, with data from the University of Brasília.

This graph shows different behaviors that seem to represent the socioeconomic characteristics of those Campus. It draws attention to the low sensitivity of the FCE campus.

The results of the proposed regression models are now presented. Table 1 shows the results obtained from the four models mentioned. The model is identified in the columns, as well as the β estimator, in parentheses is the standard error and the asterisk (s) represents the level of significance of the variables per model.

Table 1

Regression analysis of the effect of the RU price adjustment on total meals, breakfast, lunch and dinner

Variables and interactions	Meals	Breakfast	Lunch	Dinner
Treatment effect	-6,27*** (0,11)	-1,43*** (0,04)	-3,16*** (0,06)	-1,69*** (0,04)
Treatment / Male	-0,78*** (0,12)	-0,12*** (0,04)	-0,22*** (0,07)	-0,45*** (0,04)
Treatment / Quota	-1,99*** (0,14)	-0,16*** (0,06)	-0,26*** (0,10)	0,74*** (0,07)
Treatment / Quota/ Male	-0,88*** (0,19)	0,75*** (0,02)	1,34*** (0,04)	0,40*** (0,03)
Treatment / FUP	-1,54*** (0,32)	1,09*** (0,03)	1,38*** (0,06)	1,09*** (0,04)
Treatment / FCE	0,32* (0,18)	1,13*** (0,03)	1,55*** (0,06)	1,07*** (0,04)
Treatment / FGA	-0,33** (0,16)	1,44*** (0,03)	2,71*** (0,06)	1,40*** (0,04)
Male	2,7,*** (0,07)	0,22*** (0,02)	1,40*** (0,04)	1,07*** (0,03)
Quota	2,49*** (0,07)	-0,77*** (0,11)	-0,02 (0,19)	-0,74*** (0,12)
Male/ Quota	0,87*** (0,10)	-0,26*** (0,05)	-0,54*** (0,09)	0,46*** (0,06)
Age	-0,05*** (0,004)	0,00 (0,00)	-0,08*** (0,00)	0,03*** (0,00)
FUP	0,92*** (0,13)	0,66*** (0,04)	-0,51*** (0,07)	0,76*** (0,05)
FCE	-0,36*** (0,10)	0,26*** (0,03)	0,57*** (0,05)	-1,20*** (0,04)
FGA	0,41*** (0,09)	0,33*** (0,03)	1,13*** (0,05)	-1,05*** (0,04)
Dummies of months	Yes	Yes	Yes	Yes
R²	0,773	0,871	0,799	0,836
F – test	1167,70 (0,000)	611,00 (0,000)	1011,15 (0,000)	798,79 (0,000)
Durbin-Watson	2,002	2,001	2,004	1,992

Source: Prepared by the authors, with data from the University of Brasília.

Standard error: Values in parentheses

Significance level: *** = 99%; ** = 95%; * = 90%. Values without an asterisk showed statistical significance below 90%.

The results presented showed that the reduction of subsidies to restaurants had an impact on the reduction of access to the RUs. With a significance level of 99%, there was

an impact on the four models analyzed: a reduction of 6.27 meals per month, with 1.43 breakfasts, 3.16 lunches and 1.69 dinners compared to the others.

Such results point to the importance of the meal price in the user's decision. It must be considered that the RU does not offer a public good, moreover, a good or service that faces significant competition. In the vicinity of the four RUs there are alternatives for food, not always considered adequate by users, but changing the conditions of supply of the RU, users adjust their allocations.

It is interesting to compare, in the meal model, the observed behavior of the variables with the behavior of the interaction of the same variables with the treatment variable.

Regarding Campus, the Darcy Ribeiro campus was used as a reference answer for comparison – as it is the largest and oldest. The Planaltina (FUP) and Gama (FGA) campus had negative impacts in relation to the total meals of Darcy Ribeiro, while the Ceilândia campus (FCE) had a positive impact. However, when the interaction between the Treatment variable and the Campi variable is added, the signals are reversed for everyone.

It is thus observed that FCE registered a different behavior from the others. A probable explanation for this behavior is the fact that users are more dependent on the restaurant – due to the relative precariousness of restaurant options around the campus. On average, FCE treaties started to make 0.32 more meals compared to Darcy's treaties. While in values that did not consider the treatment, there were fewer meals compared to Darcy.

On the other hand, it is observed that FUP was the campus with the highest increase in the total of meals compared to the others. That faculty presented the greatest reduction in the total of treaties in relation to the others. The results may seem to bring an apparent contradiction, however, what is observed is that users of FUP, compared to users of Campus Darcy Ribeiro (comparison dummy), on average, are greater consumers, however, when there was an increase in there was a greater reduction in meals. The Planaltina administrative region is one of the regions with the lowest Human Development Indexes (HDI) in the Federal District, and this may be one of the explanations for the evidence found.

As for the gender variable, it appears that the male has an increase of 2.7 meals per month compared to the female. However, when observing the interaction with the Treatment variable, there was a reduction of 0.78 meals compared to untreated and treated females.

In relation to the quota holders, there was an increase of 2.49 meals per month, which makes sense, since most of the quota holders already enter the RU free of charge, that is, they make up the control group. The behavior of this variable in interaction with the Treatment, shows a reduction of almost two meals in relation to the untreated and non-quota treaties.

The Male and Quota interaction was also analyzed, which resulted in an increase of less than one meal per month (0.87) and also this interaction with the Treatment variable, which represented a reduction of 0.88.

Regarding age, a reduction of 0.05 meals / month was observed. This is a very small drop, however, statistically significant.

Analyzing the regression model found for breakfast, there was a reduction of 1.43 meals per month. All Campus showed a small increase when compared to Darcy Ribeiro (less than one meal) – both in total and in the interaction of only the treaties. Among quota students, there was a reduction compared to non-quota students and an increase of 0.22 among male students compared to female students. The age variation was not statistically significant.

For the lunch model, a reduction of 3.19 meals was identified. The FCE and FGA Campus showed an increase in accesses when compared to Darcy Ribeiro, while the FUP showed a reduction of 0.51 monthly meals. However, when the interaction with the Treatment variable was added, the three Campus showed an increase in relation to Darcy, the largest of which was identified in the FGA where 2.71 more meals are verified. Among the quota holders, no statistically significant difference was identified. As for age, an average reduction of 0.08 accesses per month for each year of the student and an increase of 1.4 accessions for men compared to women.

By the dinner model, there was a reduction of 1.69 meals. FCE and FGA showed a reduction of about one meal when compared to Darcy, and FUP, an increase of less than one. With the interaction of treaties, the three Campus showed an increase of less than 1.5 meals in relation to the untreated and students of the Darcy Ribeiro campus. There was a reduction of 0.76 meals among quotaholders in relation to non-quotaholders and an increase of 1.07 meals for males in relation to females. The dinner model was the only one to show an increase (0.03) as age increases.

5 MAIN CONCLUSIONS FOR POLITICS

The results of this research provide evidence that there was a negative impact on access to the RU by undergraduate students who are not part of the group I of restaurant users – students participating in the Student Assistance Program. Thus, there is evidence that corroborates the initial premise of this study.

The data transmitted indicate that consumption in general fell by about six monthly meals, compared to the control group and controlled by all variables in the models.

When looking at the list of meals offered, it appears that the greatest impact occurred at lunch followed by dinner and then breakfast.

Regarding Campus, when compared, it is observed that the FUP and FGA treaties have negative impacts compared to the Darcy Ribeiro campus, while FCE, positive. This result could be justified, possibly, due to the scarcity of restaurant options on that campus.

Another particularity identified related to Campus can be verified by FUP data, where the campus reflects the reality of the administrative region in which it is located. There was an increase in access to the restaurant, since at FUP there is a higher percentage of students benefiting from gratuity in the RU. On the other hand, when analyzing the behavior of only the treated scholars (who suffered an increase in the price), a reduction in accesses was more expressive than in the other Campus.

This work intends, therefore, to contribute to a discussion about student subsidy policies and their impacts, especially when considering the scarcity of related empirical works in Brazil.

However, its limitations should be stressed. First, the temporal spectrum: the analysis of data corresponding to a period of seven months was limited, with four pre- and three post-treatment. Further trials with a longer time spectrum are recommended to verify the effects of treatment over time.

The subsidy policies in University Restaurants aim to benefit the university community with affordable prices for meals consumed on a daily basis. However, one cannot fail to consider that such subsidy comes from the public treasury, from the taxpayer's pocket. Decisions that extend the benefit have costs to be paid. The revision of the amounts spent on subsidies in University Restaurants for students who have higher income and for employees – who already have food aid – constitute a possible solution to this problem, despite the negative impact on access to the restaurant, as verified in this study.

With the verified evidence regarding differences between UnB's Campus, it brings a reflection on the discrimination of prices of services where the poorest benefit with greater intensity from public policy.

Other possibilities can be evaluated, such as: cession of use for private individuals to install snack bars and restaurants in underutilized spaces of the University through the establishment of occupancy rates; meal value, where greater collection would be provided; increased supply to the academic community and even reduced subsidies committed by the University.

Finally, a periodic review of the practiced values is suggested, as the application of a single adjustment in order to correct the stagnation of more than twenty years of a value directly reflects the use of the restaurant and is unsustainable for the University's finances. In addition, abrupt changes in prices can find great public rejection.

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