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Combating Tax Evasion and Increasing Financial Transparency in the Time of COVID-19: The Case of Paraguay

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Abstract

Reducing tax evasion is one of the main objectives of countries, especially less-developed countries with fewer resources. The literature has studied various tools to deal with tax evasion, but the results have been inconclusive. In addition, most of the evidence comes from developed countries. To contribute to addressing this gap, this study presents evidence on the impact of audit programs on the reduction of tax evasion in Paraguay. Using the synthetic difference-in-differences methodology, the study evaluates the effect of the audits on declared sales, the reduction of purchases, and the payment of taxes by firms during the 2018–2019 period. In addition, results are presented on the use of a tax dashboard that identifies discrepancies in declarations by firms. The findings show that the audits are effective in addressing tax evasion, and that the dashboard can orient criteria for more efficient fiscal control, which is particularly important during the time of COVID19. It is thus shown that in less-developed countries, governmental auditing activities are key to improving tax collection.¹

JEL Codes: D04, H26, H83

Keywords: Tax evasion, Tax audits, Tax compliance

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1 Introduction

Tax evasion is a critical problem in many countries, especially in Latin America and the Caribbean, where the evasion rate for all taxes is 50 percent (Corbacho, Fretes Cibils, & Lora, 2015). The cost of tax evasion in Latin America rose 6.3 percent of GDP in the region in 2017, the equivalent of US\$ 335 billion (ECLAC, 2019). Paraguay is no exception in this regard. Despite growth of more than 20 percent over the last 10 years, the country's fiscal revenues represent around 60 percent of the Latin America average. In fact, collection of the value-added tax (VAT) is almost a third less than the Latin American average (7.3 percent). Similarly, revenue from corporate taxes is 50 percent less than the Latin American average (3.6 percent of GDP).² There are three factors that contribute to Paraguay's low returns in terms of tax performance. First, Paraguay has the lowest tax rate (10 percent) in Latin America. Second, the country's tax expenditures are 70 percent higher than those of the region (20.7 percent). Third, there is substantial evasion. Although there are no robust calculations currently available, tax evasion in Paraguay is estimated to be of the same magnitude as that of the region.

Tax evasion undermines public revenue, which in turn can reduce productive public expenditure and erode the government's capacity to provide quality public goods and services. When citizens perceive that public institutions are incapable of responding to their needs, they have little incentive to comply with their tax obligations. This in turn undermines the capacity of the State to effectively provide quality goods and services, which has a negative impact on the well-being of the citizenry, as shown by the decline in indicators of well-being in recent years (OECD and ECLAC, 2015). The overall result of the phenomenon described here is a downward spiral that causes even more of a disconnect between citizens and public institutions. Therefore, it is important that these institutions promote effective policies that lead to reduction in tax evasion and in this way ensure the delivery of quality public goods and services to the citizenry.

This document presents evidence on the impact of audit policies implemented by Paraguay's tax administration on reducing tax evasion in the country. The audit policies constitute a governmental strategy to monitor firms and make them comply with their tax obligations. The policies are implemented within the framework of various reforms whose aim has been to modernize tax administration systems and make them more efficient in order to facilitate collection. This study contributes to the literature, because it documents the effects of different policy instruments on tax compliance (Bachas and Soto (2018); Blumenthal, Christian, Slemrod, and Smith (2001); Kleven, Knudsen, Kreiner, Pedersen, and Saez (2011); Advani, Elming, and Shaw (2017)) and presents results for a context from Paraguay.

This study assesses the effect of the monitoring of firms through audits of tax compliance during the 2018-2019 period. This is done using a synthetic difference-in-differences methodology, which allows for comparing each audited firm with an "artificial" non-audited one that is created by weighting the non-audited firms. This is done in such a way that the trajectory of the results of the audited firm in periods prior to the audit run parallel to those of the "artificial" non-audited firm. The latter functions as a counterfactual for the former. The findings of the evaluation show that the audited firms improve in terms of several of the results studied, including declared sales, reduction of purchases, and payment of taxes. On the other hand, preliminary results are presented from the tax dashboard to detect discrepancies in the declarations of firms and orienting fiscal controls.

The document is divided into seven sections including this Introduction. The second section describes the literature related to the evaluation. The third section describes the context of the policy studied and presents the tax dashboard. The fourth section then presents the empirical strategy of the evaluation, and the fifth section presents the results. The sixth section looks at

²The data presented in this section correspond to the OECD - CIAT- ECLAC- IDB (2020) databases, for more information see <https://biblioteca.ciat.org/opac/book/5724>

the next steps to extend the study. Finally, the conclusions of the study are presented in section seven.

2 Review of the Literature

Economists have been looking for a long time at how to design and implement tax policies that efficiently generate a substantial amount of income. [Allingham and Sandmo \(1972\)](#) maintain that the policy tools available to the government to counteract the tendency towards tax evasion are the tax rates themselves, penalty fees, and research spending, all of which affect the probability of detection. This is important, given that tax evasion is one of the main challenges facing developing countries. In this context, [Bachas and Soto \(2018\)](#) find that for firms it is much easier to manipulate costs than to adjust revenues, and the increase in reported costs explains more than two-thirds of the reduction of taxable income when firms have to pay higher tax rates. In light of this situation, they suggest that the expansion of the base over time that reduces the rate can increase government revenue, maintaining earnings constant.

Although tax evasion is difficult to measure, various works indicate that there is marked non-compliance with fiscal rules. [Blumenthal et al. \(2001\)](#), [Kleven et al. \(2011\)](#), [Advani et al. \(2017\)](#) show that application of the law increases the taxes collected in subsequent years, which suggests that the entities generally reduce the payment of their liabilities. For their part, [Alstad-sæter, Johannesen, and Zucman \(2019\)](#) take advantage of filtered data from financial institutions to discover significant evasion among the wealthy.

The economics literature has given significant attention to efforts to stop tax evasion by firms. [Naritomi \(2019\)](#), [Pomeranz \(2015\)](#) y [Brockmeyer, Smith, Hernandez, and Kettle \(2019\)](#) provide evidence that the use of information provided by third parties, such as clients and suppliers, improves tax compliance. Revenue collection can also be increased through the design of fiscal schemes that take into account the existence of limited fiscal capacity, as shown by [Best, Brockmeyer, Kleven, Spinnewijn, and Waseem \(2015\)](#) and [Jensen \(2019\)](#). In this context, the specialized literature is increasingly focused less on topics such as non-compliance due to the firm not registering with the tax authorities, or the formal-informal margin, and more on examining non-compliance among formal firms ([De Paula and Scheinkman \(2010\)](#); [Bruhn and McKenzie \(2014\)](#)).

Another aspect widely studied in the literature is the use of behavioral interventions to reduce tax evasion. These interventions are useful to increase tax compliance by highlighting monitoring and sanctions, and/or by increasing tax morale, inducing reciprocity or taking advantage of peer effects ([Rapoport, Méndez, and Scartascini \(2020\)](#); [Castro and Scartascini \(2014\)](#); [López-Luzuriaga and Scartascini \(2019\)](#)).

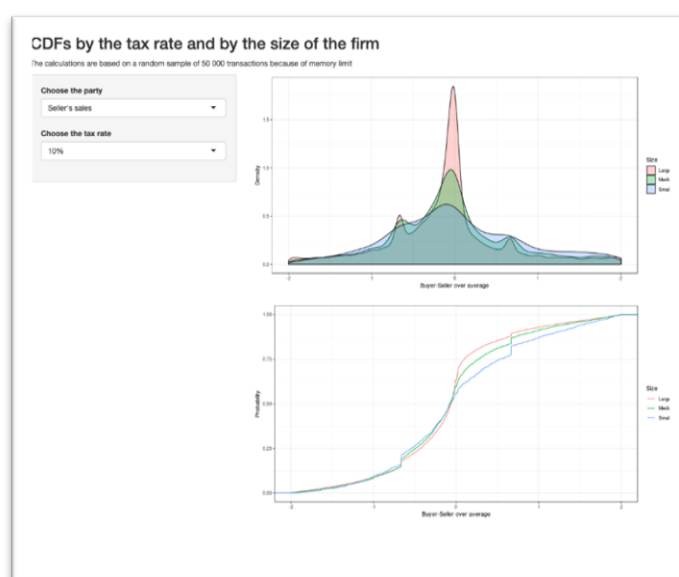
Finally, an instrument used to combat tax evasion that is increasingly the focus of the literature is audits. It has been demonstrated that they are particularly successful in detecting and reducing evasion. For example, [Kleven et al. \(2011\)](#) show that in Denmark, letters that inform taxpayers of upcoming audits reduce evasion. [Advani et al. \(2017\)](#) show that the effects of audits in the United Kingdom persist over at least five years. However, [Bergolo, Burdín, De Rosa, Giacobasso, and Leites \(2019\)](#) show that in Uruguay, while firms reduce their evasion by 24 percent when they are informed they will likely be subject to an audit, they do not respond when the probability of being audited is duplicated. The analysis presented in this document contributes to this literature by showing an improvement in tax collection after an audit.

3 Context

In 2019, the Paraguayan tax administration –the State Subsecretariat for Taxation (Subsecretaría de Estado de Tributación – SET)– teamed up with the IDB to identify key tools and information to combat tax evasion, support financial transparency, and implement a Big Data and digital government strategy.³ Specifically, this collaborative effort aims to respond to question of how to focus resources aimed at incentivizing tax compliance in a way that is more efficient, proposing innovative tools directed towards the improvement of monitoring, the focus of compliance, and the definition of tax policy.

One of the tools that came out of this effort was a tax dashboard that shows key information related to the financial health of all taxpayers that register their value-added tax (VAT) in Paraguay. This tool allows for accessing indicators of interest in terms of the formulation of economic policies directed towards economic recovery and tax compliance. The tax dashboard is a “R Shiny app” developed by the IDB’s Office of Strategic Planning and Development Effectiveness (SPD) and Columbia University, with support from the IDB’s Fiscal and Municipal Management Division (FMM). The table uses administrative data and additional information, such as tax registers from the SET for monthly VAT returns and quarterly account statements on commercial relations and transactions between firms. Figure 1 is a visual presentation of the interactive dashboard.⁴ The tax dashboard shows different key indicators to improve the monitoring, targeting of compliance, and definition of tax policy. First, the dashboard presents an overview of government tax revenue, which is shown in Figure 2.

Figure 1: Paraguay Tax Dashboard



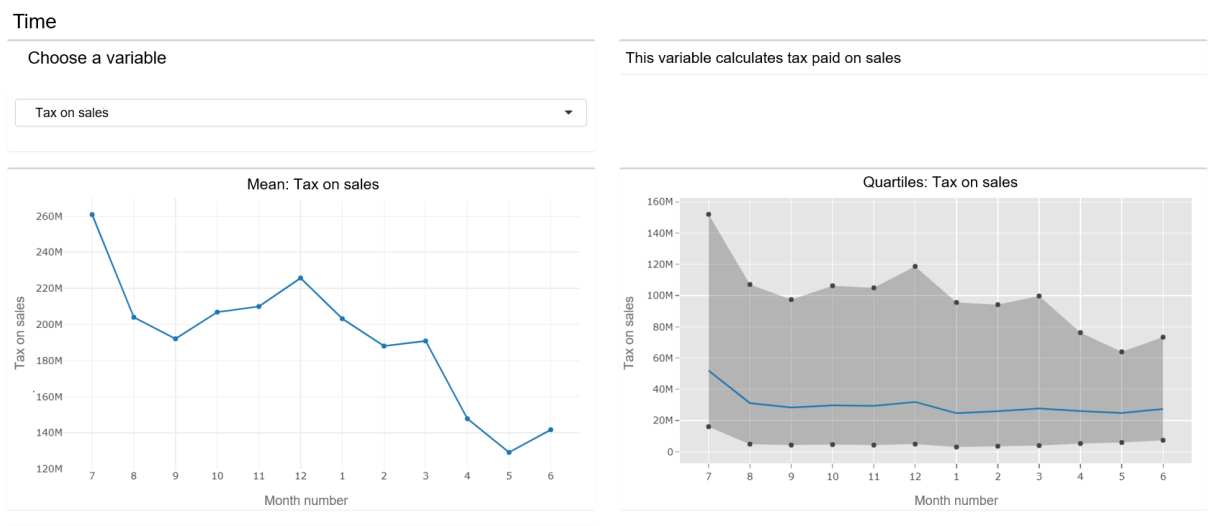
Source: Prepared by the authors. The tax dashboard was developed by SPD of the IDB and Columbia University, with support from FMM of the IDB.

The **sales tax** indicator is used as an example. This is summarized in the tables on taxes by month (Figure 2), region (Figure 3), and economic activity (Figure 4).

³Investment project PR-L1150 (US\$25 million) and policy projects PR-L1151 (US\$300 million) and PR-L1161 (US\$90 million) related to the efficiency of sustainable fiscal management. The objective of PR-L1150 is to improve the efficiency of collection, support the technological and functional capacity of the SET, and develop inspection and support models for implementation of the National Integrated Electronic Invoicing System (*Sistema Integrado de Facturación Electrónica Nacional* - SIFEN), among other reforms. The purpose of PRL1151 is to strengthen tax policy and management by supporting the effective implementation of the decree to put in place SIFEN, among other policy measures.

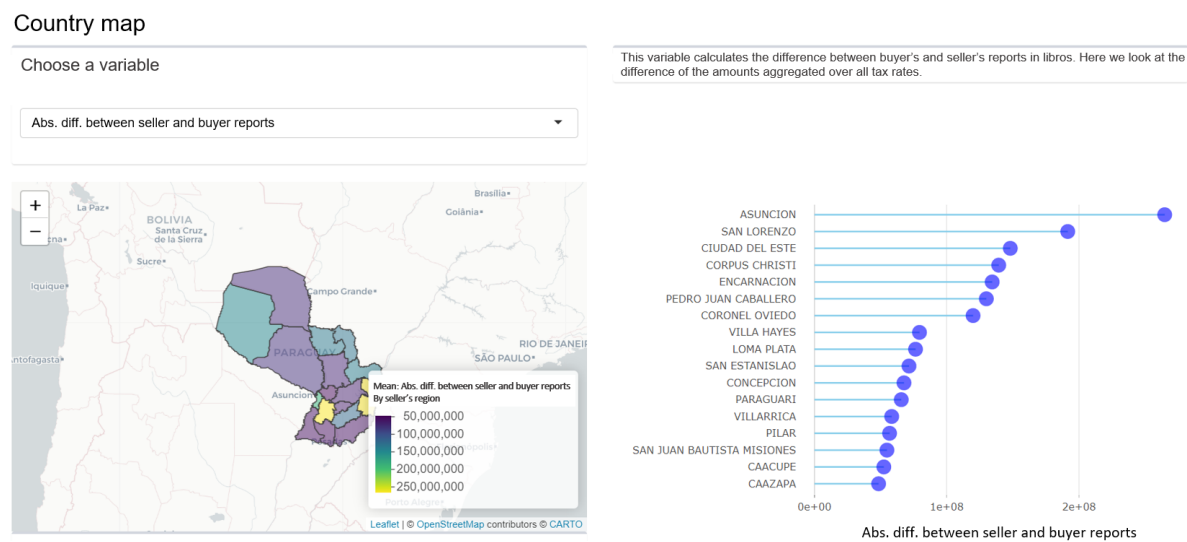
⁴The tax dashboard was developed by the IDB’s SPD and Columbia University, with support from the FMM of the IDB.

Figure 2: Tax Dashboard: Indicators Summarized by Month



Source: Prepared by the authors.

Figure 3: Tax Dashboard: Indicators Summarized by Region



Source: Prepared by the authors.

Figure 4: Tax Dashboard: Indicators Summarized by Economic Activity



Source: Prepared by the authors.

The tax dashboard also contains two indicators directly related to tax compliance that originate in the discrepancies between the declarations of sellers and purchasers regarding their transactions. According to [Carrillo, Pomeranz, and Singhal \(2017\)](#), the first indicator focuses on those taxpayers that declare less sales versus the total purchases declared by their clients. Figure 5 shows the summary of the results of firms that under-declare according to this indicator. The tax dashboard also facilitates the direct identification of taxpayers that under-declare.

Figure 5: Tax Dashboard: Under-declaration of Sales

Firms underdeclaring VAT

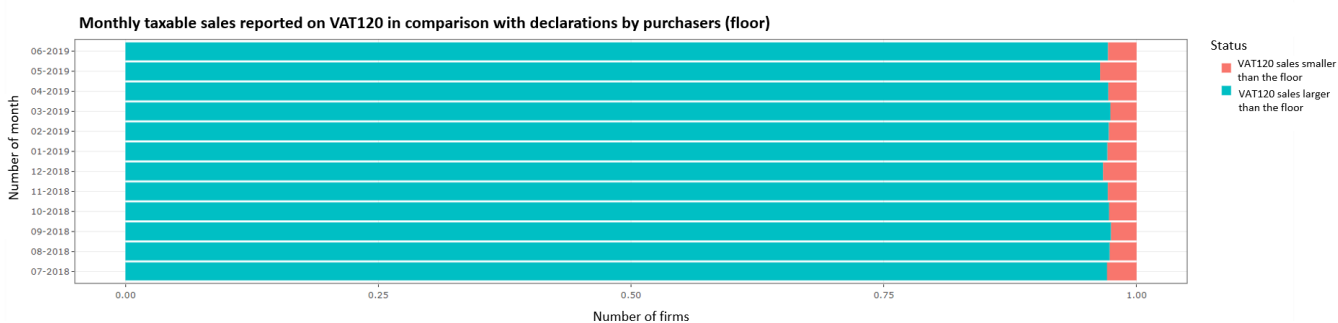
This graph is based on the idea from the article: Dodging the Taxman by Carrillo, Pomeranz and Singhal. They use the following idea to find tax evasion: they construct a floor for reported sales based on the third-party information (purchasers, credit cards...) and compare it to the sales declared in VAT. Here, the floor for the taxed sales of a firm X is defined as the sum of (taxed) purchases declared by buyers of X. Then it is compared to the sales reported by X in VAT120. If the latter (sales in VAT) is below the former (floor) the firm X underreported their sales. Note that this is only a floor, because firms may sell to entities which are not under obligation of monthly purchases reporting.

Taxable sales less than the minimum for:

Margin

25%

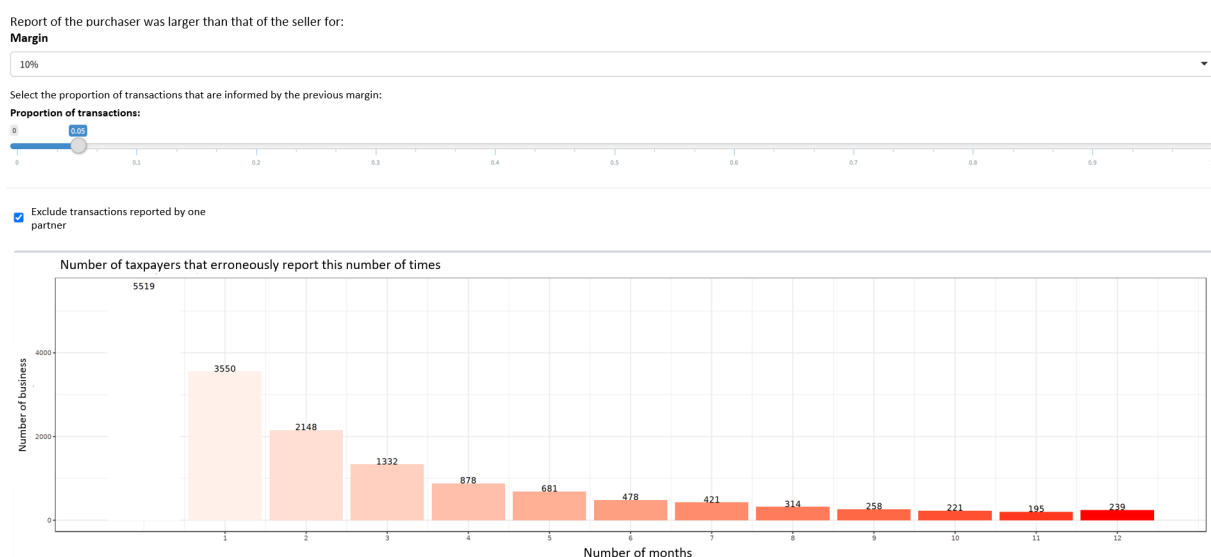
☐ Taxpayers declaring sales



Source: Prepared by the authors.

The second indicator calculates the rate of discrepancies between the declarations of pur-

Figure 6: Tax Dashboard: Discrepancy Level



Source: Prepared by the authors.

chasers and sellers, focusing on those where the seller declares less than the purchaser (which results in a loss in tax collection). Figure 6 shows the number of taxpayers with a rate above 5 percent of discrepancies in their transactions.

In the context of the unexpected economic crisis caused by COVID-19 pandemic, the tax dashboard allows for accessing information relevant to formulating policies that contribute to the country's economic recovery. Latin American governments are implementing various measures to support their citizens and firms, as well as to maintain the supply of vital public services, which often puts new and unexpected pressure on public finances. In the face of this situation, having this tool has been useful to withstand the extraordinary expenditures provoked by the pandemic.

5

Within the framework of these innovations, this analysis uses key information and indicators from the dashboard to carry out an evaluation of the impact of auditing programs conducted by the SET during 2018 and 2019, with an eye toward strengthening and expanding tax collection and reducing tax evasion in Paraguay.

4 Empirical Strategy

This evaluation uses microdata from the SET. Given that the data is very sensitive, there are several methods to protect their confidentiality. In this case a protocol was followed in which a confidentiality agreement was signed with the SET that clearly communicated the expectations and purposes of the use of the data. At that point the SET extracted the anonymous data for each period, encrypted those data, and shared them for purposes of analysis.

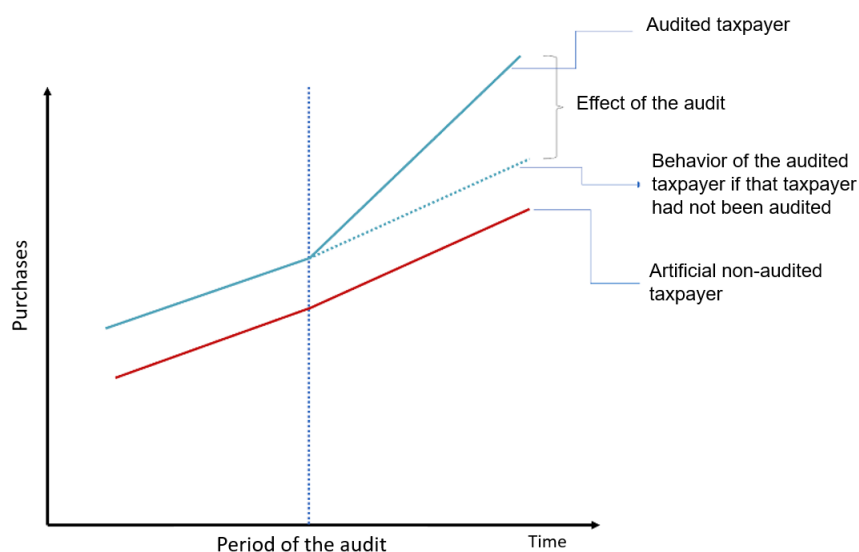
This section describes the empirical methodology employed to measure the effect of an audit on the sales, purchases, and tax obligations declared as taxable by the firm (taxable sales and

⁵For more information, see the IDB blog "Tax Dashboard to Increase Tax Compliance in the Post-Pandemic: The Case of Paraguay" (Pierri, Radics, & Barreix, 2021).

purchases). The evaluation analyzes the firms that were audited in November 2018. The data correspond to the period from July 2018 to June 2019. The focus on audited firms allows for measuring the effects of the audit in the short and long terms. In an ideal world where only the audit status of the audited and non-audited firm changes, a simple difference in the results before and after the audit would give their true effect. However, in the real world, there could be many other factors that affect the sales or purchases of the firm after having been audited and that are not related to the audit. In such a case, a simple difference could underestimate or overestimate the audit's effectiveness.

To solve this problem, data from non-audited firms are used. The idea is to compare each audited firm with an “artificial” non-audited firm in such a way that the trajectory of the results of the audited firm in periods prior to the audit is parallel with the “artificial” non-audited firm. The latter acts as a counterfactual for the audited firm. That is, this firm shows how the results of the audited firm could have changed had the firm not been audited. In this way, if the differences in the results of the audited firm before and after the audit are subtracted, the true effect of this is obtained. Any other factor that has changed after the audit of the firm but that is not related to the audit would have also affected the “artificial” firm, and therefore the double difference eliminates that effect. Figure 7 shows this graphically (see [Athey, Hirshberg, Imbens, and Wager \(2020\)](#) for more details on the synthetic difference-in-differences methodology).

Figure 7: Graphic Representation of the Empirical Strategy to Estimation the Effect of an Audit



Source: Prepared by the authors.

The final data is for 40 audited firms and 240,670 non-audited firms. Although the sample is small, the empirical strategy is ideal for these cases, given that it is based on the idea that the effect of an intervention can be inferred by comparing the evolution of the outcome variables of interest between the unit exposed to treatment and a group of units that are similar to that unit but which were not subject to treatment ([Abadie, 2019](#)). Figure 8 provides evidence that, in the final data, the distribution of the size of the firm, the region, and the industry are similar among the audited and non-audited firms. With this set of data, the study estimates a simple difference-in-differences regression to measure the short- and long-term effects of an audit between audited and non-audited firms.

Figure 8: Characteristics of the Firm and Audit Status



Source: Prepared by the authors.

5 Results

The results indicate that the audits lead to an increase in declared taxable sales and a decrease both in total declared purchases as well as in the tax credits obtained by firm involving purchases. Together, these results imply an increase in tax collection and an improvement in tax compliance.

All of the figures in this section measure the time on the x axis, where time = 2 corresponding to August 2018, time = 3 corresponding to September 2018, and so on. The black vertical line at time = 5 denotes the period of the audit. All of the data trace the trajectory of the results for a representative audited firm and its “artificial” non-audited firm. All outcomes are measured in relation to their average during the months prior to the audit, which allows for interpreting the effect of an audit in terms of percentages.

Figure 9 shows the effect of the audits on taxable and total sales declared by the firms. As to be expected, a strong increase is observed in declared taxable sales after the audit, an effect that continues for between two and three months. The estimate of 0.015 implies that, after the audit, sales declared by the firm as taxable increase on average by 1.5 percent. In contrast, it is found that for total sales, while sales reported by audited firms increase after the audit, that increase is much larger for non-audited firms, which indicates a net negative effect of the audit on total sales. In all of the figures, standard errors are reported in parentheses for the average

treatment effect.

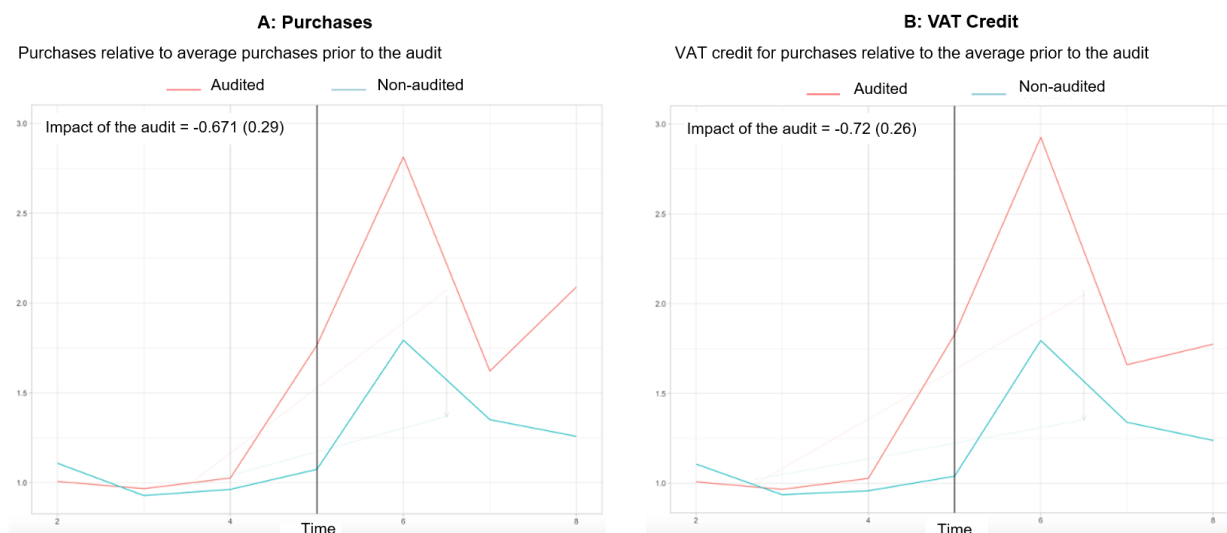
Figure 9: Effects of Audits on Sales



Source: Prepared by the authors.

Then, the paper measures the effect of the audits on total purchases and on tax credits that firms receive related to their purchases. Figure 10 shows that the increase in total purchases after the audit is less for audited firms than for non-audited firms, which results in a negative overall effect on purchases, with a decline in total purchases of 67 percent. Panel B of the figure shows a similar situation for tax credits related to purchases, which decline by 72 percent for the audited firms after their audit.

Figure 10: Effects of Audits on Purchases



Source: Prepared by the authors.

6 Next Steps

As discussed earlier, the audit policies assessed in this study are framed within a series of reforms that aim to modernize and increase the efficiency of tax administration in Paraguay. This section describes the steps to follow to improve the enforcement policies by the SET.

6.1 Experiment 1: Selective Controls

One of the pending activities is to estimate the impact of SET audit activities with a minimum of disruption to the methodology currently used by the agency.

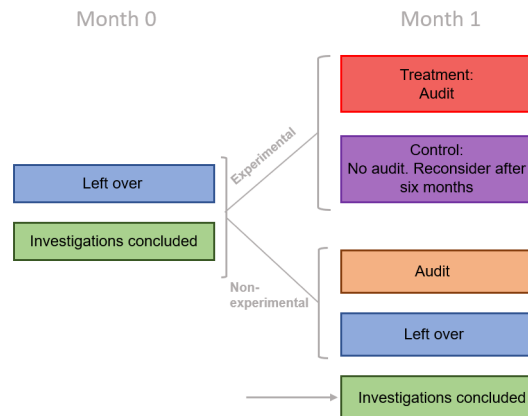
Currently, in a resolution every year, the SET publishes a National Annual Tax Monitoring Plan (*Plan Nacional Anual de Controles Tributarios* – PNACT). The plan provides a broad overview in which it identifies the sectors and types of taxpayers that will be the focus of audits for the year. It also contains a table that shows the goals for each type of audit to be completed during the year in question. Guided by the PNACT, the SET Investigations Bureau selects those taxpayers that could be candidates for an audit. These investigations are based on tax and other information available to the department. During the course of the investigations, the SET does not have any contact with the taxpayer except in those cases that require additional documents.

After each month, depending on the objectives set forth in the PNACT and the completed investigations available, the Investigations Bureau and Audit Bureau select the cases to initiate that month. The main selection criteria are the high level of risk and when what is implicated occurred, within the past five years (the limit for tax evasion cases).

In this context, and in accordance with the findings of this study on the effectiveness of the audits, a modification is proposed for the audit process in order to obtain even better results. Figure 11 shows the modified process by month. Each month, it is proposed that all cases (those left over from the previous month plus new investigations that will be concluded during the current month) be separated into two groups: (1) the non-experimental group, which contains high-priority cases for which SET criteria dictate that the audit must be initiated immediately, as well as those cases that do not have sufficient urgency to be considered this month; and (2) the experimental group comprised of cases of intermediate priority that constitute the study sample for this month.

High-priority cases in the non-experimental group will be subject to audits (orange rectangle in Figure 11) and the others will be passed on to the next month as cases left over (blue rectangle). In the experimental sample, one of the four protocols to randomly select cases in the treatment group to be audited will be used (red rectangle). The others will constitute the control group (purple rectangle). Those cases in this group will neither be audited nor considered for a possible audit for the next six months. All of the protocols will be implemented separately from the different audit modalities.

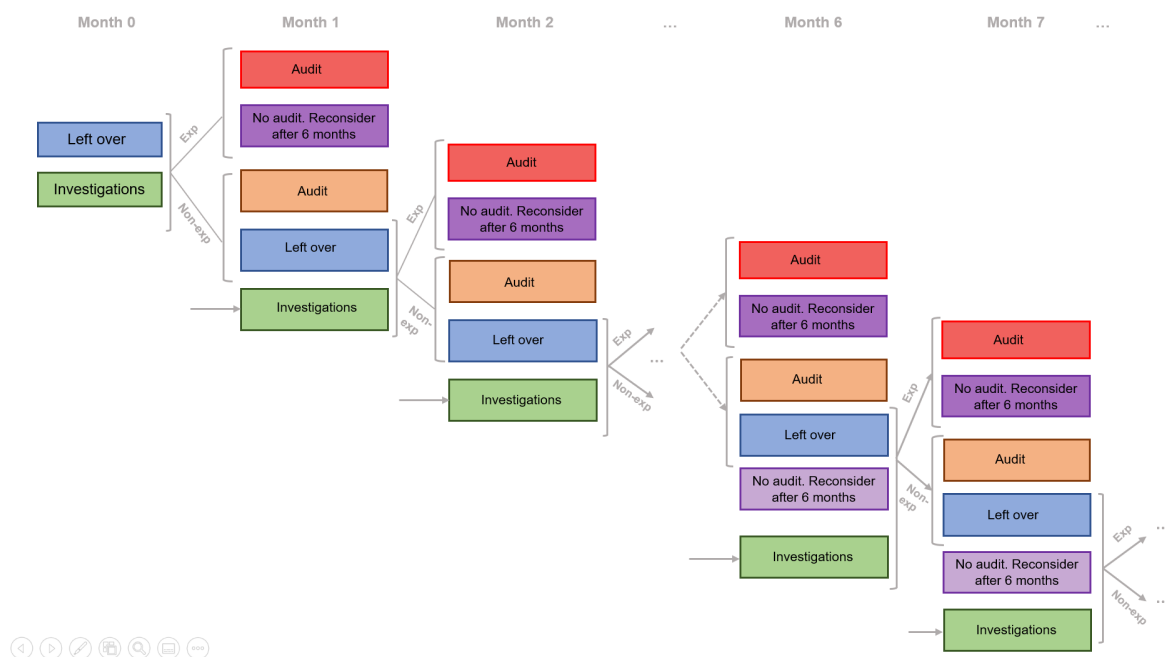
Figure 11: Monthly Protocol



Source: Prepared by the authors.

This protocol will be repeated in the same way in all months during the study. The only small change is that, after the sixth month, the control group from six months ago will re-enter the sample. Figure 12 shows the timeline for the complete study.

Figure 12: Project Timeline



Source: Prepared by the authors.

To carry out the experimental design, prioritization algorithms are currently being programmed that will allow for estimating the size of the sample needed to achieve statistical precision. The data used come from investigations and audits that have been concluded in the past. Tax evasion models are also being developed that allow for estimating which taxpayers should be prioritized for audit.

6.2 Experiment 2: Mass Controls and Electronic Invoicing

The second experiment looks to assess the impact of mass controls and the introduction of electronic invoicing. The idea is to integrate the experiment in the rollout of the implementation of electronic invoicing in the entire country. Given that large taxpayers will be required to adopt electronic invoicing, this study will focus on mid-size taxpayers and in some cases larger-size small taxpayers. The deployment of electronic invoicing and mass controls to these taxpayers is planned in two stages, with the aim of integrating the experiment in the first two stages using the results of the first stage to inform the design of the second stage.

In the first stage, a subgroup of taxpayers will be randomly assigned for electronic invoicing and mass control. These taxpayers will get a standard audit plus summarized statistics about the discrepancies between what the firm records in its reports of sales/purchases and what is recorded by their business associates, as well as discrepancies between recorded firms sales in their VAT declarations and firm purchases reported by third parties (as in [Carrillo et al., 2017](#)).

The first-stage experiment will allow for estimating both the direct effects on the audited taxpayer as well as the indirect effect of the audit actions on tax compliance by the taxpayer's business associates. Subsequently, these estimates will be used to calibrate the tax evasion theoretical model, which will lead to the adoption of new rules for optimal audits so that the SET can maximize its revenue. Next, in the second-stage experiment this audit rule will be compared with the status quo audit rule and the random audit.

Randomization is not simple in this context, given that it is expected that a vast majority of firms are inter-connected (see, for example, [Abowd, Creecy, & Kramarz, 2002](#); [Card, Heining, & Kline, 2013](#)). This means that it is possible that spillover or secondary effects can be produced between firms in different treatment arms. To reduce this bias, the network of taxpayers will be divided into groups in which the connections between them will be minimized. Starting with the complete network, the process will move forward in accordance with the following steps:

1. Two types of links through which significant secondary effects are not expected will be eliminated: those involving very large taxpayers, given that they are scrutinized by the SET's large taxpayer unit and are unlikely to try to evade taxes at a significant scale ([Almunia & Lopez-Rodriguez, 2018](#)); and those that are very small (less than 1 percent of sales or purchases of any of the parties) since it is unlikely that these significantly affect decisions about tax declarations by either of the parties.
2. ε -net clustering will be used to divide the network into 752 clusters with a median of 63 firms in each cluster, which guarantees that the focal node of each cluster will be at least three steps from the focal node of another cluster, in order to minimize contagion effects on more than 2 steps ([Eckles, Karrer, & Ugander, 2014](#)).
3. Firms will be randomly assigned to treatments in two stages in a saturation design ([Baird, Bohren, McIntosh, & Özler, 2018](#)). In the first stage, groups will be assigned to saturation rates. In 142 clusters, firms will be treated with a probability of 0.3. In 143 clusters, firms will be treated with a probability of 0.6. The remaining groups will serve as pure controls, where no firm will be treated. In the second stage, firms will be randomly assigned to treatment in accordance with the saturation rates assigned to that cluster.
4. Follow-up will be conducted on firms during six months to study the responses to treatments, and that information will be used to calibrate the technical model. The second-stage experiment tests the performance of this optimal rule as an audit strategy. The subjects of the experiment will consist of the pure control groups from the first experiment, complemented by firms reported as business associates of the first firms, but which are not those that report the information. This produces a sample of 467 clusters.

5. The clusters will be assigned to three groups: in 194 clusters, half of the firms will be assigned to the treatment group using the optimal audit rule of this theoretical model; in 136 clusters, half of the firms will be assigned to the treatment group using the SET's current audit system; and in the remaining 137 clusters, half of the firms will be assigned to the treatment group randomly.

It should be taken into account that at all times it is assumed that the network itself remains permanently fixed. In the long term, and to the extent which the tax authority expands its audit capacity, it is possible that will no longer be the case. However, in the relatively short-term period in which the selected firms are studied, it is not expected that those general equilibrium effects are sufficiently strong to bias the results. In addition, it can be observed how the network changes over time in order to be able to measure any change recorded there in the short term. The intention is also to develop an extension of the model in which the network is endogenous and the optimal audit rule is defined in the long term.

7 Conclusions

Tax evasion is a serious problem, especially in developing economies such as the countries of Latin America, where governments need to have sufficient resources to provide public services and contribute to economic growth. In this sense, taking measures to combat tax evasion also helps to level the playing field for all firms in the economy, given that these measures eliminate unfair advantages obtained by those who can exploit opportunities for tax evasion and avoidance. In turn, this can improve the deficient allocation of resources between firms in the economy and increase productivity.

This document presented the results of a quasi-experimental evaluation of the impact of audit policies on the reduction of tax evasion in Paraguay. The synthetic difference-in-differences methodology was used to study the effect of audits of firms on tax compliance during the 2018–2019 period. The results show that the audit activities affect tax behavior at various margins. Over-declaration of purchases declined, but taxpayers tended at the same time to reduce their declared sales, which reduces the effect on the payment of taxes. To combat this tendency, it is important that controls include direct effects: if a taxpayer reduces declared sales to other firms, this must lead to an increase in the tax base of the clients of the audited taxpayer. However, the results show that the audits have a significant impact on tax compliance and also suggest that the SET should expand its auditing efforts to more firms, with the aim of increasing fiscal revenues, to the benefit of the citizens of Paraguay.

In addition, this study presents the preliminary results of a tax dashboard to detect important statistics of the tax system, and mainly to detect discrepancies in the declarations of firms. This tax dashboard is an important tool for the government, especially during the economic crisis caused by COVID-19, as it provides for a detailed understanding of the factors that drive tax evasion. This allows for the optimal allocation of scarce resources to levy taxes and, therefore, can help guide the government in the design of tax policy that helps the economic recovery in a time of crisis. Making sound fiscal decisions is very relevant in this context because it implies not only improving but even saving the lives of citizens.

Finally, in accordance with the results of this study, a modification is proposed to the SET's current audit system that allows for increasing the benefits of audits. To assess this measure, an experimental study is proposed. In this way, more progress will be achieved in generating knowledge about effective initiatives to reduce tax evasion in Paraguay.

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