Treasure Hunting*

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Abstract

This paper evaluates the impact of the *EBT* program, a tridimensional educational initiative designed to enhance financial, fiscal, and civic literacy among elementary school students in Brazil. Implemented as a randomized control trial, the program targeted 4th and 5th grade students in public schools in Brasília. Over 11 weeks, educational content featuring popular cartoon characters to teach essential financial and civic concepts was incorporated in schools in the treatment group. The study found that students exposed to the program showed significant improvements in financial, fiscal, and civic knowledge, with increases of 8% in financial and fiscal proficiency and close to 7% in civic proficiency. Additionally, the program positively influenced students' financial behaviors and civic attitudes, fostering better budgeting practices, enhanced school engagement, and a greater appreciation for civic duties. Given its low implementation cost and significant positive impacts, the *EBT* program presents a promising model for integrating financial, fiscal, and civic education into school curriculums, with potential scalability to broader populations. The findings contribute to the growing body of literature on educational interventions, highlighting the critical role of early financial education in preparing students for the complexities of modern financial systems and active civic participation.

Keywords: randomized control trial, financial education, fiscal education, civic education, school engagement, program evaluation

JEL Codes: G53, I25, I28, H52, H11, A21, A13

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1 Introduction

Education must continuously evolve to keep up with technological advancements and shifting job markets in the fast-paced 21st century. Students need to be equipped with the skills to navigate these changes and also with the ability to engage in public debates effectively. Collaboration, accountability, and rational decision-making are part of the skill set required for this adaptability. Moreover, as markets evolve and financial products become more complex, there is a growing gap between the average citizen's financial literacy and the ecosystem they face. Lusardi [2019] emphasizes that financial literacy is a fundamental right and necessity that is critical for individuals and societies to reach their full potential. Integrating financial, fiscal, and civic education into the school curriculum is not only innovative but also essential for preparing students to be able to participate actively in public debates and manage their finances effectively.

Particularly in developing countries, fostering financial, fiscal, and civic education is crucial because it addresses various issues that contribute to underdevelopment, ranging from political accountability to high levels of debt and low savings rates, which hinder economic growth.

The existing association between financial education and economic behavior has been extensively documented. Lusardi and Mitchelli [2007] evidences that the introduction of simple financial concepts makes individuals much more likely to have planned for retirement which in turn is tantamount to the amount saved [Aaron, 2010, Alessie et al., 1999]. Multidisciplinary programs pinned on the collaborative efforts of various stakeholders such as educational and financial institutions, government bodies, and other corporate entities would also help the countries achieve their goals for Sustainable Development[1].

This paper contributes to this discussion by evaluating the impact of a tridimensional financial, fiscal, and civic education program (the EBT[2] program) for public school students in Brazil using data from a randomized control trial. The program is the result of a partnership[3] between Brazil's National Treasury and Maurício de Souza[4]'s Institute, and targets 4th and 5th grade elementary school students (9 and 10-year-old children)[5]. The program's pilot took place in Brasilia (DF), spanning 11 weeks from the first semester of 2023 - the first three weeks for teachers' training and the next eight weeks for program

[1]Especially Goal 17: Partnership for goals - as increasing co-operation is seen as vital to achieving each of the 17 SDGs.

[2]*Em Busca do Tesouro* - loosely translated to "In Search of the Treasure" or "Treasure Hunting"

[3]Enap (National Public Administration School), BID (Inter-American Development Bank) and PNUD (United Nations Development Programme) are also involved in the partnership

[4]Famous Brazilian cartoonist

[5]It is aimed at children at an early age by incorporating the topics in a ludic approach as it is themed with "Monica's Party" - loose translation from "Turma da Monica" - characters and stories. This is a traditional cartoon in the country and can be relatable among different generations, including new ones (they have reinvented themselves and have outgrown the first original set of characters, maintaining its relevance for approximately 60 years).

implementation. As part of the study design, schools were given the opportunity to enroll to receive the program, pair-wise matched[6], and then randomly assigned to treatment and control. Data was collected in a one-time in-person and in-paper student survey, a research instrument crafted by the authors, and resulted in a database that includes data from 106 schools and close to 14 thousand students.

Brazil is an interesting setting to study the impacts of financial and fiscal education as it has a problem of lack of financial education and faces its consequences. The country has a relatively low national saving rate of around 16 percent of GDP and levels of financial awareness are also low. *EBT* is then aligned with the directions of the new Brazilian National Curriculum Base which as of 2020 included financial and fiscal education as topics to be taught transversally in public schools. On the other hand, much of the existing literature on civic education evaluation searches for a relationship between civic engagement and presence in polls [Holbein and Hillygus, 2020]. Brazil will not be a good environment for this analysis as voting is mandatory in the country. An opportunity arises for seeing civic engagement through other lenses, and the present instrument proposes seeing justice in democracy or valuing common goods as candidates.

Exposure to treatment is associated with a statistically significant increase of 0.15-0.18 SD in the index related to the score in financial education questions, 0.11-0.14 SD in the index related to proficiency in fiscal education, and 0.10-0.12 SD in the index related to civic education proficiency. Compared to the control group, the variation of the points represents a gain of about 8% in financial and fiscal knowledge and about 7% in civic knowledge.

Using both OLS and 2SLS methodology, it is shown statistically relevant evidence for the program's positive impact on financial habits, financial beliefs, and civic beliefs indexes (table 3) and on school interest, family interaction, family spillover and future self indexes (table 4). Positive effects on fiscal beliefs and common good indexes were small in size and didn't hold on to significance analyses.

Students in the treatment group were more likely to declare having a budget, acknowledging the importance of keeping track of their money, acknowledging the importance of government's savings, seeing justice in democracy, and acknowledging the importance of monitoring politics and of government disclosing information, They were also more likely to find school interesting, to declare having more and more frequent conversations with their parents about money, and to see themselves as good taxpayers in the future.

As it is a relatively low-cost program to implement, the positive effects demonstrate it has excellent cost-benefit. The findings are in line with the evaluation literature. If

[6]Variables used to form matched pairs were: dummy that assumes 1 if in Urban Area, 4^{th} and 5^{th}-grades Approval Rate from the prior year, 4^{th} and 5^{th}-grades Dropout Rate from the prior year, 4^{th} and 5^{th}-grades Age-Grade Distortion from the prior year, 4^{th} and 5^{th}-grades average number of Students per Class in the prior year, and 4^{th} and 5^{th}-grades Average Absences in the prior year. The information was gathered by SEEDF's (DF's secretary of education) registry data.

the civic aspect extrapolates, there can also be expected other developments in children's personalities regarding their role in society - as Kahne and Sporte [2008] identified in their study that experience-based civic education was sizeable the most effective measure in increasing commitment to civic activities later in life, such as voting, volunteering, and community work.

In OCDE's countries, both financial literacy and community engagement are desired to be implemented at school mandatory programs from a young age [OECD, 2022, 2020] as empowering children with the skills and agency they need to participate meaningfully in society is part of the mission of their education systems. OECD [2020]'s recommendations also include providing ongoing approaches to develop the financial literacy of youth (as opposed to one-off interventions) and immersing adults surrounding them in information on how to discuss financial matters at early ages. There are some attempts to follow these new guidelines in progress as programs and policies specifically targeting the development of either financial education or civic skills and values within schools are being crafted around the world - and some examples are The schools' participatory budgeting (SPB) in Portugal [Abrantes et al., 2018], mandated Ontario high school community service program in Canada [Farahmandpour, 2011] and even a high school financial education program in high schools in multiple states in Brazil [Bruhn et al., 2013]. As this goes on, literature is also evolving as more program evaluations are being documented. Nevertheless, randomized experiments targeting the youth are still scarce, especially ones to measure fiscal and civic aspects.

As *EBT* is a very innovative initiative, as far as authors' awareness, there are no similar programs with the same dimensions and expected impacts already evaluated. However, there is a growing literature on financial education and its determinants for youth. A recent meta-analysis mapped seventy-six randomized experiments evaluating financial education programs [Kaiser and Menkhoff, 2020]. This article embedded findings from several of the reunited articles [Alan and Ertac, 2018, Batty et al., 2015, 2020, Berry et al., 2018, Hinojosa et al., 2010, Kalwij et al., 2019, Migheli and Coda Moscarola, 2017, Becker and Mulligan, 1997, Supanantaroek et al., 2017].

The remainder of this paper is organized as follows: section 2 further details the program and the research designs, section 3 describes the crafted instrument and data collection, section 4 discusses the main results, and section 5 concludes.

2 Study Design

2.1 The *EBT* Program

The *"Em Busca do Tesouro"* - that loosely translates to "In Search of the Treasure" or "Treasure Hunting" - program aims to promote financial, fiscal, and civic education from

an early age. It is the result of the collaboration between Brazil's National Treasury and Maurício de Souza's Institute and its selected target audience is students from the 4th and 5th-grades of elementary school from Brazilian public schools. This age group was chosen due to both practical factors related to Brazil's new curriculum guidelines, which since 2020 have established that fiscal and financial education must be taught transversally in public schools, and the perception and experience of educators involved in the program's design that this age corresponds to an important stage in children's social and cognitive development.

The themes combined in the material are (i) **Financial Education**, which aims to raise students' awareness of the importance of planning in financial choices, thus seeking to create healthy habits regarding consumption and savings decisions; (ii) **Fiscal Education** which will introduce students to how citizens contribute resources for the provision of common goods and how the government spends its resources - teaching them about the relationship between governments and taxpayers. The program's objective in this dimension is to promote students' awareness of citizens' rights and duties concerning the management of public resources; and (iii) **Civic Education** that is considered by program designers as the active monitoring by citizens of public administration activities. The innovation of the Program is to combine financial education with fiscal and civic aspects.

The program includes two comic books in which Mauricio de Souza's characters are portrayed in situations where they have to make financial decisions or observe and chaperone fiscal decisions, also being stimulated to make the ones taking the collective decisions accountable (fostering accountability) that were developed and distributed to students during program implementation. Each comic book contains three stories, summing up to 6 stories, each accompanied by a corresponding proposed activity.

The program spans over 11 weeks, and the first three weeks are dedicated to teachers' online training that consists of previously recorded short videos (there was no synchronous encounter with professors designed for program implementation). An educator's forum where teachers can share their experiences applying the activities in the classroom and suggestions for extra activities are also provided.

The program is as broad and bold as necessary to achieve its also ample goals, but the intervention itself is hands-off and very teacher-dependent, as, although there is a general orientation package, the intensity and volume of the application depend on teachers' and schools' goodwill. This means there are too many expected outcomes from its implementation and there is nothing trivial in its evaluation.

2.2 Sampling and Timeline

After mobilization by the National Treasury and State Public School Secretaries, the DF's public school network was offered to register to receive *EBT* in the first semester of 2023. Out of the 415 public schools in the State, 115 schools manifested their interest. Due to data availability to arrange the pairs, 106 enrolled schools were randomly distributed between control and treatment groups, allowing for a randomized control trial (RCT) approach. Figure 1 at Appendix B illustrates the timeline of events that took place for this evaluation to occur.

The registration data processing and pairing of the registered schools followed via Mahalanobis distance minimization took place, and on April 8, 2023, a draw was conducted to allocate schools in treatment - schools that received the EBT in the first semester - and control groups - schools that did not receive it initially. Variables used to form matched pairs were: dummy that assumes 1 if in Urban Area, 4^{th} and 5^{th}-grades Approval Rate from the prior year, 4^{th} and 5^{th}-grades Dropout Rate from the prior year, 4^{th} and 5^{th}-grades Age-Grade Distortion from the prior year, 4^{th} and 5^{th}-grades average number of Students per Class in the prior year, and 4^{th} and 5^{th}-grades Average Absences in the prior year. The information was gathered by SEEDF's (DF's secretary of education) registry data. See table 5 at Appendix A for further details on the variables and schools characteristics and DF's public school network compared to Brazil's.

Subsequently, during another mobilization period, the results were announced, and efforts were made to distribute the materials and prepare the designated treatment schools so they could begin the teacher training period. Schools from the treatment group were given 3 weeks for material distribution among educators and training period followed by 8 weeks of program implementation when the comics readings and the proposed activities were to take place.

During the training period, the public school teachers went on a collective strike, which lasted for 22 days and overlapped with the end of the designated training weeks and the first month of the program's implementation. There is some uncertainty about the actual adherence to the strike, as different sources reported contradictory numbers, but it is a fact that at least part of the classes experienced disrupted treatment due to the strike, which potentially spoiled part of the treatment's full implementation.

2.3 Specification

3 Data

3.1 Instruments

Data has been collected in a one-time in-person and in-paper student survey, a research instrument crafted by the authors. Monitoring data has been collected in surveys at two different moments during the treatment period, but attrition in the responses has resulted in an under-representation of these trackers in the sample. National Treasury's personnel has then volunteered to call each school in the no-information pool, giving some evidence of whether in that school there was some level of implementation of the program - resulting in monitoring data that accounts for 96% of treated schools[7]. The effort in data collection provided a sample of close to 12 thousand children from Brasilia's enrolled public schools.

The attrition regarding the data collection for students can be seen in table 7. The field effort has resulted in 100% of the schools being successfully visited, with data collected from all the schools in the pool of interest. There is a considerable attrition in the total student responses between the expected administrative data of more than 16 thousand students and the actual feasible close to 14 thousand responses. This indicates either misinformation on the administrative data on the number of students per class or some sort of selection on the students not answering the survey. Since attrition is close for treatment and control (about 15% in both cases), there was no further investigation on this selection.

The main concern arises from the fulfillment of the entire questionnaire. The concern is enhanced by its length, and is justified as in fact there is evidence of strong attrition in the resolution of it. During the field experiment data collection period, there were several anecdotal reports of concern regarding this, coming from teachers, directors, and the data collectors in the field.

Out of the total sample, 168 students handed in the questionnaire with 67 out of 67 of the questions of interest (excluding the first 18 social-economic ones) completely unfilled, resulting in 100% of missing data and their exclusion from the sample. The chunk of highlighted lines in table 7 shows the number of students that answered only the described number of questions, leaving all the other 67 (less the few filled) also with missing data. At this point, those respondents are still considered part of the sample and those lines are there for discussion.

The student tests and questionnaires were administered in the classroom in the same way as a regular school exam, i.e. distributed to students, supervised by the surveyor,

[7]see table 6 in Appendix A to further analysis in attrition in monitoring questionnaires.

and collected by the surveyor at the end of the allocated time (which was one hour). School teachers were not privy to the tests or questionnaires beforehand, and were not involved in proctoring them.

3.2 Descriptive statistics

Table 1 presents summary statistics for the variables used to form matched pairs and for student background and household characteristics. The table compares the means and standard deviations between the control and treatment groups, along with the p-values for the difference in means and the robust variance estimators (RW).

Both control and treatment groups show a similar distribution across school level variables used to form matched pairs, indicating a balanced matching process. For example, the rate in urban areas is 0.77 for the control group and 0.79 for the treatment group, with a p-value of 0.816, suggesting no significant difference. The approval rate, dropout rate, and average number of students per class also show no significant differences between the groups, with p-values of 0.305, 0.583, and 0.360, respectively.

Student background characteristics show that 49.6 percent of students participating in the study were female, 62 percent self-identify as black and about 48 percent come from a household whose chief is currently employed. The average student age is 10 years old. The average age of students is slightly younger in the treatment group (9.93 years) compared to the control group (9.97 years), with a marginally significant difference (p-value = 0.099) which doesn't hold with the usage of Romano Wolf correction.

Overall, the balance table indicates that the matching process successfully created comparable control and treatment groups across most variables. While there is a slight imbalance in the age and internet access variables, the social and economic variables are well-balanced. This balance ensures that the comparison between the groups in subsequent analyses is reliable. Given the balanced nature of these variables, no additional controls will be used in the regression analyses presented later in the paper.

Table 1: Summary Statistics

	N	Control		Treatment		Difference	
		Mean	Std Dev	Mean	Std Dev	(p-value)	(RW)
School Level Variables Used to Form Matched Pairs							
Rate in Urban Area	106	0.77	,42	,79	.41	0.816	
Approval Rate	106	95.50	4.34	96.24	2.87	0.305	
Dropout Rate	106	.18	.89	.11	.29	0.583	
Students per Class	106	23.03	5.89	21.97	5.97	0.360	
Student Background							
Personal Characteristics							
Girl	12,408	0.49	0.50	0.50	0.50	0,488	0,990
Age	12,918	9.97	0.82	9.93	0.78	0,099*	0,634
Ethnic Indicators							
Black	11,549	0.63	0.48	0.61	0.49	0,095*	0,614
White	11,549	0.28	0.45	0.29	0.46	0,156	0,683
Asian	11,549	0.05	0.21	0.04	0.21	0,483	0,990
Indigenous	11,549	0.04	0.21	0.05	0.22	0,124	0,653
Household Characteristics							
Rooms per inhabitant	12,368	0.48	0.18	0.49	0.19	0,071	0,564
Goods Index	13,023	1.65	0.73	1.68	0.73	0,483	0,990
Durable Goods Index	13,027	1.09	0.46	1.10	0.46	0,582	0,990
Internet Access	12,060	0.96	0.19	0.97	0.17	0,034*	0,277
Domestic worker	11,434	0.16	0.36	0.16	0.37	0,851	1,000
Householder:							
Mother	12,126	0.71	0.45	0.71	0.45	0,911	1,000
Father	12,126	0.17	0.38	0.17	0.38	0,952	1,000
Employed	12,198	0.49	0.50	0.49	0.50	0,730	1,000

Note: This table presents summary statistics as well as p-values for the difference in means tests between students in treatment and control schools. The first six rows show school-level variables from administrative data obtained from DF's Secretary of Education (SEEDF) that were used to form matched school pairs prior to randomization. The variables used for randomization were grade-level specific, and here are presented as the average of 4^{th} and 5^{th} grades (this applies to all but urban area, a dummy variable that assumes 1 if the school is in urban area). One school in each pair was then randomly assigned to treatment and the other to control. The subsequent rows in the table summarize survey data. To calculate p-values, standard errors are clustered at the school level and randomization pair dummies are added as controls. * denotes statistical significance at the 10% level with individual p-value criteria and blue denotes statistical significance at the 10% level with corrected p-values criteria. Romano Wolf correction was run considering testings of all socio-economic variables.

4 Discussion of Results

4.1 Full Sample

4.1.1 Financial, Fiscal and Civic Knowledge

To analyze the impact of the program's application on concepts related to the program's material, the multiple-choice questions that test students' knowledge were aggregated into averages considering the grouping of questions according to the themes: financial education, fiscal education, civic education, and basic mathematics[8]. These questions have one correct answer, and thus any marking different from the correct alternative (be it by marking another item, multiple markings, or no marking at all - blank response) is considered an error.

Table 2 shows the estimation of the program's impact on the correct answers indexes in multiple-choice questions (in different aggregations) given the chosen specification with dummies for pair fixed effects and, in the absence of unbalanced controls, no control addition.

There is statistical evidence of a positive impact for all indices of correct answers, except for correct answers to multiple-choice questions related to basic mathematical concepts, which makes sense considering the scope of the program that does not directly address mathematical topics. In terms of standard deviations (SD), when considering the variables standardized to the control group's values, the magnitude of the improvement in this index of correct answers is always close to 6% of a standard deviation – which, given the program's application conditions and the simplicity described by teachers for its conduction in the classroom, ends up being a reasonable magnitude.

Potential exposure to treatment is associated with an increase of 0.15-0.18 SD in the index related to the score in financial education questions, 0.11-0.14 SD in the index related to proficiency in fiscal education, and 0.10-0.12 SD points in the index related to civic education proficiency. Compared to the control group, the variation of the points represents a gain of about 8% in financial and fiscal knowledge and about 7% in civic knowledge. The estimated impact of the program is considered moderate. This limitation still indicates promising results – the ITT estimate might be underestimated due to considering noise from schools that reportedly did not implement the program, and the ATE estimate might be underestimated due to teachers' strike impact on program implementation. Furthermore, as it is a relatively low-cost program to implement, the positive effect found demonstrates that it has excellent cost-benefit compared to other similar policies.

[8]Appendix **??** presents the instruments from each of the indices. Analyzing a single question in this case might lead to comparisons based on guesses and does not provide a robust diagnosis.

Table 2: Financial, Fiscal, Civic and Math Proficiency Scores

	(1) Financial Educ	(2) Fiscal Educ	(3) Civic Educ	(4) Math
Panel A: ITT (OLS)				
Treatment	0.15***	0.11***	0.10**	0.05
	(0.04)	(0.03)	(0.03)	(0.03)
R-squared	0.04	0.03	0.03	0.04
Panel B: LATE (2SLS)				
Treatment	0.18***	0.14***	0.12**	0.07
	(0.04)	(0.04)	(0.04)	(0.04)
R-squared	0.04	0.03	0.03	0.04
Mean in Control	0.00	0.00	0.00	0.00
Number of Students	13,566	13,566	13,566	13,566

Note: This table presents results for the impact of the *EBT* program on student financial, fiscal, civic, and math proficiency, measured by multiple choice questions in the student survey. The outcome variables in this table are the average number of correct answers in 13 financial education questions, the average number of correct answers in 6 fiscal education questions, the average number of correct answers in 5 civic education questions, and the average number of correct answers in 6 math education questions. Missing values count as zero (mistakes). Those averages would range from 0 to 100 and correspond to a test score, and then standardized to the control group. Panel A presents OLS regression results and Panel B presents 2SLS regression results, in which program implementation has been instrumentalized by the randomization. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level.

The accumulation of knowledge is perceived through more correct answers in the treatment group, which may correspond to fewer errors or fewer blank responses among the treated group relative to the control group, as both blank responses and those marked with an incorrect item are considered wrong. A negative difference between the blank response rates of students in the control and treatment groups would mean that the positive impact on correct answers also results from a higher questionnaire response rate (which includes more marked wrong answers). Table 10 in Appendix B presents the relative blank response indices for the same previous specifications.

There are indications that, for some established significance levels, the conclusion is that the difference is statistically significant and negative in the missing indices measured by the financial, and fiscal education – with a higher chance of blank responses in the control group. Thus, among the treated group, there is a lower sample propensity to

leave questions blank. This would also be an effect of the program – the students would be better prepared and feel empowered to answer questions related to financial and fiscal education. Among the questions not answered correctly, there would be a higher propensity in the control group to leave them blank than to mark the correct alternative.

In the case of the index that groups the civic education questions, however, the evidence supports the conclusion that the students in the sample are indeed making fewer mistakes in the questions related to this topic.

4.1.2 Financial, Fiscal and Civic Habits and Beliefs

Table 3 shows the estimation of the program's impact on five indexes that reunite questions from the survey regarding financial, fiscal, civic, and common good habits and beliefs. Using both OLS and 2SLS methodology, it is shown statistically relevant evidence for program positive impact in indexes that reunite financial habits, financial beliefs and civic beliefs.

Within the research instrument, table 13 investigates whether the program was capable of fostering any specific financial habits among the treated students. Considering the Romano Wolf p-value correction, it seems that the driver for significance in the financial habits index is the increase in the likelihood of a student having a budget after program exposure. A very beneficial result of *EBT* is that it encourages students to have budgets for how they spend money throughout the week. This is partly due to their better understanding of what budgets are (as seen in the conceptual part, there is a positive impact on the accumulation of knowledge in financial education, and the term budget is part of this), and indicates a favorable movement towards tracking expenses. One in five students indicated being more likely to use one budget. There is extensive potential gain if there is continuity in stimulus that generates this impetus - the financial behavior of these students has already shown to be changeable, and the opportunity for continuous learning on the topic should be extended, along with ongoing positive reinforcements for such behaviors.

Regarding students' financial beliefs, it is evidenced in table 14 that one in ten treated students increased their response scale for a question about the importance of tracking how much money is earned and spent from "important" to "very important" - and that change drove the also significant change in financial belied index presented in table 3. This result reinforces *EBT*'s ability to promote the habit of tracking expenses through a budget (and the associated importance of doing so).

The fiscal beliefs index is further investigated in table 15, in which it is evidenced that the research instrument did not capture any significant effects that remained after applying RW correction. Thus, there was no statistical evidence that the *EBT* had a direct impact on shaping students' beliefs about money waste in taxes (even filtering for

those who indicated understanding what taxes are) and the importance of the government not spending all available money.

One of the greatest strengths of the *EBT* is the introduction of a broad and unexplored range of topics in the classroom. The civic aspect of democracy is seldom discussed, especially for this target audience. Therefore, seeing positive impacts on children's civic beliefs is a great result and aligns with the program's ambition to address multiple fronts. In similar intensities, potential contact with the *EBT* increases the perception of the importance of elections, their necessity, monitoring government decisions, and the disclosure by the government of a plan for using public resources as seen in table 16.

The last four questions of the student questionnaire concern the valuation of public goods, something emphasized throughout the *EBT* stories, and thus it was expected that exposure to the program would increase students' perception of common goods around them. It was anticipated that students exposed to the treatment would be more concerned with the collective and therefore more attentive to public goods around them. The sample evidence is favorable to no marginal increase in the valuation of public goods, as on average, students in the treatment group are statistically just as likely to indicate that they monitor garbage collection and school cleanliness as students in the control group - see table 17. The responses to questions about the importance of monitoring public goods indicates no evidence that the program was capable of teaching the valuation of this type of good, or at least this learning was not captured when asking about garbage collection and school cleanliness.

Table 3: Financial, Fiscal, Civic Habits and Beliefs

	(1) Fin Habits	(2) Fin Beliefs	(3) Fisc Beliefs	(4) Civ Beliefs	(5) Common Good
Panel A: ITT (OLS)					
Treatment	0.15 **	0.16 **	0.05	0.19 ***	0.04
	(0.05)	(0.06)	(0.06)	(0.04)	(0.03)
R-squared	0.01	0.02	0.02	0.02	0.01
Panel B: LATE (2SLS)					
Treatment	0.18 ***	0.20 **	0.06	0.23 ***	0.05
	(0.06)	(0.07)	(0.07)	(0.05)	(0.04)
R-squared	0.01	0.02	0.02	0.02	0.01
Mean in Control	6.89	7.74	7.17	6.79	7.20
SE in Control	2.07	2.01	2.34	1.88	1.60
Number of Students	11,813	12,126	11,619	11,835	11,266

Note: This table presents results for the impact of the *EBT* program on indexes that measure students' financial habits, financial beliefs, fiscal beliefs, civic beliefs, and common goods habits and beliefs. Indexes were calculated from Likert Scale questions in the student survey. The outcome variables in this table are the average answers to 4 questions related to financial habits, 3 questions related to financial beliefs, 2 questions related to fiscal beliefs, 4 questions related to civic beliefs, and 4 questions related to common goods habits and beliefs. Since the scale may vary in the questionnaire, all scales have been normalized up to 10 points so that simple averages could be informative. The number of students included in the sample fluctuates because not all students answered every question. Those averages range from 1,66 to 10 and correspond to the valuing frequency or importance associated with each index. Panel A presents OLS regression results and Panel B presents 2SLS regression results, in which program implementation has been instrumentalized by the randomization. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level.

4.1.3 Other Effects

Table 4 shows the estimation of the program's impact on four indexes that reunite questions from the survey regarding other aspects that can potentially be affected by the program implementation. Using both OLS and 2SLS methodology, it is shown statistically relevant evidence for program positive impact in indexes that explain school interest, family interactions, family spillover perceived effects, and future-self perceived effects.

To investigate students' interest in school, 6 questions from the questionnaire were gathered, where students were asked to agree with statements using a numerical Likert scale ranging from 1 to 6 (1 representing "strongly disagree" and 6 "strongly agree").

There is favorable evidence that either students in the treatment group agree more intensely or more students in this group agree with the fact that the school is useful for their daily life (18). The interpretation of this result is made through extrapolation: one out of ten students in the treatment group increased their agreement with the statement by one point on the Likert scale.

One of the hypotheses raised during the construction of the theory of change for this evaluation is that the program would be able to bring the proposed topics into the family lives, creating conditions for conversations related to money, savings, budgeting, government, elections, taxes, and politics to be introduced between the students and their guardians. Eight questions from the proposed research instrument capture these family aspects, habits, and the frequency with which these conversations take place (see table 19). There is a positive impact on four of these questions, indicating that the program successfully brought the proposed topics into the students' family lives. Students in the treatment group reported with greater intensity having talked to their parents about the importance of saving money and having had general conversations about money and discussed taxes. Overall, there is a greater presence of topics related to financial education, which stands out compared to the other topics (fiscal and civic education) in terms of subjects discussed with family members.

It was also investigated the extent to which *EBT* could have spillovers into the student's family life. Impacts on family communication about topics related to the program have already been described – and now the objective is to investigate whether this increased communication can generate changes in family attitudes. It should be taken into account that due to the restriction of the experiment design, there is only the students' perception of these attitudes, which are not observable. Therefore, the result that 1 in 10 students increased their perception by one point that their parents changed the way they handle money (table 20) is not enough to conclude that this change actually occurred. It is enough that the students perceived that it happened, and they may have had this impression simply because they talked more about the topic with their families. Thus, the evidence is limited, but there is suspicion that the program may indeed have family-level spillovers. Subsequent studies may be interested in covering this possibility.

Long-term impacts on the behavior and beliefs of those who had the opportunity to come into contact with the *EBT* topics from childhood were investigated in the future-self index. Once again, these future behaviors are not observed, and the analysis is limited to students' perceptions and their expectations. Even so, it is interesting to see that treated students are more favorable to agreeing that school can influence their future financial behaviors. From the students' point of view, there is evidence that the *EBT* teachings will contribute to building healthy financial lives (table 21).

Table 4: School Interest, Family Spillover and Futures Self Expectation

	(1) School Interest	(2) Fam Interaction	(3) Fam Spillover	(4) Future Self
Panel A: ITT (OLS)				
Treatment	0.16**	0.14***	0.13*	0.19***
	(0.05)	(0.03)	(0.05)	(0.05)
R-squared	0.02	0.01	0.01	0.02
Panel B: LATE (2SLS)				
Treatment	0.19**	0.17***	0.16*	0.23***
	(0.06)	(0.04)	(0.06)	(0.06)
R-squared	0.02	0.01	0.01	0.02
Mean in Control	6.92	6.04	6.56	7.43
SE in Control	1.94	1.50	2.47	2.37
Number of Students	12,308	12,656	10,853	10,941

Note: This table presents results for the impact of the *EBT* program on indexes that measure students' school interest effect, family interaction effect, family spillover effect, and future self effect. Indexes were calculated from Likert Scale questions in the student survey. The outcome variables in this table are the average answers to 6 questions related to school interest beliefs, 9 questions related to family interactions habits, and beliefs, 2 questions related to family spillover believed effects, and 2 questions related to future-self believed effects. Since the scale may vary in the questionnaire, all scales have been normalized up to 10 points so that simple averages could be informative. The number of students included in the sample fluctuates because not all students answered every question. Those averages range from 1,66 to 10 and correspond to the valuing, frequency or importance associated with each index. Panel A presents OLS regression results and Panel B presents 2SLS regression results, in which program implementation has been instrumentalized by the randomization. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level.

5 Conclusion

In conclusion, the program is a pioneering initiative aimed at equipping young Brazilian students with essential financial, fiscal, and civic knowledge. The integration of these subjects into the school curriculum is not only innovative but essential for preparing students to engage effectively in public discourse and manage their finances competently.

The pilot implementation in Brasília demonstrated significant positive impacts on students' knowledge and attitudes. Exposure to the program resulted in an 8% improvement in financial and fiscal proficiency and a 7% increase in civic knowledge. This improve-

ment indicates a meaningful enhancement in students' understanding and abilities in these critical areas. Students exposed to the program were also more likely to engage in prudent financial behaviors, such as maintaining a budget and recognizing the importance of tracking their expenses. Moreover, they demonstrated a greater appreciation for civic duties, understanding the significance of voting and the need for governmental transparency and accountability.

These outcomes are particularly relevant in developing countries like Brazil, where financial literacy is often low, and economic challenges and the importance of early financial education are pronounced. *EBT* is aligned with the Brazilian National Curriculum Base, which mandates financial and fiscal education as transversal topics in public schools. By addressing these areas, the program contributes to bridging the gap between complex financial systems and the average citizen, promoting economic stability and growth.

Furthermore, the program's design and implementation, in partnership with the National Treasury, the Maurício de Souza Institute, and other stakeholders, exemplify the collaborative efforts necessary for such initiatives. The use of engaging, relatable content through well-known characters from "Monica's Party" ensures that the educational material resonates with children, making the learning process enjoyable and effective.

The positive effects of the EBT program extend beyond knowledge acquisition. Students reported finding school more interesting, engaging more in conversations about financial matters with their families, and developing a stronger sense of civic responsibility. These behavioral changes suggest that the program not only enhances academic performance but also fosters important life skills and attitudes that will benefit students in the long run.

Given the program's low implementation cost and significant positive impacts, it presents an excellent cost-benefit ratio, making it a viable model for broader adoption. The findings from this pilot study contribute to the growing body of literature on the importance and effectiveness of financial education programs, particularly those targeting young students. As financial literacy and civic engagement become increasingly critical in today's world, the EBT program offers valuable insights into how such education can be effectively integrated into school curriculums.

Looking ahead, it is crucial to explore the long-term impacts of the EBT program and its potential scalability to a wider population. Such studies would provide further evidence of the program's effectiveness and inform policymakers and educators on best practices for implementing similar initiatives. Ultimately, the success of the EBT program underscores the vital role of comprehensive education in preparing future generations to navigate complex financial landscapes and actively participate in civic life, contributing to a more informed, and prosperous society.

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Appendix A

Table 5: Enrolled Schools vs DF's Network vs Brazil's Network

Indicator	Brazil	Federal District	Experiment
Number of schools (early years of elementary)	61,412	415	106
Percentage of Public Schools run by the State	21,97%	100%	100%
School characteristics			
Science Lab	.11	.08	.06
Computer Lab	.42	.51	.49
Covered Patio	.61	.81	.85
Playground	.24	.74	.86
Sports Court	.54	.76	.73
Student Computer Gadget[9]	.73	.77	.74
Student Internet Access	.52	.36	.35
Proficiency			
Approval Rate (1th-5th grade)	97.22	95.02	94.67
Math Proficiency (External evaluation)	210.51	224.86	226.42
Portuguese Proficiency (External evaluation)	200.75	217.47	219.11
Educational Development Index 2021	5.51	5.89	5.92

Note: This table xxx. Source: IDEB 2021/ School Census 2023

[9]computer =1 if the school has a desktop, a laptop or a tablet that students can use during classes

Table 6: Attrition in Teacher's Questionnaire

	Treatment	
	#	%
Classes	**364**	**100%**
Mid-line	170	47%
End-line	105	29%
Mid and End-Line	64	18%
Mid and/or End-Line	211	58%
Av classes	6.9	
Av classes with responses	4.7	
Schools	**53**	**100%**
Mid-line	41	77%
End-line	26	49%
Mid and End-Line	22	42%
Mid and/or End-Line	45	85%
National Treasury Successfully Collected Evidence	21	39%
Available Monitoring Evidence	51	96%

Note: Among schools with at least one response, av number of classes where the teacher answered at least one questionnaire per school. The table shows the absolute numbers and those relative to the expected, based on the SEEDF registry of teachers who answered the monitoring questionnaires in the control and treatment groups.

Source: Own elaboration based on answers from the collected questionnaires and registry data given by SEEDF.

Table 7: Attrition in Student's Questionnaire

	Control		Treatment		Total	
	#	%	#	%	#	%
Classes as of Registry	**400**	**100%**	**364**	**100%**		
Classes Reached	393	98%	350	96%		
Schools as of Registry	**53**	**100%**	**53**	**100%**		
Schools Reached	53	100%	53	100%		
Students as of Registry	**8,808**	**100%**	**7,627**	**100%**	**16,435**	**100%**
Student responses	7,433	84%	6,517	85%	13,950	85%
Did not authorize	110	1%	106	1%	216	1%
100% missing data	97	1%	71	1%	168	1%
Sample Size	7,226	82%	6,340	83%	13,566	83%
Students answered						
1 question	28	0%	20	0%	48	0%
2 questions	25	0%	18	0%	43	0%
3 questions	24	0%	16	0%	40	0%
4 questions	17	0%	15	0%	32	0%
5 questions	16	0%	17	0%	33	0%
6 questions	21	0%	11	0%	32	0%
7 questions	28	0%	21	0%	49	0%
8 questions	35	0%	23	0%	58	0%
9 questions	22	0%	17	0%	39	0%
10 questions	31	0%	13	0%	44	0%
Less then half	1,191	14%	924	12%	2,115	13%
At least half	6,035	69%	5,416	71%	11,451	70%

Note: The table shows the absolute numbers and those relative to the expected, based on the SEEDF registry of teachers who answered the monitoring questionnaires in the control and treatment groups. Source: Own elaboration based on answers from the collected questionnaires and registry data given by SEEDF

Table 8: Robustness Check for Financial, Fiscal, Civic and Math Proficiency Scores OLS Estimates

	(1) Financial Educ	(2) Fiscal Educ	(3) Civic Educ	(4) Math
Panel A.1: No Fixed Effects, No Controls				
Treatment	0.15**	0.11*	0.10*	0.06
	(0.05)	(0.04)	(0.05)	(0.05)
Number of Students	13,566	13,566	13,566	13,566
Panel A.2: No Fixed Effects, No Controls, Constrained Sample				
Treatment	0.09*	0.08*	0.08	-0.01
	(0.04)	(0.04)	(0.04)	(0.05)
Panel B.1: Fixed Effects, No Controls				
Treatment	0.15***	0.11***	0.10**	0.05
	(0.04)	(0.03)	(0.03)	(0.03)
Number of Students	13,566	13,566	13,566	13,566
Panel B.2: Fixed Effects, No Controls, Constrained Sample				
Treatment	0.08**	0.08**	0.06*	-0.02
	(0.03)	(0.02)	(0.03)	(0.03)
Panel C.1: Fixed Effects, LASSO Controls				
Treatment	0.08**	0.07**	0.05	-0.03
	(0.03)	(0.02)	(0.03)	(0.03)
Number of Students	9,449	9,088	9,449	9,039
Panel C.2: Fixed Effects, LASSO Controls, Constrained Sample				
Treatment	0.07**	0.08**	0.06*	-0.02
	(0.03)	(0.02)	(0.03)	(0.03)
Panel D: Fixed Effects, All Controls				
Treatment	0.07**	0.08**	0.06*	-0.02
	(0.03)	(0.02)	(0.03)	(0.03)
Number of Students	7,925	7,925	7,925	7,925

Note: See page 26 for the complete note on this table.
All regressions with constrained sample in this table consider 7,925 students whose responses include no missing data to any of the control variables. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level

Table 9: Robustness Check for Financial, Fiscal, Civic, and Math Proficiency Scores 2SLS Estimates

	(1) Financial Educ	(2) Fiscal Educ	(3) Civic Educ	(4) Math
Panel A.1: No Fixed Effects, No Controls				
Treatment	0.18**	0.13**	0.12*	0.07
	(0.07)	(0.05)	(0.06)	(0.06)
Number of Students	13,566	13,566	13,566	13,566
Panel A.2: No Fixed Effects, No Controls, Constrained Sample				
Treatment	0.11*	0.10*	0.10	-0.01
	(0.05)	(0.05)	(0.05)	(0.06)
Panel B.1: Fixed Effects, No Controls				
Treatment	0.18***	0.14***	0.12**	0.07
	(0.04)	(0.04)	(0.04)	(0.04)
Number of Students	13,566	13,566	13,566	13,566
Panel B.2: Fixed Effects, No Controls, Constrained Sample				
Treatment	0.09**	0.10***	0.08*	-0.02
	(0.03)	(0.03)	(0.03)	(0.04)
Panel C.1: Fixed Effects, LASSO Controls				
Treatment	0.10***	0.09***	0.06	-0.03
	(0.03)	(0.03)	(0.03)	(0.03)
Number of Students	9,449	9,088	9,449	9,039
Panel C.2: Fixed Effects, LASSO Controls, Constrained Sample				
Treatment	0.09**	0.10***	0.07*	-0.02
	(0.03)	(0.03)	(0.03)	(0.03)
Panel D: Fixed Effects, All Controls				
Treatment	0.09**	0.10***	0.07*	-0.02
	(0.03)	(0.03)	(0.03)	(0.03)
Number of Students	7,925	7,925	7,925	7,925

Note: See page 26 for the complete note on this table.

All regressions with constrained sample in this table consider 7,925 students whose responses include no missing data to any of the control variables. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level

Note: tables 8 and 9 present different specifications for regressions for the impact of the *EBT* program on student financial, fiscal, civic, and math proficiency, measured by multiple choice questions in the student survey. In table 8 the regressions are all estimated by OLS method - treatment is given by allocation of the school after the randomization (students from schools in the treatment group receive 1 as treatment) - and in table 9 regressions are estimated by 2SLS method - program implementation has been instrumentalized by the randomization. The outcome variables in this table are the average number of correct answers in 13 financial education questions, the average number of correct answers in 6 fiscal education questions, the average number of correct answers in 5 civic education questions, and the average number of correct answers in 6 math education questions. Missing values count as zero (mistakes). Those averages were standardized to the control group. Panel A.1 presents results for regressions without the inclusion of controls and fixed effects for the whole sample, A.2 presents results for regressions without the inclusion of controls and fixed effects considering the constrain of using all the controls would impose on the sample (considers only observations from whom there is complete information on all control variables later used so that comparisons are fairer). Panels B.1 and B.2 do the same, now considering the fixed effects of the pair of schools as controls in the regression. No socio-economic variables were included. Panel B.1 presents the preferred specification. Panel C.1 presents results for regressions that include fixed effects of the pair of schools and LASSO-selected controls. The method selected (1) age, rooms-per-person, index of goods, internet access, domestic workers on the household, and chief of household currently working as controls for the regression of financial educ proficiency; (2) girl, age, rooms-per-person, index of goods, internet access, domestic workers on the household, and chief of household currently working as controls for the regression of fiscal educ proficiency; (3) age, rooms-per-person, index of goods, internet access, domestic workers on the household, and chief of household currently working as controls for the regression of civic educ proficiency; and (4) girl, age, rooms-per-inhabitant, index of goods, index of durable goods, internet access, domestic workers on the household, and chief of household currently working as controls for the regression of math proficiency. Panel C.2 repeats the regression in panel C.1 but considers only the filtered sample from whom there is complete information on socio-economic background, estimating the effect for smaller sample size. Panel D presents results for regressions that include fixed effects of all of the socio-economic variables as controls. All the controls account for the variables: girl indicator, age, black indicator, rooms-per-inhabitant in the household, goods index, durable goods index, internet access in the household indicator, domestic worker in the household indicator, employed chief of household indicator and chief of the household is the mother indicator. For including all the controls, sample considered in panel D is per nature the constrained sample (all regressions with constrained sample in this table consider 7,925 students). Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level

Table 10: Ratio of Non-responses within Mistakes in Financial, Fiscal, Civic and Math Proficiency Test

	(1) Financial Educ	(2) Fiscal Educ	(3) Civic Educ	(4) Math
Panel A: Proficiency Scores				
Treatment	2.37***	2.39***	2.18**	1.59
	(0.57)	(0.62)	(0.73)	(0.97)
R-squared	0.04	0.03	0.03	0.04
Mean in Control	29.29	29.56	33.22	42.77
SD in Control	15.61	21.18	22.76	29.00
Panel B: Ratio of Non-responses within Mistakes				
Treatment	-3.56*	-3.53*	-1.58	-2.69
	(1.45)	(1.53)	(1.52)	(1.56)
R-squared	0.06	0.04	0.02	0.03
Mean in Control	22.02	27.23	36.54	33.14
SD in Control	27.16	33.89	36.87	37.60
Number of Students	13,566	13,520	13,426	12,943

Note: Panel B of this table presents results for the impact of the *EBT* program on students' ratio of Non-responses within Mistakes in financial, fiscal, civic, and math proficiency. The outcome variable from the first column is the division of the number of left unfilled answers out of the 13 financial education questions and the number of not rightly filled answers out of the same 13 questions. Not rightly filled questions include both unfilled and filled with the wrong alternative questions. The same procedure is repeated for the 6 fiscal education questions (resulting in the outcome from column 2), the 5 civic education questions (resulting in the outcome from the third column), and the 6 math education questions (resulting in the outcome from the last column). Those divisions result in outcomes that represent proportions and range from 0 to 100. Panel A presents results for the impact of the *EBT* program on student financial, fiscal, civic, and math proficiency, measured by multiple choice questions in the student survey. The outcome variables in this table are the average number of correct answers in 13 financial education questions, the average number of correct answers in 6 fiscal education questions, the average number of correct answers in 5 civic education questions, and the average number of correct answers in 6 math education questions. Missing values count as zero (mistakes). Those averages would range from 0 to 100 and correspond to a test score. The regressions are similar to those from table 2 but outcomes have not been standardized to the control group. All regressions include school pair dummies and have been estimated by OLS. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level.

Table 11: Financial, Fiscal, Civic Habits and Beliefs - no missing answers

	(1) Fin Habits	(2) Fin Beliefs	(3) Fisc Beliefs	(4) Civ Beliefs	(5) Public Good
Panel A: ITT (OLS)					
Treatment	0.19***	0.12*	0.08	0.19***	0.04
	(0.05)	(0.06)	(0.05)	(0.04)	(0.03)
R-squared	0.02	0.03	0.02	0.02	0.01
Panel B: LATE (2SLS)					
Treatment	0.23***	0.15*	0.09	0.23***	0.05
	(0.06)	(0.07)	(0.06)	(0.05)	(0.04)
R-squared	0.02	0.03	0.02	0.02	0.01
Mean in Control	6.96	7.89	7.20	6.88	7.17
SE in Control	1.87	1.77	2.13	1.69	1.41
Number of Students	8,011	8,384	8,910	7,561	8,260

Note: This table presents results for the impact of the *EBT* program on indexes that measure students' financial habits, financial beliefs, fiscal beliefs, civic beliefs, and common goods habits and beliefs for a filtered sample. Indexes were calculated from Likert Scale questions in the student survey. The outcome variables in this table are the average answers to 4 questions related to financial habits (column one considers only students who have filled those 4 questions), 3 questions related to financial beliefs (column two considers only students who have filled those 3 questions), 2 questions related to fiscal beliefs (column three considers only students who have filled those 2 questions), 4 questions related to civic beliefs (column four considers only students who have filled those 4 questions), and 4 questions related to common goods habits and beliefs (column five considers only students who have filled those 4 questions). Since the scale may vary in the questionnaire, all scales have been normalized up to 10 points so that simple averages could be informative. The number of students included in the sample fluctuates because not all students answered every question. Those averages range from 1,66 to 10 and correspond to the valuing frequency or importance associated with each index. Panel A presents OLS regression results and Panel B presents 2SLS regression results, in which program implementation has been instrumentalized by the randomization. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level.

Table 12: School Interest, Family Spillover and Futures Self Expectation - no missing answers

	(1) School Interest	(2) Fam Interaction	(3) Fam Spillover	(4) Future Self
Panel A: ITT (OLS)				
Treatment	0.10 *	0.12 ***	0.15 **	0.14 **
	(0.04)	(0.03)	(0.05)	(0.05)
R-squared	0.02	0.02	0.01	0.02
Panel B: LATE (2SLS)				
Treatment	0.13 *	0.14 ***	0.19 **	0.18 **
	(0.05)	(0.04)	(0.07)	(0.07)
R-squared	0.02	0.02	0.01	0.02
Mean in Control	7.07	6.03	6.62	7.54
SE in Control	1.66	1.38	2.24	2.21
Number of Students	7,288	6,301	8,470	9,271

Note: This table presents results for the impact of the *EBT* program on indexes that measure students' school interest effect, family interaction effect, family spillover effect, and future self effect for a filtered sample. Indexes were calculated from Likert Scale questions in the student survey. The outcome variables in this table are the average answers to 6 questions related to school interest beliefs (column one considers only students who have filled those 6 questions), 9 questions related to family interaction habits (column two considers only students who have filled those 9 questions), and beliefs, 2 questions related to family spillover believed effects (column three considers only students who have filled those 2 questions), and 2 questions related to future-self believed effects (column four considers only students who have filled those 2 questions). Since the scale may vary in the questionnaire, all scales have been normalized up to 10 points so that simple averages could be informative. The number of students included in the sample fluctuates because not all students answered every question. Those averages range from 1,66 to 10 and correspond to the valuing, frequency or importance associated with each index. Panel A presents OLS regression results and Panel B presents 2SLS regression results, in which program implementation has been instrumentalized by the randomization. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level.

Table 13: Financial Habits Index Instrument Questions

	Mean in Control	Difference	P-value	RW	N of Students
1. I save some of my money	7.26 (3.11)	0.11* (0.07)	0.084	0.337	10,111
2. I spend all of my money	7.63 (2.96)	0.08 (0.07)	0.227	0.347	10,633
3. I have a budget	5.95 (2.99)	0.30*** (0.05)	0.000	0.030	10,157
4. I currently have money saved	6.75 (3.16)	0.16** (0.07)	0.019	0.238	10,344

Note: This table presents results for OLS regressions for the impact of the *EBT* program on the four questions from the student survey that compound to the financial habits index. The questions have a Likert scale answer that ranges from 1 (disagree very much) to 6 (agree very much) and later was normalized to reach up to 10. Question 2 had the scale inverted (so the higher the value the more strongly the student disagrees with the statement, as opposed to the others in which the opposite is true). The Romano Wolf corrected p-value presented is the result of correction for the estimation of these four questions. The number of students included in the sample fluctuates because not all students answered every question. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level. Blue cell denotes statistical significance at the 1% level considering the Romano-Wolf correction

Table 14: Financial Beliefs Index Instrument Questions

	Mean in Control	Difference	P-value	RW	N of Students
1. Saving money can change a person's life	8.36 (2.49)	0.08 (0.06)	0.194	0.416	10,260
2. It is important to save money	7.83 (2.77)	0.05 (0.06)	0.421	0.416	10,044
3. How important is tracking your money?	7.27 (2.48)	0.25*** (0.07)	0.001	0.089	10,864

Note: This table presents results for OLS regressions for the impact of the *EBT* program on the three questions from the student survey that compound to the financial beliefs index. Questions 1 and 2 have a Likert scale answer that ranges from 1 (disagree very much) to 6 (agree very much) and question 3 has answers that range from 1 (very unimportant) to 4 (very important) - all of them later was normalized to reach up to 10 so that the index is the simple average. The Romano Wolf corrected p-value presented is the result of correction for the estimation of these three questions. The number of students included in the sample fluctuates because not all students answered every question. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level. Blue cell denotes statistical significance at the 1% level considering the Romano-Wolf correction

Table 15: Fiscal Beliefs Index Instrument Questions

	Mean in Control	Difference	P-value	RW	N of Students
1. Taxes are a waste of money	7.19 (3.06)	-0.02 (0.07)	0.830	0.842	10,235
2. How important is the government not spending all its money?	7.18 (2.65)	0.14** (0.05)	0.010	0.079	10,294

Note: This table presents results for OLS regressions for the impact of the *EBT* program on the two questions from the student survey that compound to the fiscal beliefs index. Question 1 has a Likert scale answer that ranges from 1 (disagree very much) to 6 (agree very much) and question 2 answers range from 1 (very unimportant) to 4 (very important) - both were later normalized to reach up to 10 and the index is the result of the average between them and also reach up to 10. Question 1 had the scale inverted (so the higher the value the more strongly the student disagrees with the statement). The Romano Wolf corrected p-value presented is the result of correction for the estimation of these two questions. The number of students included in the sample fluctuates because not all students answered every question. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level. Blue cell denotes statistical significance at the 1% level considering the Romano-Wolf correction

Table 16: Civic Beliefs Index Instrument Questions

	Mean in Control	Difference	P-value	RW	N of Students
1. Elections are the most equitable method of selecting political leaders	7.40 (2.95)	0.20*** (0.06)	0.001	0.079	10,186
2. Elections are the only way citizens can influence political decisions.	6.74 (2.94)	0.17*** (0.04)	0.000	0.079	10,004
3. How important is it to track political decisions?	6.50 (2.53)	0.15*** (0.05)	0.005	0.079	10,133
4. How important is the government's disclosure of information?	6.66 (2.52)	0.23*** (0.05)	0.000	0.050	10,031

Note: This table presents results for OLS regressions for the impact of the *EBT* program on the four questions from the student survey that compound to the civic beliefs index. Questions 1 and 2 have a Likert scale answer that ranges from 1 (disagree very much) to 6 (agree very much) while questions 3 and 4 answers range from 1 (very unimportant) to 4 (very important) - all were later normalized to reach up to 10 and the index that is the result of the average also reaches up to 10. The Romano Wolf corrected p-value presented is the result of correction for the estimation of these four questions. The number of students included in the sample fluctuates because not all students answered every question. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level. Blue cell denotes statistical significance at the 1% level considering the Romano-Wolf correction

Table 17: Common Good Index Instrument Questions

	Mean in Control	Difference	P-value	RW	N of Students
1. How important is it to track trash disposal at your school?	7.59 (2.43)	0.03 (0.05)	0.536	0.941	9,871
2. How important is it to track your school's cleanliness?	7.81 (2.34)	0.05 (0.05)	0.272	0.842	10,365
3. Do you usually keep track of trash disposal at your school?	6.45 (2.62)	0.07 (0.05)	0.199	0.842	9,601
4. Do you usually keep track of your school's cleanliness?	6.85 (2.81)	-0.02 (0.05)	0.749	0.941	9,745

Note: This table presents results for OLS regressions for the impact of the *EBT* program on the four questions from the student survey that compound to the common good habits and beliefs index. Questions 1 and 2 answers range from 1 (very unimportant) to 4 (very important), and answers for questions 3 and 4 can assume 1 (no), 2 (sometimes), or 3 (yes) - all were later normalized to reach up to 10 and the index that is the result of the average between them also reach up to 10. The Romano Wolf corrected p-value presented is the result of correction for the estimation of these four questions. The number of students included in the sample fluctuates because not all students answered every question. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level. Blue cell denotes statistical significance at the 1% level considering the Romano-Wolf correction

Table 18: School Interest Index Instrument Questions

	Mean in Control	Difference	P-value	RW	N of Students
1. The subjects I study in school help me with challenges I experience beyond the classroom	7.25 (2.94)	0.10* (0.05)	0.076	0.307	10,663
2. School activities are more interesting this year	7.29 (2.92)	0.03 (0.07)	0.629	0.743	10,460
3. School is interesting	7.52 (2.77)	0.15** (0.06)	0.014	0.267	10,558
4. School is useful	7.04 (2.81)	0.17*** (0.05)	0.001	0.089	10,326
5. School is boring	7.00 (3.13)	0.14** (0.07)	0.032	0.267	9,562
6. I learn is school matters that are important to mine and my family's daily life	6.01 (3.03)	0.16** (0.07)	0.031	0.267	10,864

Note: This table presents results for OLS regressions for the impact of the *EBT* program on the six questions from the student survey that compound to the financial habits index. The questions have a Likert scale answer that ranges from 1 (disagree very much) to 6 (agree very much) and later was normalized to reach up to 10. Question 5 had the scale inverted (so the higher the value the more strongly the student disagrees with the statement, as opposed to the others for which the opposite is true). The Romano Wolf corrected p-value presented is the result of correction for the estimation of these six questions. The number of students included in the sample fluctuates because not all students answered every question. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level. Blue cell denotes statistical significance at the 1% level considering the Romano-Wolf correction

Table 19: Family Interaction Index Instrument Questions

	Mean in Control	Difference	P-value	RW	N of Students
I usually talk to my parents about...					
1. what I learned at school	7.57 (2.86)	0.00 (0.06)	0.953	1.000	10,372
2. the importance of saving money	5.55 (3.18)	0.34*** (0.07)	0.000	0.020	10,308
I feel prepared to talk to my parents about...					
3. money	5.93 (3.16)	0.30*** (0.07)	0.000	0.030	10,516
4. politics	5.40 (3.22)	0.02 (0.06)	0.697	0.980	10,411
How often do you talk to your parents about...					
5. what you learned at school?	7.56 (2.06)	0.01 (0.04)	0.883	1.000	11,343
6. saving money?	5.64 (2.49)	0.13*** (0.04)	0.000	0.069	10,997
7. taxes?	4.33 (2.34)	0.21*** (0.05)	0.000	0.050	10,781
8. government and elections?	5.43 (2.55)	0.04 (0.04)	0.363	0.950	10,851
9, the news?	6.70 (2.54)	0.05 (0.04)	0.188	0.832	10,880

Note: table **??** presents results for OLS regressions for the impact of the *EBT* program on the nine questions from the student survey that compound to the family interaction index. For questions 1, 2, 3, and 4 answers range from 1 (disagree very much) to 6 (agree very much), and answers for questions 6, 7, 8, and 9 range from 1 (never) to 4 (very frequently) - all were later normalized to reach up to 10 and the index that is the result of the average between them also reach up to 10. The Romano Wolf corrected p-value presented is the result of correction for the estimation of these nine questions. The number of students included in the sample fluctuates because not all students answered every question. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level. Blue cell denotes statistical significance at the 1% level considering the Romano-Wolf correction

Table 20: Family Spillover Index Instrument Questions

	Mean in Control	Difference	P-value	RW	N of Students
1. My parents have recently changed their relationship with money	6.46 (2.98)	0.15*** (0.06)	0.010	0.089	10,007
2. My parents are good taxpayers	6.72 (3.04)	0.13* (0.07)	0.065	0.168	9,316

Note: This table presents results for OLS regressions for the impact of the *EBT* program on the two questions from the student survey that compound to the family spillover index. Questions 1 and 2 have a Likert scale answer that ranges from 1 (disagree very much) to 6 (agree very much) and that was later normalized to reach up to 10. The Romano Wolf corrected p-value presented is the result of correction for the estimation of these two questions. The number of students included in the sample fluctuates because not all students answered every question. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level. Blue cell denotes statistical significance at the 1% level considering the Romano-Wolf correction

Table 21: Future Self Index Instrument Questions

	Mean in Control	Difference	P-value	RW	N of Students
When I grow up I will...					
1. apply school lessons to my financial decisions.	7.83 (2.72)	0.18*** (0.06)	0.007	0.069	10,306
2. be a good taxpayer	7.11 (2.82)	0.17*** (0.05)	0.003	0.030	9,906

Note: This table presents results for OLS regressions for the impact of the *EBT* program on the two questions from the student survey that compound to the future self index. Questions 1 and 2 have a Likert scale answer that ranges from 1 (disagree very much) to 6 (agree very much) that were later normalized to reach up to 10. The Romano Wolf corrected p-value presented is the result of correction for the estimation of these two questions. The number of students included in the sample fluctuates because not all students answered every question. All regressions include school pair dummies. Robust standard errors, clustered at the school level, are in parentheses. * denotes statistical significance at the 5% level, ** denotes statistical significance at the 1% level, *** denotes statistical significance at the 0.1% level. Blue cell denotes statistical significance at the 1% level considering the Romano-Wolf correction

Appendix B

Figure 1: Program Implementation Timeline

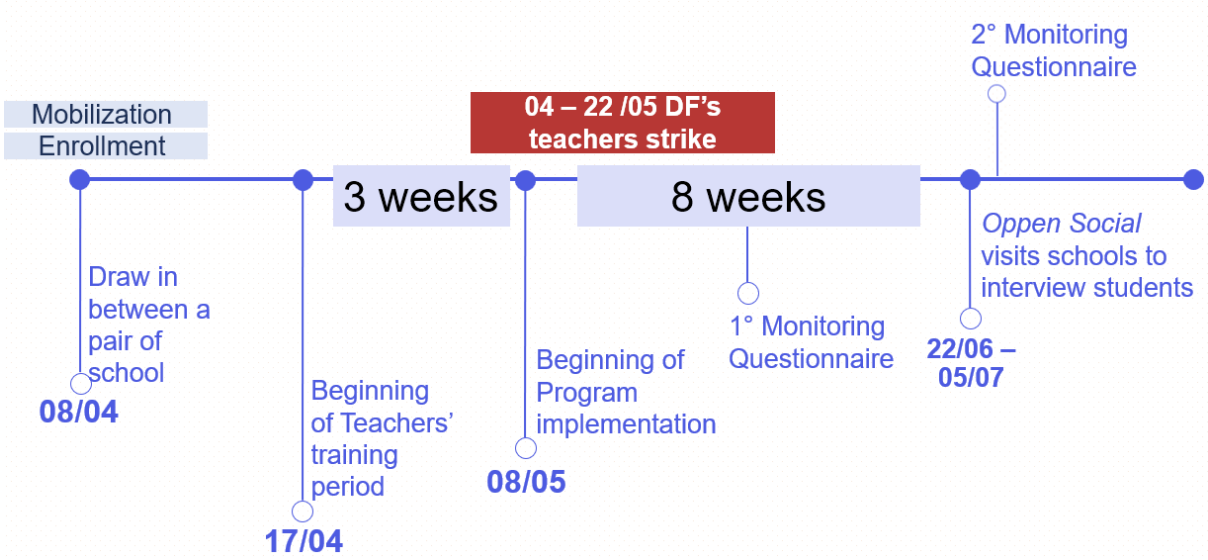
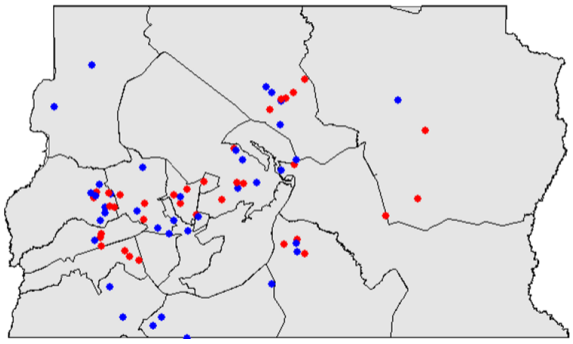


Figure 2: Spatial Distribution of Schools by Treatment Group



Regional Education Office	Number of Schools Enrolled
Brazlândia	7
Ceilândia	13
Gama	8
Guará	3
Núcleo Bandeirante	8
Paranoá	8
Planaltina	14
Plano Piloto	19
Recanto das Emas	4
Samambaia	9
Santa Maria	3
Sobradinho	6
São Sebastião	1
Taguatinga	10
Total	**113**

Note: self-compiled

Figure 3: Percentage of NA by Treatment Group