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Who Pays When Tax Administration Improves?

Revenue, Compliance, and Behavioral Responses to Georgia's Large Taxpayer Office

Jean-Marc Atsebi, Mikheil Chikviladze, Mitali Das, Elguja Loliashvili, and Mona Wang

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ABSTRACT: In 2021, the Republic of Georgia established a Large Taxpayer Office (LTO) to strengthen tax administration and improve compliance among firms that contribute a disproportionate share of revenue. This paper draws on that quasi-experiment to estimate the causal impact of intensive oversight, with no change in tax rates, on taxpayer behavior and revenue collection using administrative data from 2017–2024. Our study exploits both the 2021 introduction of the LTO and the revision of eligibility thresholds in 2024. Estimating a weighted difference-in-differences design, we find that LTO assignment raised annual tax assessments by about 0.4–0.7 percent of GDP, concentrated in VAT and withholding taxes. When we examine the channels, we find that the LTO raised compliance by combining targeted enforcement with improved taxpayer services, while audits became fewer but more selective. The impacts are largest in sectors with strong third-party reporting and high transaction traceability. Our findings underscore that reforms to tax administration can deliver significant gains in fiscal capacity, generate fiscal space, and support development.

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I. Introduction

Fiscal capacity—the ability of the state to raise revenue effectively—has long been recognized as a cornerstone of development (Besley and Persson, 2014). Yet many developing countries collect tax revenues well below the levels needed to finance development. As of the latest data available, the average tax-to-GDP ratio in emerging economies hovers around 15 percent—a barely half that of advanced economies– constraining investment in infrastructure, health, and education and leaving little fiscal space to absorb shocks (Bellon and Warwick, 2025). Strengthening tax administration is therefore critical to expand fiscal space and support development (Adan et al., 2023; Atsebi et al., 2025).[1]

Central to this challenge is the capacity of state tax administration institutions and their ability to identify, monitor, and elicit compliance from its taxpayers (Baer et al., 2025). And, at the core of that challenge, is a small group of large taxpayers who generate a disproportionate share of total revenues. As shown in Table 1, in advanced and developing countries alike, less than 5 percent of economic entities—predominantly, though not exclusively, corporations—account for more than 40–50 percent of total tax revenues. Consequently, governments around the world have created specialized structures for this small number of significant contributors to national tax revenues—so-called Large Taxpayer Offices (LTOs)—which have strict oversight of the compliance of large firms, with no change in the tax schedule. Administration of LTOs tends to be labor intensive, on average tripling the number of tax officers per firms (Basri et al., 2020). For policymakers, an important question is whether the costs of stronger enforcement and improved taxpayer services of LTOs outweigh the revenue-raising benefits.

Table 1. Percentage of Net Revenue Administered under LTO in Relation to Total Net Revenue

Country Group	Number of Obs.	Mean	Median
Advanced Economies	25	42.2	44.3
Emerging Markets	72	53.6	53.0
Low-Income and Developing Countries	25	58.1	64.2

Source: International Survey on Revenue Administration (ISORA) and authors' calculations.
Notes: Country groups are as per the International Monetary Fund World Economic Outlook (October 2025 vintage). The data presented reflect the most recent figures available for each country; as a result, the reference years may differ across countries.

In this paper, we examine that question in the context of the Republic of Georgia. After disbanding its LTO in 2010, Georgia reinstituted an LTO in 2021. In that reform, the Georgia Revenue Service (GRS) created a dedicated unit within its oversight to manage 203 of the country's largest firms, which together accounted for nearly half of value-added tax collections and one quarter of total government revenue. In 2024, the GRS announced an unanticipated change in the administration of the LTO, revising the revenue and employment thresholds that determined inclusion in LTO monitoring.

This paper evaluates the impact of Georgia's LTO on tax revenue using administrative records that cover all corporate taxpayers from 2017 to 2024. We use a weighted difference-in-differences framework that accounts

[1] In 2025, the South African G20 Presidency declared domestic revenue mobilization a central policy priority, noting that developing economies could raise about five percentage points of GDP in additional revenue through stronger tax administration and broader compliance (IMF, 2025).

for the non-random assignment of firms to the LTO and exploits the staggered implementation and revised eligibility thresholds to identify the revenue impact of establishing an LTO. We find significant and persistent revenue gains—about 0.4–0.7 percent of GDP annually, despite no change in statutory tax rates, indicating stronger compliance. The gains are largest in value-added and withholding taxes. They are also the largest in sectors with low cash usage and more paper trail. We also find suggestive evidence that shifting scrutiny toward monitoring large firms has a modest impact on reducing compliance among *smaller* taxpayers. Our findings provide new micro-level evidence that strengthening administrative capacity, even in a narrow institutional form, can yield macro-relevant gains in domestic revenue mobilization.

Our paper contributes to several literatures. First, we build on the growing research that highlights the importance of tax administration for revenue performance in developing economies (Besley and Persson, 2014; Pomeranz, 2015; Khan et al., 2016; Carrillo et al., 2017; Naritomi, 2019; Basri et al., 2021; Jensen, 2022; Adan et al., 2023; Besley et al., 2023; Atsebi et al., 2025; Baer et al., 2025). Second, our paper sheds light on the behavioral and fiscal effects of differentiated tax administration. This research has examined how variations in enforcement intensity, risk-based audits, and taxpayer segmentation influence compliance and revenue outcomes (e.g., Kleven et al., 2011; Almunia and López-Rodríguez, 2017; Basri et al., 2021; Bachas et al., 2022; Brockmeyer and Hernandez, 2023). Finally, our paper contributes to a methodological literature that exploits discontinuities in tax schedules or enforcement intensity to identify behavioral responses to policy "kinks" (Saez, 2010; Kleven and Waseem, 2013; Basri et al., 2021).[2] By analyzing a reform where some firms were abruptly faced with greater scrutiny, we estimate both the direct compliance effects and the spillover responses that such enforcement discontinuities generate across the taxpayer distribution.

In analyzing the impact of the Georgia LTO on compliance and revenue, our paper makes three original contributions. First, we study a significant policy reform whose timing and initial firm assignment were plausibly exogenous to contemporaneous domestic fiscal performance. By 2021, when the LTO was established, administrative legwork for the training of professionals, followed by disruptions due to the COVID-19 pandemic, had delayed its opening by a few years. While the establishment of the LTO formed part of broader tax administration reforms discussed with the IMF as early as 2017, its operational launch in 2021 occurred outside an IMF-supported program and at a time of strong tax revenue performance. These unanticipated delays inadvertently provide exogenous variation akin to the randomness of disbursements discussed in Kraay (2012). In other cases, LTOs have been established in response to fiscal deterioration, presenting challenges for identifying their fiscal impact. For example, Asatryan and Peichl (2017) consider Armenia's experience, where an LTO was established under IMF conditionality amid acute revenue shortfalls (IMF, 2007), and Small and Brown (2020) analyzes the impact of LTO on improving tax compliance in Jamaica, in response to the program agreement with the IMF in 2009 (IMF, 2010). Because these reforms were undertaken in response to weak fiscal performance, enforcement intensity was jointly determined with revenue pressures, making estimated taxpayer responses endogenous to macro-fiscal conditions.

Second, we exploit two quasi-experimental shocks—the 2021 creation of the LTO and the 2024 threshold revision—to provide dynamic validation of the reform's effects. The first shock identifies the initial treatment effect of assigning firms to LTO oversight, while the second captures the marginal and longer-run impacts of expanding the LTO's coverage. Conceptually, the threshold revision offers a second test of the reform's persistence, allowing us to assess whether the compliance gains observed after the initial rollout reflect a one-

[2] In our analysis, we find no evidence of bunching around the LTO thresholds. The distribution of firms' size-related variables evolves smoothly across the thresholds, with no statistically significant excess mass just below or above the cutoff.

time adjustment or a durable change in taxpayer behavior across the distribution. Finally, we measure the aggregate revenue yield, thus linking micro-level enforcement to macro-relevant fiscal capacity. In doing so, the paper contributes new causal evidence to the literature on state capability and domestic revenue mobilization in developing and emerging economies.

The remainder of the paper is organized as follows. Section II describes the institutional context surrounding the introduction of Georgia's LTO. Section III describes the data, presents stylized facts, and outlines the empirical methodology. Section IV presents our main results, including robustness checks. Section V explores the underlying channels, and Section VI concludes and offers policy implications.

II. Institutional Context

A. Tax System and Revenue Administration in Georgia

The Georgia Revenue Service administers all taxes levied by the government. These include corporate income tax (CIT), personal income tax (PIT), value-added tax (VAT), excise tax, property tax, and import tax. As in most countries, the corporate income tax is levied on net income (that is, profits) and more specifically, it is a distributed profit tax (DPT) under which profits are taxed only when distributed as dividends, at a flat rate of 15 percent (20 percent for financial institutions, and also for the gambling sector since 2025).[3] The PIT is a flat rate of 20 percent, the VAT is 18 percent, and excise taxes apply to alcohol, cigarettes, tobacco, fuel, and passenger cars. The GRS managed about 1.7 million taxpayers as of 2024, including around 150,000 firms subject to the DPT and CIT.

B. Dismantling and Re-establishing the LTO

In 2010, Georgia dismantled the existing LTO, which had been managing the largest and most complex taxpayers since 1995. That decision reflected concerns about political interference, misuse of audit powers, and fiscal slippage stemming from a fragmented tax administration. For the next decade, there was no systematic oversight of large taxpayers, and the GRS instead relied on rigid audit filters which, however, were largely ineffective and yielded significant under-collection from large contributors (IMF, 2016; IMF, 2018).

In the mid-2010s, the government announced a series of important tax reforms that, in part, reflected the agreements with international organizations that were providing financial assistance to address the nation's economic difficulties.[4] Under these agreements, in 2017, the GRS committed to the reinstatement of an LTO (IMF, 2018). Following a period of technical support and training,[5] and subsequent to delays from the onset of

[3] The DPT originated in Estonia in 2002 and was subsequently adopted by six countries, largely in Eastern Europe; see Das et al. (2024).
[4] These include the Stand-By Arrangements, Extended Credit Facilities and Stand-by Credit Facilities that were arranged with the International Monetary Fund between 2010 and 2020; see this IMF's link for the dates of each program.
[5] Under the 2017 Extended Fund Facility arrangement with the IMF, Georgia committed to restoring a professional and risk-based structure to the tax system. An external advisor domiciled in Georgia and a three-year capacity-development program helped design a compliance-risk framework using data analytics and segmentation, along with objective criteria—turnover, employment, assets, and tax payments—to define large taxpayers.

the COVID-19 pandemic, an LTO was formally re-established in September 2021, initially covering 203 large firms.

Between September 15, 2021, and January 1, 2024, the GRS designated firms as large taxpayers if they met at least one of the several thresholds listed in Table 2. In practice, the VAT criterion was the main determinant—over 75 percent of firms qualified on this basis. All banks were automatically included in LTOs, while firms in gambling and payment services qualified if paid taxes, including gambling duty exceeded 1.5 million GEL.

Table 2. Threshold Criteria for Large Taxpayer Designation, 2021 vs. 2024

Threshold Criteria	2021 Thresholds	2024 Thresholds
VAT Turnover	> 80 million	>100 million
Exports	> 40 million	> 50 million
Declared property value	> 150 million	> 200 million
Tax assessments/employment	Tax assessments >20 million or ≥ 1000 employees	Tax assessments >25 million or ≥ 1300 employees
Banks	Automatically included	Automatically included
Gambling	Paid taxes including gambling duty > 1.5 million GEL	Paid taxes including gambling duty > 2 million GEL

Source: Georgia Revenue Service.
Notes. All numbers except employment are denominated in GEL.

In January 2024, the GRS revised the thresholds for inclusion, expanding coverage by more than 25 percent (a total of 264 firms).[6] Firms were given no intimation about the revision of the criteria before its announcement. The new thresholds raised the coverage limits across all categories and modestly increased the inclusion bar for sector-specific firms. This two-stage rollout—initial establishment in 2021 and threshold revision in 2024—yields two "cohorts" (with overlap) that form the basis for the quasi-experimental variation exploited in our analysis. Table 2 summarizes the threshold criteria in 2021 and 2024.

C. Design and Functions of the LTO in Georgia

The newly established LTO played two complementary roles: first, and more importantly, to assist large taxpayers in meeting their obligations through enhanced communication, consultation, and tailored services; and second, to strengthen enforcement by identifying high-risk taxpayers using data-driven risk analysis. Informal evidence suggests that both objectives are being met. A 2023 survey found that 98 percent of large taxpayers were satisfied with LTO services, while 80 percent reported that the assigned officer improved their understanding of tax obligations (GRS Annual Reports, 2021, 2023, 2024).

The LTO operates under a risk framework, classifying large taxpayers as low, medium, or high risk—or as key taxpayers—based on more than 50 risk indicators used for scoring (e.g., historical data about arrears,

[6] Even though thresholds were revised upward, more firms were assigned to the LTO relative to 2021 because of growth in VAT turnover and other criteria, as well as some mergers. Specifically, 161 firms remained in the LTO, 103 firms entered, and 42 firms exited.

discrepancies, and underreporting).[7] In 2023**,** the LTO identified 67 high-risk companies and flagged potential tax losses exceeding 259 million GEL, primarily due to underreporting. Despite these advances, the LTO's coverage remains incomplete, as it does not yet include all high-net-worth individuals.

In summary, the establishment of the LTO in Georgia was an important reform aimed at improving tax compliance with no change in statutory rates, recognizing that large taxpayers can play a crucial role in the national revenue framework by contributing substantially to the tax base. Through this reform, the GRS stated a goal to foster a more transparent and cooperative relationship with large taxpayers, thereby promoting voluntary compliance and ensuring that these entities fulfilled their tax obligations.

III. Data and Empirical Strategy

A. Data

Our study relies on a rich anonymized microdata provided by the GRS, covering the universe of 1.45 million active taxpayers registered in Georgia from 2017 to 2024. Given our focus on the LTO, we restrict our analysis to firm taxpayers (henceforth "taxpayers"). We refer to firms assigned to the LTO in 2021 as the "first cohort" and those assigned under the 2024 revision of threshold criteria as the "second cohort".

The data include detailed administrative tax information and financial reporting for taxpayers, covering: (i) LTO selection criteria (VAT turnover, exports, net declared property value, recognized tax assessments, number of employees) and whether the taxpayer operates in the banking or gambling sectors; (ii) tax assessment data—initial, additional, and final tax assessments (for DPT, VAT, and withholding (WHT));[8] (iii) taxpayer characteristics—sector classification following the Nomenclature of Economic Activities (NACE); number of establishments, and number of legal founders; and (iv) administrative records on key enforcement actions, including whether a taxpayer was audited, required by the GRS to correct a tax assessment, received an underpayment letter, or was issued a tax collection letter.

The data identifies taxpayers that fall under LTO's purview and those that do not, both for the first LTO cohort selected in 2021 and the second cohort following the revision of selection criteria in 2024. We use the Georgian CPI index to deflate nominal real variables to 2021 to ensure comparability across years. The list of all variables used in this analysis is presented in Appendix Table B1.

B. Sample Restrictions

In a preliminary step, we clean the data by taking the following steps. First, we retain only taxpayers with positive VAT turnover and remove non-VAT-eligible or inactive taxpayers, defined as those with zero or missing VAT turnover. Second, central to our paper is a comparison of outcomes between LTO and non-LTO taxpayers following the establishment of the LTO. However, as LTO taxpayers are likely to have higher VAT turnover, more employees, greater tax assessments, and property values, they are also likely to be intrinsically different

[7] A Compliance Risk Committee (CRC), chaired by the Director General of GRS, oversees compliance activities across the GRS, including those of the LTO. Within the LTO, dedicated service and analysis divisions have been established, alongside a Transfer Pricing Group to evaluate risk from the outset.
[8] An initial tax assessment is an estimate of tax liability provided by the firm, while a final tax assessment is the conclusive, official determination of the tax owed, sometimes determined after a correction or an audit.

from non-LTO firms. Although our econometric strategy takes rigorous steps to address the non-random selection into LTOs, we take an additional preliminary step to ensure robustness of the comparison: we restrict our analysis to LTO and non-LTO taxpayers in the top 5 percent of the VAT turnover distribution (that is, those above the 95th percentile) over the period of study.

Recall that selection into the Georgia LTO depends on criteria other than VAT turnover, so that even some firms without large turnover are supervised by the LTO. We leverage this unique feature of the Georgian LTO to restrict attention to the top 5 percent of the VAT turnover distribution, where assignment to the LTO is likely to be marginal yet maximizes comparability of firms in scale and potential risk profile. Doing so results in a dataset of 25,292 taxpayer-year observations and 4,215 unique taxpayers, of which 190 and 235 are in the LTO cohorts of 2021 and 2024, respectively. This is the sample that forms the basis of the analysis in the paper.

It is important to note that restricting attention to this subset entails no loss of generality, since smaller firms outside this range would likely receive an effectively zero weight under the covariate-balancing approach we adopt, as discussed in the empirical strategy below.

C. Stylized Characteristics of LTO and Non-LTO Firms

Appendix Table B1 reports descriptive statistics of the selected sample taxpayers, separately for those monitored by the LTO in 2021, and those that have never been assigned to the LTO.

Several important observations emerge. First, as expected, LTO taxpayers are substantially larger than non-LTO taxpayers across all LTO selection criteria. VAT turnover for LTO taxpayers is, on average, 16 times larger than for non-LTO taxpayers. Large taxpayers account for 44 percent of total VAT turnover, despite representing only 4.5 percent of taxpayers in the selected sample. Second, LTO taxpayers report significantly higher total tax assessments. Their final total tax assessment is, on average, 10 times higher than for non-LTO taxpayers and accounts for 26 percent of total tax assessments of the selected sample. Third, LTO taxpayers may show strong indications of compliance—as indicated by, e.g., lower rates of late declarations, and lower rates of correction for the initial VAT assessments. In addition, when tax assessment corrections are requested, the average amount requested by the GRS is either negative—indicating that LTO taxpayers overreported tax liabilities—or lower for LTO taxpayers than for non-LTO taxpayers.

Appendix Figure A1 shows that LTO taxpayers operate in almost all sectors. However, they are concentrated in wholesale and retail trade (39 percent) and manufacturing (18 percent), with a smaller presence in financial and insurance (8.9 percent), transportation and storage (7.4 percent), construction (6.4 percent), and electricity and gas (5.9 percent). Firms in manufacturing, financial and insurance, and utilities are more likely to be assigned to the LTO compared to those in other sectors. This reflects both the larger average firm size in these sectors and the fact that banking firms are required to be part of the LTO regardless of size.

Appendix Figure A2 presents the distribution of four LTO selection criteria—VAT turnover, exports, net declared property value, and number of employees—before and after the introduction of the LTO. First, the figure highlights that VAT turnover is the most distinguishing criterion for identifying LTO taxpayers, as evident by the smallest overlapping region between LTO and non-LTO taxpayers. This is expected, given that 77 percent of LTO taxpayers are classified based on this criterion alone. Accordingly, our empirical analysis

primarily focuses on VAT turnover to identify the common support.[9] Second, the figure confirms that LTO taxpayers are significantly larger than non-LTO taxpayers, reporting substantially higher VAT turnover, exports, net property values, and number of employees. Third, and most significantly, the post-LTO period shows a notable rightward shift in the distribution of VAT turnover and the number of employees among LTO firms. This shift is much more pronounced than for non-LTO firms, suggesting that taxpayers under LTO scrutiny and improved taxpayer services may have enhanced their tax compliance and financial reporting. As a result, we also note a significant rightward shift in the distribution of tax assessments and accrual tax paid in Appendix Figure A3. This is an informal indication that the LTO contributed to raising tax revenues among LTO taxpayers, which we study rigorously in the following section.

D. Empirical Strategy

Our empirical goal is to estimate the additional tax assessment associated with the introduction of the LTO. However, as it is evident that LTO and non-LTO taxpayers are inherently different (Appendix Tables B1 and B2), we cannot merely compare their tax revenues after the reform, as any differences could simply reflect pre-existing disparities rather than the effect of LTO assignment. To address this concern, we begin with the Covariate Balancing Propensity Score (CBPS) estimator of Imai and Ratkovic (2014, 2015) to estimate the probability of treatment. We then use a weighted difference-in-difference (WDID), weighting individual taxpayer-level observations with propensity weights from the CBPS, to estimate the causal effect of LTO on tax assessments.

The CBPS estimates the propensity score not only to predict treatment assignment, but also to ensure that the covariates have similar distributions (i.e., are “balanced”) in the treatment and control groups. Consequently, as shown in Imai and Ratkovic (2014, 2015), CBPS-generated weights can be used to construct a pseudo-random sample in which observed differences in outcomes reflect the impact of the treatment itself rather than baseline differences between the groups. The CBPS estimator is related to other balancing approaches, such as “entropy balancing” of Hainmueller (2012), but has the attractive feature of generating weights directly related to the treatment assignment mechanism. On the other hand, while standard propensity score estimators predict treatment probability by maximizing fit, this is not the sole objective of the CBPS estimator, which trades off a lower accuracy of fit to ensure a better balance of covariates. Basri et al. (2021) use a similar approach as ours, albeit with a Hainmueller (2012) balancing prior to using a WDID.

To be precise, we define the treatment group as taxpayers assigned to the 2021 LTO cohort and the control group as those never assigned in both the first and second LTO cohorts.[10] We then estimate the probability (or propensity score) of being assigned to the LTO using the CBPS estimator. The covariates we select are from the set of inter-related variables that the GRS itself uses to assign firms to the LTO.[11] We focus on four: VAT turnover, exports, net property values, and the number of employees. We exclude the two criteria that identify banks and firms in the gambling sector, as banks are automatically assigned to the LTO, and only a negligible number of firms in the gambling sector are assigned to LTO in practice. In addition, we do not include the

[9] Our results are robustness to using other criteria to identify the common support; these can be obtained upon request.
[10] Similarly, when we analyze the second cohort assigned in 2024, we define the treatment group as those assigned in 2024 and the control as those never assigned.
[11] As the LTO assignment is based on several criteria, it is not possible to identify a specific cutoff for all criteria that ensures a perfect LTO assignment. Thus, we cannot use a regression discontinuity design.

recognized tax assessment criterion, as this would conflate with our objective to analyze the impact of the LTO on tax revenue.

Appendix Table B2 presents the mean and standard deviation of the covariates between treatment and control groups before and after applying CBPS weights. Despite the significant initial disparities between LTO and non-LTO firms shown earlier, the application of CBPS weights yields a perfect balance in the observable characteristics of treated and control groups, as indicated by Rubin's (2001) criteria for covariate balance, affirming the strength of our identification strategy.

With this balanced sample, we proceed to estimate the WDID, weighting each taxpayer-observation by its respective balancing weight in the following regression:

$$y_{i,t}^{k} = \alpha_i + \delta_t + \beta^k \times (LTO_i \times POST_t) + \theta X_{i,t} + \varepsilon_{i,t} \qquad (1)$$

where $y_{i,t}^{k}$ represents the k^{th} outcome (either a tax, or enforcement or compliance measure) for taxpayer *i* in year *t*, LTO_i is an indicator equal to 1 if a taxpayer is assigned to the LTO; $POST_t$ is an indicator that equals 1 in the year that a taxpayer is assigned to the LTO and every subsequent year, and 0 otherwise; and *X* are firm level control variables.[12] The α_i and δ_t are taxpayer and year fixed effects respectively, and $\varepsilon_{i,t}$ is an error term. β^k captures the causal average treatment effect of the LTO on the k^{th} outcome. Notice that because the model has fixed effects, we do not include LTO_i and $POST_t$ separately, as they cannot be uniquely identified in the presence of taxpayer-level and year fixed effects. Finally, we impose a common support restriction to ensure that for every treated unit there is at least one comparable control unit. In our baseline regression, we drop taxpayers that fall below the 2.5th and above the 99.9th percentiles of the VAT turnover distribution in either the treated or control groups.[13]

To summarize, our approach is to combine the CBPS with a weighted difference-in-difference to estimate the causal impact of LTO assignment on tax revenues. The WDID uses weighted taxpayer-level data, weighted by (inverse) of the propensity score, effectively eliminating the non-random assignment of firms into the LTO and ensuring that the distribution of covariates between the treated and control firms is balanced. We next turn to the findings by applying this methodology.

IV. Empirical Findings

The analysis first quantifies the impact on tax assessments for the first LTO cohort that was assigned in 2021. We then exploit the 2024 threshold revisions as a quasi-experimental test of the robustness of these effects, institutional learning, and behavioral adjustments among continuing, entering, and exiting taxpayers.

[12] Note that if the balancing weight procedure is properly executed, the control variables will have limited effects on the estimated impact of LTO assignment. That is, omitting the controls would not lead to noticeably higher estimates of the LTO assignment, given the positive correlations between these control variables and assignment to the LTO.

[13] That is, we exclude taxpayers with VAT turnover lower than the maximum of the minimum VAT turnover at the 2.5th percentile of either group, or higher than the minimum of the maximum VAT turnover at the 99.9th percentile of either group. This approach ensures that we exclude very small non-LTO taxpayers and very large LTO taxpayers in terms of VAT turnover. We also apply different threshold values and less restrictive criteria in the robustness checks.

A. Impact on Tax Revenues of the First LTO Cohort

We examine the impact of assignment to LTO on several tax variables of interest: final and initial total tax assessments of firms, as well as assessments of the component taxes (DPT, VAT, WHT). Differences between final and initial tax assessments reflect the extent of under- or over-payment of taxes. Such differences can arise when turnover differs from what is provisionally estimated in the initial assessment, due to errors, incomplete information, or misreporting. We analyze results for the first LTO cohort and later examine how tax assessments evolved for the second LTO cohort.

Results of the WDID regression are reported in Table 3. Columns (1)-(4) report the impact of the LTO on final tax assessments, and columns (5)-(8) on initial tax assessments. The first important observation is the positive and statistically significant average treatment effect of the LTO on final and initial tax assessments across the board—on total tax assessments as well as the tax assessments for the tax components.[14] We discuss these in turn.

The benchmark impact of the LTO on tax revenues is given by the coefficient of final tax assessments in column (1). That estimate indicates that the causal impact of establishing the LTO on final tax assessments was substantial: it raised tax assessments by an average of 1.39 million GEL per LTO taxpayer per year. The magnitude of the impact is consistent with the inference that establishing the LTO led to significantly enhanced compliance, enforcement, and tax collection. Corroborating this finding, supplementary data provided by the GRS shows that the number of collection letters sent to LTO taxpayers *decreased* from 113 in 2020 to 25 in 2021. The higher tax assessments, despite a marked reduction in tax collection letters, together indicate vastly improved compliance.

A second observation from Table 3 is that the increase in the total final tax assessments (column (1)) is derived from increases in final tax assessments of almost all tax types (columns (2)-(4)). The most pronounced increase is from VAT revenues, with an estimated average increase of about 0.67 million GEL, followed by WHT revenues of about 0.56 million GEL, while the DPT contributed some 0.17 million GEL.

To put these findings in perspective, we extend the calculation to all LTO taxpayers, rather than only those within the common support. Because the excluded LTO taxpayers are generally larger than those in the estimation sample, if one assumes that they experience the same GEL increase in tax assessments as treated firms provides a conservative lower bound. Under that assumption, the total effect of LTO assignment on final tax assessments amounts to 264 million GEL, or 0.4 percent of GDP. The largest gains come from VAT (126 million GEL or 0.21 percent of GDP) and WHT (106 million GEL or 0.17 percent of GDP), while DPT contributes an additional 33 million GEL (0.05 percent of GDP).[15]

Furthermore, the LTO's net fiscal return remains strongly positive since the administrative costs of running the LTO are comparatively low. With 47 staff in 2021, earning an average monthly salary of 4,572 GEL, total personnel costs are about 2.6 million GEL. Even assuming that other administrative and operating expenses

[14] This is consistent with the significant rightward shift in the VAT turnover distribution presented in the stylized facts section. The LTO assignment has resulted in an increase in tax liabilities.

[15] Our DiD estimates capture the effect of LTO assignment on treated firms *relative* to controls. Such relative estimates are subject to the "missing intercept" problem (Wolf, 2023), so we cannot fully identify the aggregate reform effect. While it is very common to extrapolate the results in this literature, the "total effect" reported should therefore be interpreted as partial-equilibrium rather than the general-equilibrium revenue impact of the LTO reform, holding the rest of the economy fixed (i.e., it does not model price adjustments, spillovers to untreated units, entry/exit or reallocation across units, government or market responses).

are twice as large, total annual costs reach only 7.8 million GEL—equivalent to about 3 percent of the total revenue gain—highlighting the exceptional cost-effectiveness of the LTO in raising revenues.

Turning to total initial tax assessments (column (5)), we again find a substantial causal impact following LTO assignment with an average impact of 1.31 million GEL per LTO taxpayer per year, compared with 1.39 million GEL for the final assessment. That is, most of the revenue gain from LTO assignment is captured at the initial assessment stage, with only a small subsequent adjustment before finalization. Comparing the different tax types, the difference between final and initial assessments is most significant for VAT (column (6))—with 0.58 million in the initial assessment versus 0.67 million GEL for the final assessment.[16] This suggests that one channel by which the introduction of the LTO produced tax assessment gains was by incentivizing firms to comply earlier in the tax assessment process, rather than risk follow-up from enforcement and audits. Another potential channel is the provision of tailored taxpayer services from the LTO. In both cases, the results indicate the desired behavioral response of LTO firms.

Table 3. Baseline Results. LTO's First Cohort Assignment Effect on Tax Assessments

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Final Assessment				Initial Assessment			
	Total	DPT	VAT	WHT	Total	DPT	VAT	WHT
$LTO_i \times POST_t$	1.39***	0.18***	0.67***	0.56***	1.31***	0.17***	0.59***	0.58***
	(0.10)	(0.03)	(0.09)	(0.03)	(0.16)	(0.03)	(0.09)	(0.13)
Observations	21047	20744	21047	21041	20876	15192	20421	19566
# of LTO	176	165	176	176	175	151	170	172
# of Non-LTO	3481	3440	3481	3478	3424	2238	3306	3124
Total Effect (million GEL)	263.79	33.24	126.48	106.02	249.45	32.42	111.92	109.48
Total Effect (Percent of GDP)	0.43	0.05	0.21	0.17	0.41	0.05	0.18	0.18
Pre-treatment Unweighted Diff.	3.71	0.52	0.89	2.34	3.76	0.52	1.08	2.25
P-Value Unweighted Diff.	0.00	0.00	0.11	0.00	0.00	0.00	0.06	0.00
Pre-treatment Weighted Diff.	0.30	0.03	-0.51	0.78	0.42	0.05	-0.36	0.68
P-Value Weighted Diff.	0.72	0.34	0.16	0.29	0.61	0.20	0.28	0.39
Std. Unweighted Difference	0.50	0.27	0.14	0.99	0.52	0.27	0.17	0.94
Std. Weighted Difference	0.05	0.05	-0.15	0.20	0.08	0.07	-0.11	0.17

Notes: This table presents estimates of the LTO's first cohort assignment on tax assessments (in million GEL). All regressions include the log value of the major LTO criteria variables as controls: log of VAT turnover, log of export amount, log of declared property values, and log of number of employees. Columns 1 to 4 show the effect on final assessments, while columns 5 to 6 show the effect on initial assessments. Total stands for total tax assessments, DPT stands for distributed profit tax assessments, VAT stands for value-added tax assessments, and WHT stands for withholding tax. The bottom statistics present the number of observations, LTO taxpayers, and non-LTO taxpayers. The total effect in million GEL is obtained by multiplying the average effect per taxpayer per year (given by $LTO_i \times POST_t$) by the number of LTO taxpayers in the initial database, including those excluded from the analysis for falling outside the common support. The total effect as a percentage of GDP is calculated by dividing the total effect in million GEL by the average real GDP in 2021 prices over 2022–24. Test statistics show the mean differences and associated p-values for each outcome variable when comparing LTO and non-LTO taxpayers in the pre-LTO assignment period (2017–21), alongside the standardized mean differences. Weights are constructed by applying the CBPS to estimate the probability of LTO assignment based on VAT turnover, exports, net property value, and number of employees. Standard errors are clustered at the taxpayer level. * p < 0.10, ** p < 0.05, *** p < 0.010.

[16] Differences between initial and final tax assessments are smaller for WHT (0.58 vs. 0.55 million GEL) and DPT (0.171 vs. 0.175 million GEL), as shown in columns (7) and (8).

B. Validating the Causal Relationship

We conduct the following exercise to ascertain the causal interpretation of our estimates. We consider the pre-LTO period (2017–20) and compare the mean differences of the tax assessment variables between LTO and non-LTO firms, for both the unweighted and weighted samples. The results are presented in Table 3 (bottom statistics).

In the unweighted sample, the mean differences are generally positive and significant, indicating that LTO taxpayers had systematically higher tax assessments even before LTO assignment. The total final tax assessment for LTO taxpayers was, on average, 3.7 million GEL per taxpayer per year higher than for non-LTO taxpayers. After applying balancing weights, the pre-LTO assignment weighted mean differences shrink substantially and lose statistical significance. This confirms that the weighting procedure effectively balances the treatment and control groups not just on the conditioning variables (used to predict LTO assignment) but also on the outcome measures themselves. The disappearance of pre-treatment tax assessment differences after weighting supports the validity of our conditional balancing approach, ensuring that the post-treatment effects of the WDID are not driven by pre-existing differences. This strengthens the causal interpretation of the difference-in-differences estimates, as the control group serves as an appropriate counterfactual for LTO taxpayers.

C. The Role of Weighting

An important question is about the role of covariate balancing and subsequent weighting of the taxpayer-level data in the estimated magnitudes. To assess this, we also drop all control variables included in our benchmark specifications, also showing that our results are robust to their exclusion. Panels A and B of Appendix Table B3 sheds light on this question.

We find that unweighted estimates (Panel A) systematically overstate the impact of LTO assignment on tax assessments across all tax types, which a priori is exactly the direction we expect the estimates to change relative to weighting. The estimated impact on total final tax assessments is 1.73 million GEL per taxpayer per year in the unweighted sample, about 25 percent higher than the 1.39 million GEL with weighting, and the initial total tax assessment effect of 1.82 million GEL per taxpayer per year in the unweighted sample is nearly 40 percent higher than the corresponding estimate of 1.31 million GEL in the weighted sample. In percentage points of GDP, the total effect in the unweighted sample is higher by 0.1–0.15 percentage point of GDP than in the weighted sample.

These findings confirm that without balancing the impact of LTO assignment would be overstated. Taxpayer-level weighting provides a more accurate measure of the true effect on tax assessments, correcting for selection bias and ensuring that the observed increases in tax assessments can be more confidently attributed to the LTO assignment rather than underlying differences in taxpayer characteristics.

D. Anticipation and Avoidance Effects

As the WDID estimator is by definition the average treatment effect, the coefficient on the interaction term measures the causal impact of LTO assignment on taxpayers subject to intensive LTO monitoring.

Firms not yet assigned to the LTO, however, may have adjusted their behavior in anticipation of future inclusion or through indirect exposure to LTO taxpayers. Large firms close to the eligibility thresholds could have improved record-keeping and voluntarily increased compliance in anticipation of formal assignment if they met the thresholds from greater future VAT turnover or other selection criteria. Similarly, business-to-business linkages may have encouraged non-LTO firms to align their VAT and withholding practices with those of their LTO trading partners.[17] This may have prompted both direct compliance improvements of firms under LTO purview as well as anticipatory compliance ("spillovers") among those near the threshold, consistent with deterrence models that emphasize the role of perceived monitoring probability in shaping taxpayer behavior (Allingham and Sandmo, 1972).

Such anticipatory effects, if they exist, would not be captured by the estimated treatment effect. However, as they raise compliance among the control firms, they could *reduce* the estimated treatment effect (relative to the case where there is no behavioral response by controls) by raising tax assessments of control firms. On the other hand, some firms may strategically seek to remain below the thresholds to avoid LTO assignment, adjusting reported revenues or restructuring operations accordingly. This would have the opposite impact of raising the measured treatment effect by lowering tax assessments of controls. It is important to note, however, that the possibility of anticipation and avoidance has no implications for the consistency of the WDID estimator. Nevertheless, we further examine these issues below, when we analyze the second cohort and the behavioral responses around the 2024 threshold revision.

E. Impact on Tax Revenues of the Combined First and Second LTO Cohorts

The upward revision of LTO thresholds in 2024 altered the composition of the large firms that came under intensive monitoring. By tightening selection criteria, the reform concentrated oversight on even larger firms that account for a disproportionate share of revenues. These revisions generated quasi-experimental variation that allows us to assess whether the LTO's impact on revenues strengthened, how firms adjusted their compliance behavior when selected into or out of the LTO, and how enforcement effects evolved for those continuing, newly entering, or exiting LTO purview.

Conceptually, the threshold revisions should strengthen the fiscal impact through a few channels. First, higher thresholds increase the average revenue potential of firms under LTO oversight. That is, even if the number of LTO firms were to decline as the threshold increased,[18] taxpayers in the second cohort represent a larger tax base, raising the potential yield per firm. Second, larger firms tend to exhibit greater compliance elasticity to enforcement, implying that incremental administrative pressure generates larger behavioral responses in reported liabilities (Almunia and López-Rodríguez, 2018; Carrillo et al., 2017).[19] Finally, by fine-tuning selection criteria to target the country's most significant taxpayers, the LTO may have been perceived to have an activist agenda to maximize revenues, and thus reinforced the LTO's

[17] Many large taxpayers transact with LTO-assigned taxpayers. As LTO taxpayers' records are subject to intensive monitoring, this exposes their transactions with non-LTO firms to the LTO staff. Consequently, taxpayers that were large but not yet assigned to the LTO may have aligned their practices, particularly for VAT and withholding tax compliance, to continue doing business with LTO taxpayers.
[18] In actuality, the number of firms in the second LTO cohort rose relative the first LTO cohort. This, in part, reflects that the first LTO cohort firms became larger and surpassed the revised thresholds of one or more of the criteria (including because of mergers).
[19] The concept of behavioral elasticity originates in Slemrod and Yitzhaki (2002), who define the elasticity of taxable income as a summary measure of behavioral responses to taxation and emphasize its dependence on enforcement and administrative design. It provides a theoretical foundation for interpreting how stronger enforcement mechanisms (e.g., an LTO) can alter taxpayers' responsiveness to policy and administrative interventions.

credibility as an enforcement institution. This may have further strengthened both compliance of firms under LTO purview as well as anticipatory impacts described above.

Table 4. Baseline Results. LTO's First and Second Cohort Assignment Effect on Tax Assessments

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Final Assessment				Initial Assessment			
	Total	DPT	VAT	WHT	Total	DPT	VAT	WHT
$LTO_i \times POST_t$	1.51***	0.26***	0.63***	0.63***	1.54***	0.26***	0.65***	0.65***
	(0.09)	(0.02)	(0.08)	(0.03)	(0.13)	(0.03)	(0.08)	(0.11)
Observations	23473	23139	23473	23465	23247	16772	22722	21755
# of LTO	259	245	259	259	256	223	251	251
# of Non-LTO	3593	3551	3593	3590	3517	2264	3386	3197
Total Effect (million GEL)	413.83	70.98	172.992	173.626	424.05	70.34	178.80	178.92
Total Effect (Percent of GDP)	0.67	0.12	0.28	0.28	0.69	0.11	0.29	0.29
Pre-treatment Unweighted Diff.	3.21	0.48	0.71	2.04	3.22	0.48	0.84	1.96
P-Value Unweighted Diff.	0.00	0.00	0.09	0.00	0.00	0.00	0.05	0.00
Pre-treatment Weighted Diff.	0.77	0.05	-0.48	1.21	0.81	0.05	-0.42	1.14
P-Value Weighted Diff.	0.36	0.12	0.12	0.11	0.33	0.15	0.15	0.15
Std. Unweighted Difference	0.47	0.25	0.13	0.86	0.49	0.24	0.15	0.82
Std. Weighted Difference	0.14	0.07	-0.14	0.30	0.15	0.07	-0.13	0.28

Notes: This table presents estimates of the LTO's first and second cohort assignment on tax assessments (in million GEL). All regressions include the log value of the major LTO criteria variables as controls: log of VAT turnover, log of export amount, log of declared property values, and log of number of employees. Columns 1 to 4 show the effect on final assessments, while columns 5 to 6 show the effect on initial assessments. DPT stands for distributed profit tax assessments, VAT stands for value-added tax assessments, WHT stands for withholding tax, and TOT stands for total tax assessments. The bottom statistics present the number of observations, LTO taxpayers, and non-LTO taxpayers. The total effect in million GEL is obtained by multiplying the average effect per taxpayer per year (given by $LTO_i \times POST_t$) by the number of LTO taxpayers in the initial database, including those excluded from the analysis for falling outside the common support. The total effect as a percentage of GDP is calculated by dividing the total effect in million GEL by the average real GDP in 2021 prices over 2022–24. Test statistics show the mean differences and associated p-values for each outcome variable when comparing LTO and non-LTO taxpayers in the pre-LTO assignment period (2017–21), alongside the standardized mean differences. Weights are constructed by applying the CBPS to estimate the probability of LTO assignment based on VAT turnover, exports, net property value, and number of employees. Standard errors are clustered at the taxpayer level. * p < 0.10, ** p < 0.05, *** p < 0.010.

The results from the combined first and second cohort assignment—redefining the treated group to include all firms ever assigned to the LTO, whether in 2021 or 2024—, reported in Table 4, confirm these hypotheses. Estimated treatment effects are consistently higher across all tax types, reaching nearly 0.7 percent of GDP for total assessments, indicating that the LTO's impact strengthened as the institution matured. Furthermore, there is also evidence of a behavioral response in comparing the gap between initial and final tax assessments relative to the first LTO cohort. The impact on final tax assessments is 1.51 million GEL for the second cohort (column (1)), rising from 1.39 million GEL per taxpayer per year for the first cohort, while the impact on initial assessments increases even more—from 1.31 to 1.54 million GEL (columns (5)). Thus, the difference between final and initial assessments narrowed from 0.08 million GEL in the first cohort to -0.03 million GEL in the second indicating that nearly all revenue gains now occur at the filing stage rather than through post-assessment corrections. This pattern suggests that taxpayers increasingly declare full liabilities upfront, reflecting both stronger deterrence and improved administrative engagement. Firms appear to internalize the higher audit risk and benefit from improved taxpayer services, choosing early compliance over potential

enforcement. The shift is particularly pronounced for VAT and withholding taxes, where third-party reporting reinforces monitoring strength.

The evidence is consistent with the interpretation that compliance under the LTO became increasingly front-loaded, signaling deeper institutional credibility and taxpayer adaptation.

F. Behavioral Responses to Changes in LTO Selection Criteria

We exploit the changes in LTO selection criteria to examine how firms adapted to the 2024 threshold revisions that redefined eligibility for LTO oversight. The changes created three distinct groups of taxpayers relative to the 2021 reform: those that remained in the LTO, those newly added ("drop-ins"), and those that exited because they no longer met the revised criteria ("drop-outs").

To disentangle behavioral responses across these groups, we compare the evolution of tax assessments by group and year relative to non-LTO taxpayers (Table 5) as follows:

$$y_{i,t}^{k} = \alpha_i + \delta_t + \sum_{g}\sum_{h} \beta_{g,h}^{k} \times (LTO_i^{g} \times POST_t \times year^{h}) + \theta X_{i,t} + \varepsilon_{i,t} \qquad (2)$$

Where LTO_i^g is an indicator equal to 1 if a taxpayer i is assigned to LTO group g (remain, drop-ins, drop-outs) ; $POST_t$ is an indicator that equals 1 for years after the LTO introduction, and 0 otherwise; and $Year_h$ are year dummies equal to 1 for each year in the post-LTO period. $\beta_{g,h}^{k}$ captures the causal effect of the LTO on tax assessment k for each group g in year h following the LTO introduction.

This approach isolates the direct effect of LTO assignment from the broader behavioral adjustments triggered by changes in eligibility and provides a dynamic validation of the initial findings. Because the 2024 reform effectively reassigns treatment status to a new subset of large firms, it allows us to test whether the compliance and enforcement effects identified for the first cohort reappear when the intervention is replicated on a fresh sample of taxpayers.

Firms that remained in the LTO continue to exhibit large and persistent positive effects across all tax types, with an additional surge in 2024 (Panel A). This pattern is consistent with both sustained compliance and the LTO's growing enforcement capability. By contrast, drop-out firms (those in the first but not the second cohort) show mixed responses: while VAT and total final assessments decline but remain somewhat elevated in 2024, other taxes and total initial assessments flatten or decline after 2023 (Panel B). The divergence between persistent VAT effects and weaker outcomes for other taxes suggests a deliberate behavioral adjustment. Taxpayers exiting LTO oversight appear to have recalibrated their reporting to reduce scrutiny or tax liabilities, resulting in an estimated revenue loss of about 0.1 percent of GDP relative to a counterfactual where they behaved like continuing LTO firms. The durability of VAT gains reflects its built-in transparency: because VAT relies on third-party verification and invoice matching, compliance remains "sticky" even after firms leave intensive monitoring. In contrast, drop-in firms that newly entered the LTO in 2024 exhibit sharp and broad-based increases in reported tax liabilities, with total final assessments rising to 3 million GEL per taxpayer per year (Panel C). The response is particularly strong for DPT and WHT, consistent with tighter enforcement and improved service delivery within the LTO. The absence of significant pre-2024 effects, aside from mild gains in VAT and WHT, suggests that anticipatory behavior or spillover existed but was limited in magnitude. Once formally included,

these firms responded strongly to direct enforcement, confirming that perceived audit risk and administrative engagement are powerful compliance drivers.

Overall, these results reveal distinct behavioral margins. Continued inclusion in the LTO maintains or deepens compliance; exit prompts partial erosion of reporting discipline, particularly outside VAT; and entry triggers large, immediate adjustments in declared liabilities. The reappearance of strong treatment effects in the newly added firms provides dynamic validation of the LTO's sustained impact, confirming that its compliance effects are not transitory but persist and replicate as the institution evolves.

G. Robustness

The results of several auxiliary exercises confirm the robustness and internal consistency of the estimated effects across both LTO cohorts.

First, we assess whether the impact of the LTO strengthens or fades over time. The temporal pattern of effects offers a useful robustness check—confirming that compliance gains arise after assignment to intensive oversight rather than from pre-existing trends or anticipation effects. We find that the impact of LTO assignment strengthens over time. For the first cohort, results in Appendix Table B4 (Panel A) show a clear upward trajectory in the magnitude of treatment effects across years. The impact of LTO assignment on total final tax assessments increases from 1.13 million GEL per taxpayer in 2022 to 1.93 million in 2024, with a similar pattern for initial assessments. VAT effects remain high throughout, suggesting early compliance improvements. The patterns suggest that the LTO's effects become more pronounced as administrative routines mature, and firms internalize the higher probability of detection.

For both the first and second cohorts combined, reported in Appendix Table B4 (Panel B), the pattern over time is consistent and even stronger. Treatment effects in 2022 and 2023 are positive and significant—reflecting mostly the effect on the first cohort and anticipation effect on the second cohort. These effects rise sharply in 2024 as the revised thresholds take effect and the newly added large firms from the second are now formally under the scrutiny of the LTO. Total final and initial assessments increase to roughly 2.4 million GEL per taxpayer per year, exceeding the first-cohort averages. The smaller interim effects followed by a strong surge in 2024 suggest that compliance gains materialize once taxpayers are formally brought under LTO, with limited impact from pre-treatment anticipation or spillovers.

Second, we also examine robustness to alternative sample definitions, weighting schemes, and placebo tests. We provide a summary here and report the results in an online appendix. Relaxing or tightening the common support thresholds (Appendix Table B5) or reweighting using only pre-2021 characteristics (Appendix Table B6) leaves the magnitude and significance of the LTO effect largely unchanged. Restricting the sample to the top 2 percent of LTO and non-LTO taxpayers yields similar or stronger effects (Appendix Table B7). Placebo tests on both the timing of the reform and on randomly reassigned taxpayers produce no significant results (Appendix Table B8, and Appendix Figures A4 and A5), confirming that the estimated effects are not driven by pre-existing trends or random variation.

Table 5. Baseline Results. LTO's First and Second Cohort Assignment Effect on Tax Assessments Over Time and Effects of Threshold Changes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Final Assessment				Initial Assessment			
	Total	DPT	VAT	WHT	Total	DPT	VAT	WHT
Panel A: Remain								
$Remain\ LTO_i \times POST_t$ ×Year=2022	1.52***	0.24***	0.61**	0.68***	1.54***	0.27***	0.56**	0.76**
	(0.22)	(0.06)	(0.19)	(0.07)	(0.32)	(0.07)	(0.19)	(0.27)
$Remain\ LTO_i \times POST_t$ × Year=2023	1.73***	0.12*	0.94***	0.68***	1.73***	0.11	0.90***	0.73**
	(0.21)	(0.06)	(0.18)	(0.07)	(0.31)	(0.06)	(0.18)	(0.25)
$Remain\ LTO_i \times POST_t$ × Year=2024	3.48***	0.93***	0.98***	1.67***	3.371***	0.96***	0.88***	1.67***
	(0.21)	(0.06)	(0.18)	(0.07)	(0.31)	(0.06)	(0.18)	(0.25)
Panel B: Drop-Out								
$Drop\ Out\ LTO_i \times POST_t$ × Year=2022	0.86***	-0.02	0.75***	0.13	0.76*	-0.06	0.61**	0.21
	(0.22)	(0.06)	(0.19)	(0.07)	(0.33)	(0.07)	(0.20)	(0.27)
$Drop\ Out\ LTO_i \times POST_t$ × Year=2023	0.65**	-0.07	0.54**	0.17*	0.53	-0.09	0.53**	0.06
	(0.21)	(0.05)	(0.19)	(0.07)	(0.31)	(0.06)	(0.19)	(0.26)
$Drop\ Out\ LTO_i \times POST_t$ × Year=2024	0.53*	-0.04	0.62**	-0.05	0.40	-0.08	0.56**	-0.10
	(0.22)	(0.06)	(0.19)	(0.07)	(0.32)	(0.06)	(0.19)	(0.26)
Panel C: Drop-In								
$Drop\ In\ LTO_i \times POST_t$ × Year=2022	0.37	-0.01	-0.06	0.44***	0.58	-0.05	0.18	0.40
	(0.21)	(0.05)	(0.18)	(0.07)	(0.31)	(0.06)	(0.18)	(0.25)
$Drop\ In\ LTO_i \times POST_t$ × Year=2023	0.981***	0.03	0.56**	0.40***	1.25***	-0.02	0.80***	0.38
	(0.22)	(0.06)	(0.19)	(0.07)	(0.32)	(0.06)	(0.19)	(0.26)
$Drop\ In\ LTO_i \times POST_t$ × Year=2024	3.01***	1.01***	0.73***	1.28***	3.29***	1.11***	0.83***	1.43***
	(0.21)	(0.05)	(0.18)	(0.07)	(0.31)	(0.06)	(0.18)	(0.25)
Observations	23473	23139	23473	23465	23247	16772	22722	21755
# of LTO	259	245	259	259	256	223	251	251
# of Non-LTO	3593	3551	3593	3590	3517	2264	3386	3197
Pre-treatment Unweighted Diff.	3.21	0.48	0.71	2.04	3.22	0.48	0.84	1.96
P-Value Unweighted Diff.	0.00	0.00	0.09	0.00	0.00	0.00	0.05	0.00
Pre-treatment Weighted Diff.	0.77	0.05	-0.48	1.21	0.81	0.05	-0.42	1.14
P-Value Weighted Diff.	0.36	0.12	0.12	0.11	0.33	0.15	0.15	0.15
Std. Unweighted Difference	0.47	0.25	0.13	0.86	0.46	0.24	0.15	0.82
Std. Weighted Difference	0.14	0.07	-0.14	0.30	0.15	0.07	-0.13	0.28

Notes: This table presents the year-by-year estimates of the LTO's first and second cohort assignment on tax assessments (in million GEL) and threshold changes. Columns 1 to 4 show the effect on final assessments, while columns 5 to 6 show the effect on initial assessments. Total stands for total tax assessments, DPT stands for distributed profit tax assessments, VAT stands for value-added tax assessments, and WHT stands for withholding tax. The bottom statistics present the number of observations, LTO taxpayers, and non-LTO taxpayers. Test statistics show the mean differences and associated p-values for each outcome variable when comparing LTO and non-LTO taxpayers in the pre-LTO assignment period (2017–21), alongside the standardized mean differences. Weights are constructed by applying the CBPS to estimate the probability of LTO assignment based on VAT turnover, exports, net property value, and number of employees. Standard errors are clustered at the taxpayer level. * p < 0.10, ** p < 0.05, *** p < 0.010.

V. Behavioral and Administrative Channels of Impact

Whereas Section IV establishes the magnitude of the LTO's revenue impact, this section sheds light on the behavioral and administrative channels by which assignment to the LTO improves compliance and raises tax assessments. We focus on the first LTO cohort for expositional clarity, but we have conducted numerous exercises to confirm that the results hold when the second cohort is included.

A. Conceptual Framework

Theoretically, two reinforcing channels can account for the rise in reported tax liabilities: (i) stronger enforcement and (ii) improved voluntary compliance. First, under the canonical framework of Becker (1968) and Allingham and Sandmo (1972), taxpayers decide whether to evade based on the expected return to evasion, which depends on the probability of detection and the penalty if caught. Stronger enforcement—whether through audit risk, closer monitoring, or stricter verification—reduces the expected net benefit of concealment, inducing greater truthful reporting. Subsequent work (e.g., Feldstein, 1999; Chetty, 2009; Basri et al., 2021) shows that improved administrative capacity can shift taxpayers' accounts "to the books," leading to sharp, discrete jumps in reported revenues, costs, and therefore liabilities.

Second, the LTO also lowers the *costs* of compliance. By providing enhanced advisory services, clearer communication, and dedicated taxpayer officers, the LTO reduces informational and administrative frictions that often hinder accurate self-assessment (Jenkins and Forlemu, 1993). In modern self-assessment systems, high compliance depends not only on deterrence but also on the ease of meeting obligations. Lower compliance costs—financial and psychological—promote voluntary compliance, particularly among large firms facing complex reporting requirements.

Together, these mechanisms suggest that LTO assignment can raise liabilities through both deterrence (raising the cost of evasion) and facilitation (lowering the cost of compliance).

B. Empirical Evidence on Enforcement and Compliance

We test these channels by examining how LTO assignment affects a range of compliance and enforcement indicators. Using the WDID framework, we estimate impacts on the accrual tax paid; the likelihood of additional or corrective tax assessments (for VAT, DPT, and WHT); the probability of receiving underpayment or collection letters; the probability of late filing or late payment; and the probability of being audited. The results are reported in Appendix Table B9. Consistent with heightened scrutiny, LTO taxpayers exhibit a statistically significant rise in accrual tax paid (column (1)) and a greater likelihood of receiving collection letters in the first years following assignment (column (6)). These findings indicate that more transactions are declared and verified under LTO oversight, reducing opportunities for misreporting or underpayment. Importantly, these enforcement effects coincide with a sharp decline in the number of collection orders—from 113 in 2020 to 25 in 2021—signaling improved payment discipline and reduced arrears. The increase in accrual tax paid confirms that the revenue gains documented earlier reflect genuine improvements in compliance, not mechanical reassessment or timing effects.

The evidence also supports a complementary compliance channel. Columns (2) and (3) reveal that the probability that an LTO taxpayer files additional assessments (for VAT or DPT) falls significantly after assignment, suggesting that firms report more accurately upfront reducing the need for subsequent corrections. This aligns with the expectation that direct engagement with the LTO—which provides dedicated officers and tailored support for consultation and record-keeping—reduces discrepancies that would otherwise trigger tax reassessments.

Finally, column (9) presents one of the most striking results: the probability of an audit falls significantly after LTO assignment. This decline, combined with rising liabilities and payments, indicates that the LTO achieves higher revenue with more targeted enforcement. In other words, compliance improves even as traditional audits become less frequent.

The overall evidence of Appendix Table B9 reveals that the mechanisms by which LTOs improve compliance and raise tax revenues are by reducing underpayment (equivalently, stronger enforcement), improved voluntary compliance, and administrative efficiency. By concentrating large taxpayers in a dedicated unit under continuous scrutiny, the GRS reduces the need for ex-post audits elsewhere. From a fiscal standpoint, this demonstrates a clear efficiency gain—more revenue collected at lower marginal enforcement cost.

C. Enforcement Targeting

To further assess the mechanisms behind the LTO's impact on tax assessments, we estimate a triple-difference regression model to examine how the LTO enforces compliance internally—that is, whether high-risk taxpayers under LTO oversight exhibit different responses than other LTO taxpayers. As noted in Section II, the GRS uses a risk differentiation framework to classify taxpayers as low-, medium-, or high-risk based on their compliance history, such as arrears, discrepancies, and nonpayment. These risk scores determine which taxpayers receive follow-up actions such as underpayment letters, collection letters, or audits, enabling enforcement resources to focus where the risk of noncompliance is greatest.

Appendix Table B10 reports the results of three triple-difference estimator following the methodology of Olden and Moen (2022) estimated as follows:

$$y_{i.t}^{k,j} = \alpha_i + \delta_t + \sigma^{k,j} ENF_i + \beta^{k,j} (LTO_i \times POST_t) + \gamma^{k,j} (ENF_i \times POST_t) + \theta^{k,j} (LTO_i \times ENF_i) + \kappa^{k,j} (LTO_i \times ENF_i \times POST_t) + \varepsilon_{i,t}^{k,j} \qquad (3)$$

where $y_{i.t}^{k,j}$ represents the k^{th} outcome (one of four tax assessments: total, VAT, DPT, WHT) in the j^{th} enforcement action (one of three: underpayment letter, collection letter, audit) for taxpayer *i* in year *t*, ENF_i is an indicator for LTO firms that are identified as high-risk because they witness any enforcement action, and the remaining variables are as defined following equation (1). As before, we do not include LTO_i and $POST_t$ as they cannot be uniquely identified in the presence of taxpayer-level and year fixed effects.

The coefficient, $\kappa^{k,j}$, of the triple interaction captures whether the impact of LTO assignment on tax assessment differs for high-risk taxpayers compared to others under LTO oversight. A negative coefficient on the interaction indicates that taxpayers who received letters or audits experience *smaller* incremental increases in assessed taxes after LTO assignment relative to other LTO taxpayers. This is consistent with the interpretation that their noncompliance was already detected and corrected through enforcement actions, leaving less room for further increases compared with other LTO taxpayers.

The results reported in Appendix Table B10 emphasize two points. First, all LTO taxpayers report higher final tax assessments across major tax types (shown in the first row of all columns), confirming that compliance improves under intensive monitoring. Second, among LTO taxpayers who receive enforcement actions, the estimated effects on final assessments are generally smaller, as indicated by negative and significant interaction coefficients. To be clear, the negative coefficient does not mean that enforcement reduces compliance. Rather, it shows that these taxpayers who are more likely to underreport are also those more likely to attract enforcement—audits, under-payment notices, and collection letters—from the GRS.

Together, Appendix Tables B9 and B10 indicate that the LTO improved compliance not by expanding the number of audits or letters, but by applying enforcement more selectively and focusing on taxpayers already identified as high-risk. Low-risk taxpayers also improved compliance, but through deterrence and by using the services provided by GRS. Overall, the evidence points to better-targeted enforcement rather than a simple escalation in enforcement intensity.

D. Sectoral Impacts

Finally, we explore whether the LTO's impact varies systematically across sectors, reflecting differences in the structure and traceability of economic activity. According to the so-called inertia models of tax evasion (Festinger, 1962; Spicer, 1986; Morvan and O'Connor, 2017), sectors with extensive paper trails or third-party reporting, such as utilities or information services, should display stronger enforcement effects, while those with higher evasion opportunities, such as retail trade or construction, may have weaker incentives to alter their behavior. To examine this hypothesis, we estimate a triple-difference specification interacting LTO assignment with the post LTO introduction dummy and NACE sectoral classifications, as follows:

$$y_{i.t}^{k} = \alpha_i + \delta_t + \beta^k\,(LTO_i \times POST_t) + \kappa^k\,(LTO_i \times NACE_i^j \times POST_t) + \varepsilon_{i,t}^{k} \qquad (4)$$

where $y_{i.t}^{k,j}$ represents the k^{th} outcome (one of four tax assessments: total, VAT, DPT, WHT), $NACE$ is an indicator equal to 1 if a taxpayer i belongs to NACE sector j. As before, the other additive terms, and two-way interaction terms cannot be uniquely identified in the presence of taxpayer-level and year fixed effects. The coefficient, κ^k, of the triple interaction captures whether the impact of LTO assignment on tax assessment differs by NACE sector.

The results, presented in Appendix Tables B11 and B12, show pronounced variation in the magnitude of LTO impacts across sectors. Sectors such as Information and Communication, Transportation and Storage, and Water Supply, Sewerage, and Waste Management record the largest gains. In information and communication, WHT and DPT tax assessments rise sharply—by 11.7 and 0.9 million GEL per taxpayer per year, respectively. Transportation and storage report major increases in VAT (14.6 million GEL) and DPT (0.6 million GEL). In utilities, tax assessments rise across all categories, particularly VAT and WHT. Arts, Entertainment, and Recreation also exhibits strong growth, while Electricity, Gas, Steam, and Air Conditioning shows moderate increases in DPT.

These patterns suggest that LTO oversight is most effective in formalized, capital-intensive sectors where revenue flows are transparent and easily verified. In contrast, several industries exhibit weaker or even negative effects. Wholesale and Retail Trade experiences a sharp decline in DPT (–2.4 million GEL per taxpayer per year), consistent with firms restructuring operations, shifting profits, or increasing deductible expenses to offset higher scrutiny. Financial and Insurance Activities record lower WHT assessments, while

Construction shows significant reductions in DPT and WHT. Human Health and Social Work Activities exhibit smaller tax assessments, notably in DPT and WHT.

Overall, the heterogeneity across sectors underscores that the LTO's impact depends on underlying compliance environments. The strongest effects arise in sectors with well-documented transactions and third-party reporting, where enforcement and service improvements reinforce voluntary compliance. Conversely, industries with greater scope for income shifting or policy exemptions display muted or negative responses. These results highlight the importance of sector-specific enforcement strategies to maximize the revenue benefits of LTO administration while minimizing distortions in sectors with high evasion potential.

VI. Conclusions

This paper contributes new evidence on how institutional design in tax administration shapes fiscal capacity. Using taxpayer-level administrative data and quasi-experimental variation from both the 2021 establishment of an LTO and the 2024 revisions to the thresholds for inclusion, this paper shows that enhanced oversight of large taxpayers—without any change to statutory tax rates—generated sizeable and durable fiscal gains, equivalent to about 0.4–0.7 percent of GDP, with impacts strengthening as the institution matures. Unpacking the aggregate impact, we find that these gains emerge from a combination of improved compliance, more selective enforcement, and earlier voluntary reporting of tax liabilities. The persistence of these effects in the second cohort provides dynamic validation, that is, the compliance improvements arise from the LTO assignment itself and recur when the intensive oversight is extended to new firms.

Our paper thus recasts the establishment of an LTO not merely as administration reform but as an investment in state fiscal capacity. By combining credible enforcement with tailored taxpayer services, the LTO aligns incentives for both tax administrators and large firms. The findings indicate that even in lower-income countries where the capacity of state revenue administration institutions has historically been weaker than in more advanced nations, targeted institutional reforms can deliver macro-significant fiscal gains.

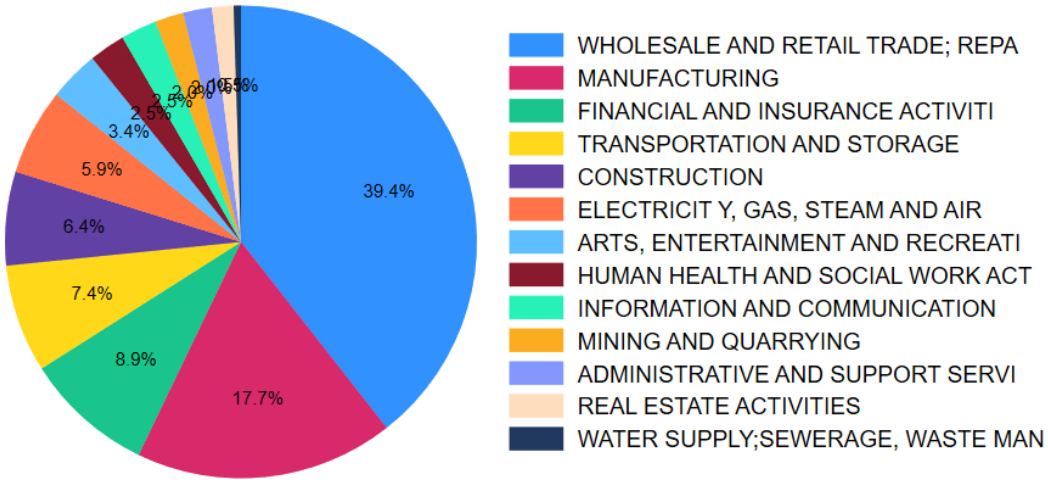
The findings in our paper also speak to the broader policy questions on domestic revenue mobilization, which has begun to take a central role in public debt sustainability considering the political difficulties of rolling back current spending. Recent international fora have emphasized that administration reforms—such as risk-based compliance management, segmentation of taxpayer populations (of which the LTO is an example), and the better use of data—can yield revenue gains that are comparable to large policy changes, but at lower economic cost (Adan et al., 2023; Atsebi et al., 2025; IMF, 2025). Our results provide micro-level confirmation of these recommendations. They show that even a narrowly targeted institutional reform can strengthen fiscal capacity, expand the tax net upstream (in our case, through third-party reporting), and reduce the pressure on policymakers to pursue other distortionary taxes.

As many emerging economies seek to raise revenues over the coming decade, the evidence in our paper suggests that well-designed LTOs can be a cornerstone of that strategy—a scalable, cost-effective policy that can deliver durable improvements in compliance and state capacity.

Appendices

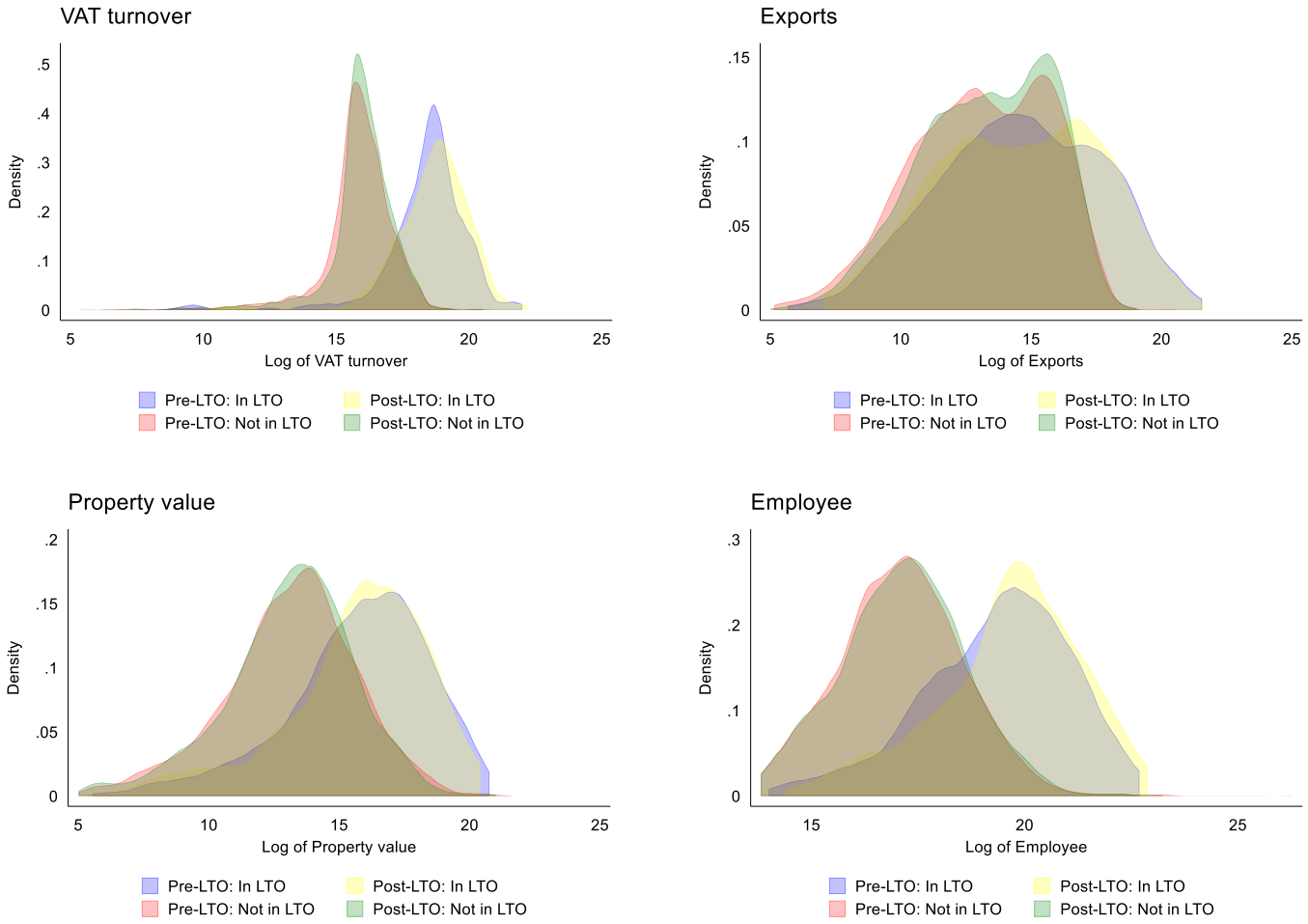
A. Appendix Figures

Figure A1. Industry distribution of LTO



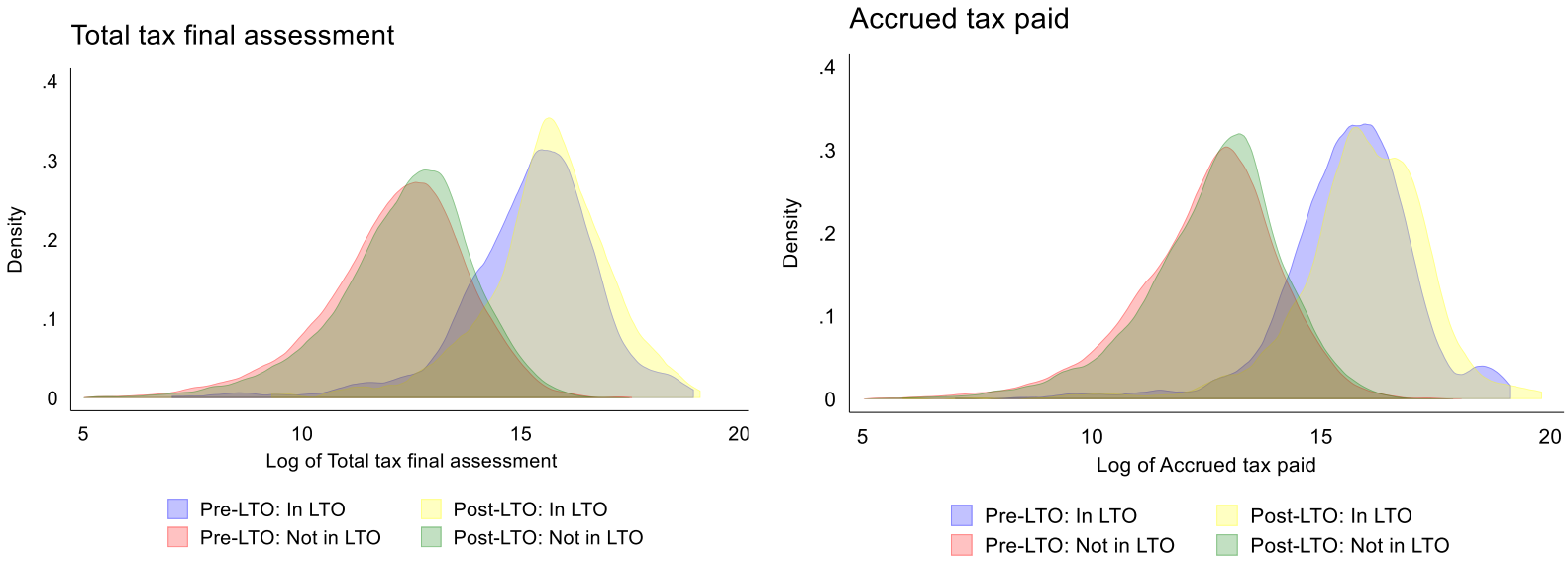
Source: Authors' calculations using data provided by the Georgia Revenue Service.

Figure A2. Distribution of LTO Selection Criteria for LTO and non-LTO Taxpayers Before and After



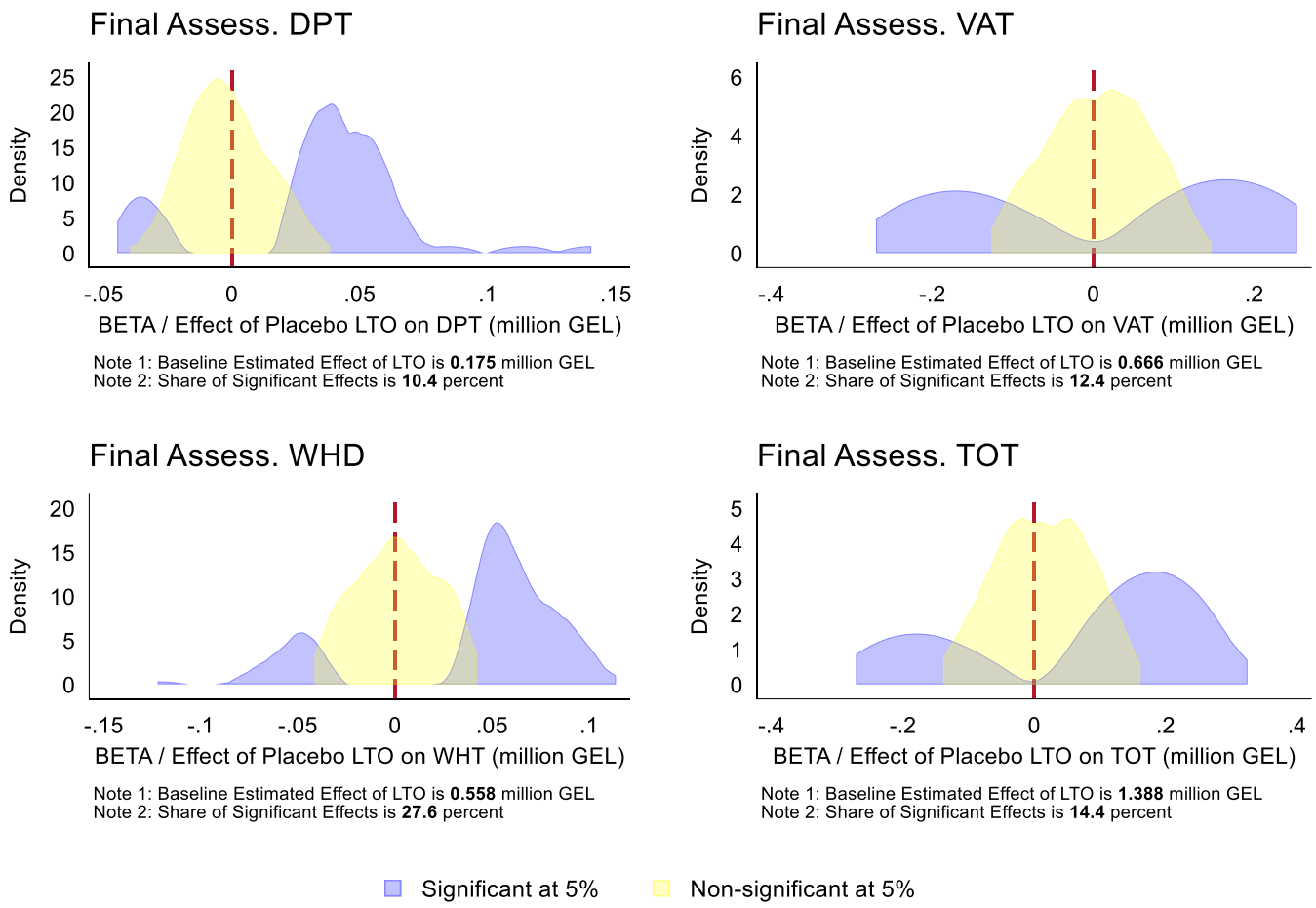
Source: Authors' calculations using data provided by the Georgia Revenue Service.
Notes: This figure shows the distributions of some LTO selection criteria for LTO and non-LTO taxpayers before and after LTO introduction in 2021.

Figure A3. Distributions of Tax Assessments and Payments for LTO and non-LTO Taxpayers before and after the LTO Introduction



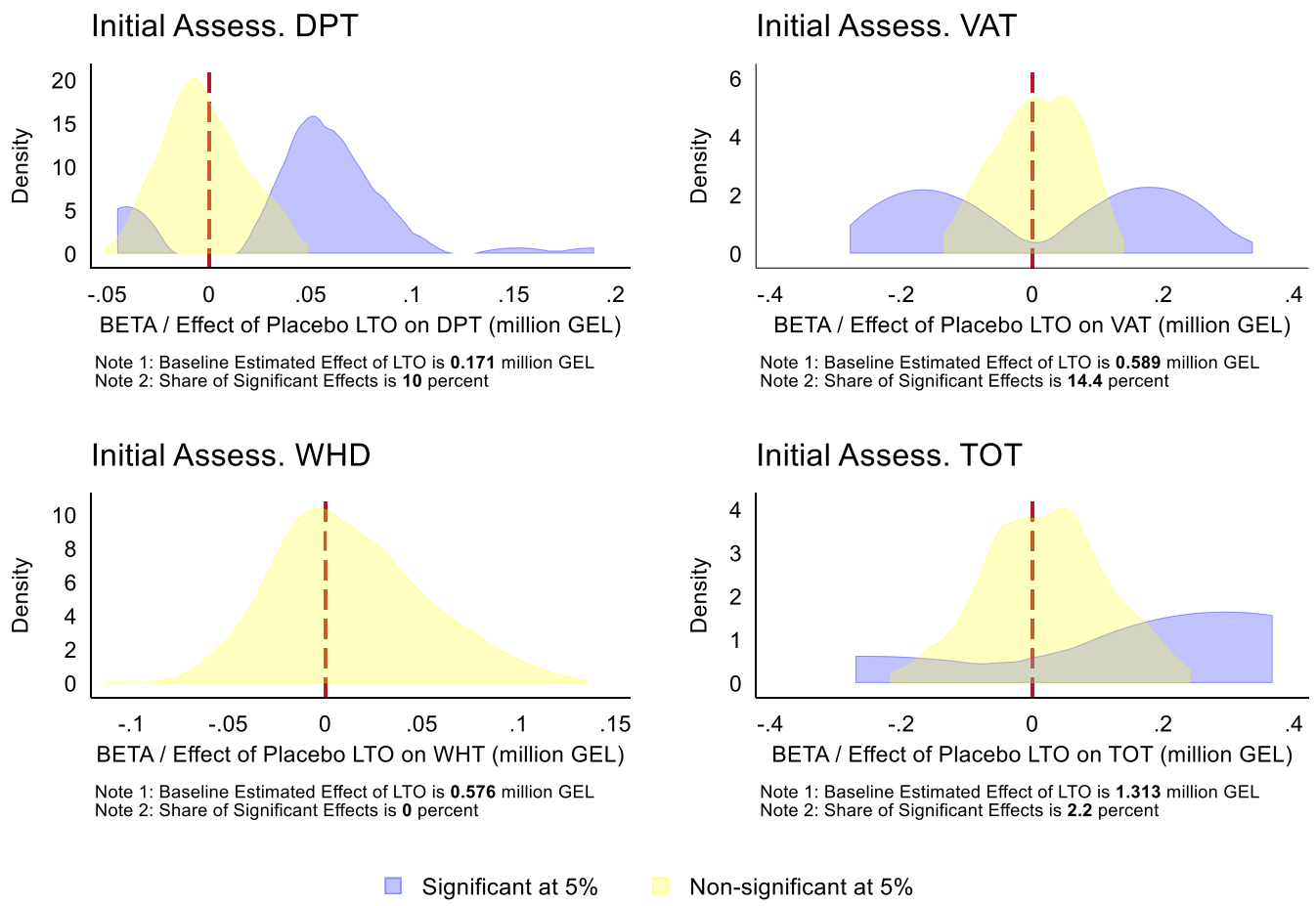
Source: Authors' calculations using data provided by the Georgia Revenue Service.
Notes: This figure shows the distributions of some LTO selection criteria for LTO and non-LTO taxpayers before and after LTO introduction in 2021.

Figure A4. Robustness. Placebo Tests on the Treated Units, Final Assessments



Source: Authors' calculations using data provided by the Georgia Revenue Service.
Notes: This figure shows the results of 500 estimations in which the actual treated units (LTO taxpayers) are removed from the sample and replaced by non-LTO taxpayers. The blue density plot shows the results for significant LTO effects in the placebo tests. The yellow density plot shows the results for insignificant LTO effects in the placebo tests.

Figure A5. Robustness. Placebo Tests on the Treated Units, Initial Assessments



Source: Authors' calculations using data provided by the Georgia Revenue Service.

Notes: This figure shows the results of 500 estimations in which the actual treated units (LTO taxpayers) are removed from the sample and replaced by non-LTO taxpayers. The blue density plot shows the results for significant LTO effects in the placebo tests. The yellow density plot shows the results for insignificant LTO effects in the placebo tests.

B. Appendix Tables

Table B1. Summary Statistics for Selected Non-LTO and LTO Sample

	Non LTO	LTO
Criteria:		
VAT turnover (2021 GEL Million)	14.840	236.70
	(29.16)	(381.9)
Total export revenue (2021 GEL Million)	0.970	29.03
	(6.913)	(142.6)
Net property, plant, and equipment value declared (2021 GEL Million)	6.354	69.01
	(46.61)	(133.1)
Binary if field of activity is gambling or banking sector	0.001	0.101
	(0.0314)	(0.302)
Recognized tax assessment (2021 GEL Million)	1.350	15.73
	(2.584)	(30.81)
Number of employees	101.6	777.8
	(1911.7)	(1249.4)
Tax assessments:		
Total final self-assessment (2021 GEL Million)	0.768	7.706
	(2.256)	(19.69)
Final DPT self-assessment (2021 GEL Million)	0.063	1.039
	(0.384)	(3.939)
Final VAT self-assessment (2021 GEL Million)	0.646	8.424
	(1.953)	(18.34)
Final WHT self-assessment (2021 GEL Million)	0.432	4.547
	(1.256)	(8.288)
Total initial self-assessment (2021 GEL Million)	0.768	7.845
	(2.849)	(19.23)
Initial DPT self-assessment (2021 GEL Million)	0.072	1.039
	(0.292)	(4.037)
Initial VAT self-assessment (2021 GEL Million)	0.282	2.511
	(1.732)	(14.46)
Initial WHT self-assessment (2021 GEL Million)	0.454	4.472
	(2.277)	(8.401)
Total additional self-assessment (2021 GEL Million)	0.005	-0.137
	(1.856)	(2.740)
Initial DPT self-assessment (2021 GEL Million)	0.007	0.023
	(0.132)	(0.841)
Initial VAT self-assessment (2021 GEL Million)	-0.002	-0.285
	(0.394)	(2.636)
Initial WHT self-assessment (2021 GEL Million)	0.002	0.119
	(1.880)	(0.547)
Enforcement and compliance measures		
Late declaration ratio	0.522	0.267
	(3.213)	(2.185)
Late payment ratio	29.630	30.22
	(25.27)	(26.83)
Amount of corrected VAT assessments that emanate from GRS requests	0.027	-0.231
	(0.433)	(1.280)
Amount of corrected DPT-WHT assessments that emanate from GRS requests	0.110	0.000
	(0.399)	-
Number of underpayment letters received from GRS	3.298	2.749
	(5.144)	(5.321)
Number of tax collection letters received from GRS	1.627	0.965
	(2.990)	(2.269)
Assessment from Audit (2021 GEL Million)	0.092	0.0279
	(1.478)	(4.960)
Number of Taxpayers	3913	190

Table B2. Balance Diagnostics in LTO Selection Criteria before and after Sample Weighting

	(I) Unweighted Sample				(II) Weighted Sample				(9) Obs.
	(1) Treated	(2) Control	(3) Std-diff	(4) Var-ratio	(5) Treated	(6) Control	(7) Std-diff	(8) Var-ratio	
Panel A: Common Support [2.5;99.9]. Sample: all years									
VAT turnover	142.5	16.1	1.6	31.5	43.1	43.1	0.0	0.2	21,483
Export	26.8	1.1	0.3	368.6	5.9	5.9	0.0	0.4	21,483
Net property value	53.8	6.3	0.6	6.8	49.7	49.7	0.0	0.1	21,483
Employee	572.7	110.1	0.3	0.2	433.0	433.0	0.0	0.1	21,483
Panel B: Common Support [2.5;99.9]. Sample: 2021 year									
VAT turnover	150.3	15.2	1.9	34.9	42.5	42.5	0.0	0.3	2,762
Export	32.8	1.2	0.2	1236.9	3.9	3.9	0.0	7.4	2,762
Net property value	57.4	6.1	0.6	8.5	85.2	85.2	0.0	0.3	2,762
Employee	600.5	84.0	0.8	7.4	342.5	342.5	0.0	0.2	2,762

Notes: Rubin (2001) suggests the use the absolute value of the standardized difference (Std-diff) as a balance measure for the first moment, where the balance is defined by absolute values below 0.25. He also suggests the use of the ratio of treated and control variances (Var-ratio) as a balance measure for the second moment, where the balance is defined by values close to 1.0, and variables are out of balance if the variance ratio is greater than 2.0 or less than 0.5.

Table B3. Baseline Results. LTO's First Cohort Assignment Effect on Tax Assessments

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Final Assessment				Initial Assessment			
	Total	DPT	VAT	WHT	Total	DPT	VAT	WHT
Panel A. Unweighted Sample. No Control Variables								
$LTO_i \times POST_t$	1.73***	0.33***	0.49***	0.93***	1.81***	0.36***	0.59***	0.89***
	(0.11)	(0.04)	(0.10)	(0.03)	(0.15)	(0.05)	(0.10)	(0.12)
Observations	21047	20744	21047	21041	20876	15192	20421	19566
# of LTO	176	165	176	176	175	151	170	172
# of Non-LTO	3481	3440	3481	3478	3424	2238	3306	3124
Total Effect (million GEL)	328.79	63.05	92.89	177.03	344.05	67.70	112.62	169.89
Total Effect (Percent of GDP)	0.53	0.10	0.15	0.29	0.56	0.11	0.18	0.28
Panel B. Weighted Sample. No Control Variables								
$LTO_i \times POST_t$	1.40***	0.17***	0.67***	0.57***	1.32***	0.16***	0.59***	0.58***
	(0.11)	(0.03)	(0.09)	(0.03)	(0.16)	(0.03)	(0.09)	(0.13)
Observations	21047	20744	21047	21041	20876	15192	20421	19566
# of LTO	176	165	176	176	175	151	170	172
# of Non-LTO	3481	3440	3481	3478	3424	2238	3306	3124
Total Effect (million GEL)	265.63	31.65	126.95	108.61	249.84	30.48	112.84	110.72
Total Effect (Percent of GDP)	0.43	0.05	0.21	0.18	0.41	0.05	0.18	0.18
Pre-treatment Unweighted Diff.	3.71	0.52	0.89	2.34	3.76	0.52	1.08	2.25
P-Value Unweighted Diff.	0.00	0.00	0.11	0.00	0.00	0.00	0.06	0.00
Pre-treatment Weighted Diff.	0.30	0.03	-0.51	0.78	0.42	0.05	-0.36	0.68
P-Value Weighted Diff.	0.72	0.34	0.16	0.29	0.61	0.20	0.28	0.39
Std. Unweighted Difference	0.50	0.27	0.14	0.99	0.52	0.27	0.17	0.94
Std. Weighted Difference	0.05	0.05	-0.15	0.20	0.08	0.07	-0.11	0.17

Notes: This table presents estimates of the LTO's first cohort assignment on tax assessments (in million GEL). All regressions include the log value of the major LTO criteria variables as controls: log of VAT turnover, log of export amount, log of declared property values, and log of number of employees. Panel A shows the estimates in the unweighted sample and without control variables. Panel B shows the estimates in the weighted sample and without control variables. Columns 1 to 4 show the effect on final assessments, while columns 5 to 6 show the effect on initial assessments. DPT stands for distributed profit tax assessments, VAT stands for value-added tax assessments, WHT stands for withholding tax, and TOT stands for total tax assessments. The bottom statistics present the number of observations, LTO taxpayers, and non-LTO taxpayers. The total effect in million GEL is obtained by multiplying the average effect per taxpayer per year (given by $LTO_i \times POST_t$) by the number of LTO taxpayers in the initial database, including those excluded from the analysis for falling outside the common support. The total effect as a percentage of GDP is calculated by dividing the total effect in million GEL by the average real GDP in 2021 prices over 2022–24. Test statistics show the mean differences and associated p-values for each outcome variable when comparing LTO and non-LTO taxpayers in the pre-LTO assignment period (2017–21), alongside the standardized mean differences. Weights are constructed by applying the CBPS to estimate the probability of LTO assignment based on VAT turnover, exports, net property value, and number of employees. Standard errors are clustered at the taxpayer level. * p < 0.10, ** p < 0.05, *** p < 0.010.

Table B4. Effect on Tax Assessments Over Time

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Final Assessment				Initial Assessment			
	Total	DPT	VAT	WHT	Total	DPT	VAT	WHT
Panel A. First Cohort								
LTO_i × $POST_t$ × Year=2022	1.13***	0.10**	0.60***	0.42***	1.08***	0.10*	0.49***	0.52**
	(0.15)	(0.04)	(0.13)	(0.05)	(0.23)	(0.04)	(0.13)	(0.20)
LTO_i × $POST_t$ × Year=2023	1.10***	0.03	0.63***	0.44***	1.05***	0.02	0.61***	0.42*
	(0.14)	(0.036)	(0.13)	(0.04)	(0.22)	(0.04)	(0.13)	(0.19)
LTO_i × $POST_t$ × Year=2024	1.93***	0.39***	0.764***	0.80***	1.80***	0.39***	0.67***	0.79***
	(0.15)	(0.04)	(0.13)	(0.04)	(0.22)	(0.04)	(0.13)	(0.19)
Observations	21047	20744	21047	21041	20876	15192	20421	19566
# of LTO	176	165	176	176	175	151	170	172
# of Non-LTO	3481	3440	3481	3478	3424	2238	3306	3124
Effects 2022=2023	0.90	0.14	0.87	0.73	0.90	0.14	0.455	0.67
Effects 2022=2024	0.00	0.00	0.32	0.00	0.01	0.00	0.26	0.26
Effects 2023=2024	0.00	0.00	0.39	0.00	0.01	0.00	0.69	0.10
Total Effect (million GEL)	263.41	32.88	126.33	105.77	249.16	31.90	111.53	109.57
Total Effect (Percent of GDP)	0.42	0.05	0.21	0.17	0.40	0.05	0.18	0.18
Panel B. First and Second Cohort								
LTO_i × $POST_t$ × Year=2022	0.94***	0.08*	0.42***	0.44***	0.99***	0.06	0.45***	0.48**
	(0.13)	(0.03)	(0.11)	(0.04)	(0.19)	(0.04)	(0.11)	(0.15)
LTO_i × $POST_t$ × Year=2023	1.15***	0.04	0.68***	0.44***	1.20***	0.01	0.74***	0.42**
	(0.13)	(0.03)	(0.11)	(0.04)	(0.186)	(0.04)	(0.11)	(0.15)
LTO_i × $POST_t$ × Year=2024	2.40***	0.64***	0.78***	1.00***	2.42***	0.68***	0.76***	1.04***
	(0.13)	(0.03)	(0.11)	(0.04)	(0.18)	(0.04)	(0.108)	(0.15)
Observations	23473	23139	23473	23465	23247	16772	22722	21755
# of LTO	259	245	259	259	256	223	251	251
# of Non-LTO	3593	3551	3593	3590	3517	2264	3386	3197
Effects 2022=2023	0.17	0.37	0.06	0.96	0.39	0.34	0.03	0.74
Effects 2022=2024	0.00	0.00	0.009	0.00	0.00	0.00	0.02	0.003
Effects 2023=2024	0.00	0.00	0.43	0.00	0.00	0.00	0.85	0.001
Total Effect (million GEL)	411.73	69.28	172.82	172.68	421.97	68.26	178.73	177.78
Total Effect (Percent of GDP)	0.66	0.11	0.28	0.28	0.67	0.11	0.29	0.28

Notes: This table presents the year-by-year estimates of the LTO's first cohort assignment on tax assessments (in million GEL). Columns 1 to 4 show the effect on final assessments, while columns 5 to 6 show the effect on initial assessments. Total stands for total tax assessments, DPT stands for distributed profit tax assessments, VAT stands for value-added tax assessments, and WHT stands for withholding tax. The bottom statistics present the number of observations, LTO taxpayers, and non-LTO taxpayers. The total effect in million GEL is obtained by multiplying the average effect per taxpayer per year (given by LTO_i × $POST_t$) by the number of LTO taxpayers in the initial database, including those excluded from the analysis for falling outside the common support. The total effect as a percentage of GDP is calculated by dividing the total effect in million GEL by the real GDP in the respective years, averaged over the post-LTO assignment period 2022–24. T-tests show the significance of the differences in the estimates for 2022, 2023, and 2024. Test statistics show the mean differences and associated p-values for each outcome variable when comparing LTO and non-LTO taxpayers in the pre-LTO assignment period (2017–21), alongside the standardized mean differences. Weights are constructed by applying the CBPS to estimate the probability of LTO assignment based on VAT turnover, exports, net property value, and number of employees. Standard errors are clustered at the taxpayer level. * p < 0.10, ** p < 0.05, *** p < 0.010.

Table B5. Robustness. Change in Common Support Thresholds

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Final Assessment				Initial Assessment			
	Total	DPT	VAT	WHT	Total	DPT	VAT	WHT
Panel A. Common Support [01;99.9]								
$LTO_i \times POST_t$	1.55***	0.18***	0.85***	0.54***	1.49***	0.18***	0.78***	0.56***
	(0.11)	(0.03)	(0.10)	(0.03)	(0.16)	(0.03)	(0.10)	(0.13)
Observations	23950	23612	23950	23942	23708	16827	23161	22116
# of LTO	177	165	177	177	176	151	171	173
# of Non-LTO	3647	3604	3647	3644	3564	2276	3431	3230
Total Effect (million GEL)	294.52	33.78	160.51	102.69	282.91	33.23	148.85	106.15
Total Effect (Percent of GDP)	0.48	0.06	0.26	0.17	0.46	0.05	0.24	0.17
Pre-treatment Unweighted Diff.	3.74	0.52	0.79	2.47	3.79	0.52	0.96	2.39
P-Value Unweighted Diff.	0.00	0.00	0.16	0.00	0.00	0.00	0.09	0.00
Pre-treatment Weighted Diff.	0.36	0.05	-1.19	1.50	0.46	0.07	-1.09	1.43
P-Value Weighted Diff.	0.81	0.18	0.08	0.23	0.76	0.10	0.10	0.28
Std. Unweighted Difference	0.50	0.27	0.12	0.99	0.51	0.27	0.15	0.95
Std. Weighted Difference	0.05	0.07	-0.26	0.30	0.07	0.10	-0.24	0.28
Panel B. Common Support [min;max]								
$LTO_i \times POST_t$	1.60***	0.26***	0.93***	0.44***	1.66***	0.30***	0.95***	0.45***
	(0.13)	(0.03)	(0.12)	(0.03)	(0.13)	(0.04)	(0.12)	(0.05)
Observations	24401	24047	24401	24393	24148	17123	23591	22539
# of LTO	187	175	187	187	186	160	181	183
# of Non-LTO	3662	3618	3662	3659	3576	2283	3442	3241
Total Effect (million GEL)	304.446	50.21	176.24	83.84	315.55	55.98	180.71	85.93
Total Effect (Percent of GDP)	0.494	0.08	0.29	0.14	0.51	0.09	0.29	0.14
Pre-treatment Unweighted Diff.	4.92	0.59	1.47	2.90	5.03	0.57	1.74	2.81
P-Value Unweighted Diff.	0.00	0.00	0.20	0.00	0.00	0.00	0.12	0.00
Pre-treatment Weighted Diff.	-20.24	-0.18	-19.44	-0.62	-20.61	-0.18	-19.77	-0.67
P-Value Weighted Diff.	0.00	0.21	0.00	0.69	0.00	0.20	0.00	0.66
Std. Unweighted Difference	0.39	0.31	0.13	0.99	0.40	0.30	0.16	0.95
Std. Weighted Difference	-1.64	-0.74	-1.66	-0.24	-1.69	-0.79	-1.71	-0.26

Notes: This table presents estimates of the LTO's first cohort assignment on tax assessments (in million GEL). Panel A shows the estimates for common support [01;99.9]. Panel B shows the estimates for common support [min;max]. Columns 1 to 4 show the effect on final assessments, while columns 5 to 6 show the effect on initial assessments. Total stands for total tax assessments, DPT stands for distributed profit tax assessments, VAT stands for value-added tax assessments, and WHT stands for withholding tax. The bottom statistics present the number of observations, LTO taxpayers, and non-LTO taxpayers. The total effect in million GEL is obtained by multiplying the average effect per taxpayer per year (given by $LTO_i \times POST_t$) by the number of LTO taxpayers in the initial database, including those excluded from the analysis for falling outside the common support. The total effect as a percentage of GDP is calculated by dividing the total effect in million GEL by the average real GDP in 2021 prices over 2022–24. Test statistics show the mean differences and associated p-values for each outcome variable when comparing LTO and non-LTO taxpayers in the pre-LTO assignment period (2017–21), alongside the standardized mean differences. Weights are constructed by applying the CBPS to estimate the probability of LTO assignment based on VAT turnover, exports, net property value, and number of employees. Standard errors are clustered at the taxpayer level. * p < 0.10, ** p < 0.05, *** p < 0.010.

Table B6. Robustness. Computing the Balancing Weights on the Year of LTO Introduction Only

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Final Assessment				Initial Assessment			
	Total	DPT	VAT	WHT	Total	DPT	VAT	WHT
$LTO_i \times POST_t$	1.71***	1.24***	0.27***	1.71***	1.70***	0.21***	1.16***	0.35***
	(0.11)	(0.10)	(0.03)	(0.11)	(0.10)	(0.03)	(0.10)	(0.03)
Observations	18447	18447	18447	18447	18366	13974	18084	17417
# of LTO	158	158	158	158	158	136	153	155
# of Non-LTO	2583	2583	2583	2583	2566	1867	2516	2409
Total Effect (million GEL)	325.25	235.89	52.00	325.25	322.03	40.44	220.64	67.11
Total Effect (Percent of GDP)	0.53	0.38	0.08	0.53	0.52	0.07	0.36	0.11
Pre-treatment Unweighted Diff.	3.96	1.26	2.22	3.96	4.00	0.52	1.45	2.13
P-Value Unweighted Diff.	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00
Pre-treatment Weighted Diff.	0.39	0.25	0.26	0.39	0.59	0.09	0.36	0.13
P-Value Weighted Diff.	0.68	0.76	0.70	0.68	0.50	0.06	0.66	0.86
Std. Unweighted Difference	0.56	0.22	0.97	0.56	0.58	0.26	0.26	0.92
Std. Weighted Difference	0.07	0.06	0.09	0.07	0.11	0.14	0.09	0.04

Notes: This table presents estimates of the LTO's first cohort assignment on tax assessments (in million GEL). Columns 1 to 4 show the effect on final assessments, while columns 5 to 6 show the effect on initial assessments. DPT stands for distributed profit tax assessments, VAT stands for value-added tax assessments, WHT stands for withholding tax, and TOT stands for total tax assessments. The bottom statistics present the number of observations, LTO taxpayers, and non-LTO taxpayers. The total effect in million GEL is obtained by multiplying the average effect per taxpayer per year (given by $LTO_i \times POST_t$) by the number of LTO taxpayers in the initial database, including those excluded from the analysis for falling outside the common support. The total effect as a percentage of GDP is calculated by dividing the total effect in million GEL by the average real GDP in 2021 prices over 2022–24. Test statistics show the mean differences and associated p-values for each outcome variable when comparing LTO and non-LTO taxpayers in the pre-LTO assignment period (2017–21), alongside the standardized mean differences. Weights are constructed by applying the CBPS to estimate the probability of LTO assignment based on VAT turnover, exports, net property value, and number of employees based on the year 2021 only. Standard errors are clustered at the taxpayer level. * p < 0.10, ** p < 0.05, *** p < 0.010.

Table B7. Robustness. Restricting the Sample to the Top 2 Percent of the Average VAT Turnover Distribution

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Final Assessment				Initial Assessment			
	Total	DPT	VAT	WHT	Total	DPT	VAT	WHT
$LTO_i \times POST_t$	2.12***	0.24***	0.32*	1.59***	2.03***	0.23***	0.23	1.63***
	(0.15)	(0.04)	(0.13)	(0.05)	(0.20)	(0.04)	(0.13)	(0.16)
Observations	13071	12910	13071	13069	13003	9996	12788	12289
# of LTO	184	173	184	184	183	158	178	180
# of Non-LTO	1982	1966	1982	1981	1959	1349	1903	1793
Total Effect (million GEL)	401.46	44.46	59.93	301.03	383.13	42.56	42.89	308.49
Total Effect (Percent of GDP)	0.65	0.07	0.10	0.49	0.62	0.07	0.07	0.50
Pre-treatment Unweighted Diff.	4.37	0.55	1.44	2.41	4.50	0.54	1.71	2.34
P-Value Unweighted Diff.	0.00	0.00	0.08	0.00	0.00	0.00	0.04	0.00
Pre-treatment Weighted Diff.	22.01	-0.35	12.73	9.64	22.15	0.03	12.83	9.46
P-Value Weighted Diff.	0.00	0.47	0.00	0.00	0.00	0.51	0.00	0.00
Std. Unweighted Difference	0.45	0.29	0.17	0.87	0.47	0.28	0.21	0.83
Std. Weighted Difference	2.95	-0.23	2.24	1.89	3.28	0.05	2.25	1.93

Notes: This table presents estimates of the LTO's first cohort assignment on tax assessments (in million GEL). Sample include LTO and non-LTO taxpayers with an average VAT turnover falling into the top 2 percent of the distribution. Columns 1 to 4 show the effect on final assessments, while columns 5 to 6 show the effect on initial assessments. DPT stands for distributed profit tax assessments, VAT stands for value-added tax assessments, WHT stands for withholding tax, and TOT stands for total tax assessments. The bottom statistics present the number of observations, LTO taxpayers, and non-LTO taxpayers. The total effect in million GEL is obtained by multiplying the average effect per taxpayer per year (given by $LTO_i \times POST_t$) by the number of LTO taxpayers in the initial database, including those excluded from the analysis for falling outside the common support. The total effect as a percentage of GDP is calculated by dividing the total effect in million GEL by the average real GDP in 2021 prices over 2022–24. Test statistics show the mean differences and associated p-values for each outcome variable when comparing LTO and non-LTO taxpayers in the pre-LTO assignment period (2017–21), alongside the standardized mean differences. Weights are constructed by applying the CBPS to estimate the probability of LTO assignment based on VAT turnover, exports, net property value, and number of employees based on the year 2021 only. Standard errors are clustered at the taxpayer level. * p < 0.10, ** p < 0.05, *** p < 0.010.

Table B8. Robustness. Placebo Tests on the Year of LTO Introduction

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Final Assessment				Initial Assessment			
	Total	DPT	VAT	WHT	Total	DPT	VAT	WHT
Panel A. LTO Introduction: Beginning of 2019. Post-LTO Period: 2019-21								
$LTO_i \times POST_t$	0.16	0.03	0.13	-0.002	0.26	0.03	0.24	-0.01
	(0.49)	(0.04)	(0.47)	(0.12)	(0.41)	(0.04)	(0.40)	(0.12)
Observations	12651	12459	12651	12645	12557	9368	12353	11833
# of LTO	169	159	169	169	169	146	164	166
# of Non-LTO	2769	2730	2769	2766	2733	1940	2680	2543
Total Effect (million GEL)	29.86	5.57	25.39	-0.32	48.98	4.99	45.35	-2.32
Total Effect (Percent of GDP)	0.06	0.01	0.05	0.00	0.10	0.01	0.09	0.00
Pre-treatment Unweighted Diff.	2.93	0.27	0.41	2.26	2.98	0.30	0.52	2.20
P-Value Unweighted Diff.	0.00	0.00	0.44	0.00	0.00	0.00	0.35	0.00
Pre-treatment Weighted Diff.	0.26	-0.06	-0.80	1.12	0.38	-0.08	-0.65	1.05
P-Value Weighted Diff.	0.84	0.48	0.43	0.23	0.75	0.43	0.52	0.29
Std. Unweighted Difference	0.50	0.30	0.08	0.98	0.51	0.30	0.10	0.94
Std. Weighted Difference	0.04	-0.09	-0.15	0.25	0.06	-0.11	-0.13	0.22
Panel B. LTO Introduction: Beginning of 2020. Post-LTO Period: 2020-21								
$LTO_i \times POST_t$	0.42	0.05	0.56	-0.18	0.38	0.08	0.49	-0.17
	(0.42)	(0.07)	(0.38)	(0.13)	(0.40)	(0.07)	(0.36)	(0.13)
Observations	12651	12459	12651	12645	12557	9368	12353	11833
# of LTO	169	159	169	169	169	146	164	166
# of Non-LTO	2769	2730	2769	2766	2733	1940	2680	2543
Total Effect (million GEL)	80.60	9.47	106.67	-34.50	72.40	14.32	93.43	-32.59
Total Effect (Percent of GDP)	0.16	0.02	0.21	-0.07	0.14	0.03	0.18	-0.06
Pre-treatment Unweighted Diff.	3.03	0.40	0.27	2.38	3.13	0.41	0.46	2.32
P-Value Unweighted Diff.	0.00	0.00	0.62	0.00	0.00	0.01	0.41	0.00
Pre-treatment Weighted Diff.	0.34	-0.02	-1.02	1.39	0.52	-0.04	-0.79	1.31
P-Value Weighted Diff.	0.73	0.70	0.17	0.05	0.58	0.57	0.27	0.08
Std. Unweighted Difference	0.47	0.29	0.05	0.99	0.49	0.28	0.08	0.96
Std. Weighted Difference	0.06	-0.04	-0.21	0.35	0.09	-0.06	-0.17	0.33
Panel C. LTO Introduction: Beginning of 2021. Post-LTO Period: 2021								
$LTO_i \times POST_t$	0.40	-0.08	0.52	-0.04	0.49	-0.03	0.51	0.02
	(0.34)	(0.06)	(0.33)	(0.12)	(0.32)	(0.05)	(0.32)	(0.11)
Observations	12651	12459	12651	12645	12557	9368	12353	11833
# of LTO	169	159	169	169	169	146	164	166
# of Non-LTO	2769	2730	2769	2766	2733	1940	2680	2543
Total Effect (million GEL)	76.84	-14.31	99.47	-8.45	93.64	-5.51	96.04	3.73
Total Effect (Percent of GDP)	0.15	-0.03	0.19	-0.02	0.18	-0.01	0.19	0.01
Pre-treatment Unweighted Diff.	3.51	0.52	0.65	2.38	3.58	0.53	0.83	2.30
P-Value Unweighted Diff.	0.00	0.00	0.24	0.00	0.00	0.01	0.14	0.00
Pre-treatment Weighted Diff.	0.26	0.00	-0.72	0.99	0.35	-0.02	-0.56	0.85
P-Value Weighted Diff.	0.85	0.95	0.24	0.51	0.80	0.80	0.33	0.59
Std. Unweighted Difference	0.50	0.26	0.11	0.98	0.51	0.25	0.14	0.94
Std. Weighted Difference	0.04	0.00	-0.16	0.18	0.05	-0.02	-0.13	0.15

Notes: This table presents estimates of the LTO's first cohort assignment on tax assessments (in million GEL). We drop the actual post-LTO period (2022–24). Panel A shows the estimates for changing the year of LTO introduction to 2019. Panel B shows the estimates for changing the year of LTO introduction to 2020. Panel C shows the estimates for changing the year of LTO introduction to 2021. Columns 1 to 4 show the effect on final assessments, while columns 5 to 6 show the effect on initial assessments. DPT stands for distributed profit tax assessments, VAT stands for value-added tax assessments, WHT stands for withholding tax, and TOT stands for total tax assessments. The bottom statistics present the number of observations, LTO taxpayers, and non-LTO taxpayers. The total effect in million GEL is obtained by multiplying the average effect per taxpayer per year (given by $LTO_i \times POST_t$) by the number of LTO taxpayers in the initial database, including those excluded from the analysis for falling outside the common support. The total effect as a percentage of GDP is calculated by dividing the total effect in million GEL by the average real GDP in 2021 prices over 2022–24. Test statistics show the mean differences and associated p-values for each outcome variable when comparing LTO and non-LTO taxpayers in the pre-LTO assignment period (2017–21), alongside the standardized mean differences. Weights are constructed by applying the CBPS to estimate the probability of LTO assignment based on VAT turnover, exports, net property value, and number of employees. Standard errors are clustered at the taxpayer level. * p < 0.10, ** p < 0.05, *** p < 0.010.

Table B9. Channels. LTO's First Cohort Assignment Effect on Measures of Compliance and Enforcement

	(1) Acc. tax paid	(2) Add. DPT	(3) Add. VAT	(4) Add. WHT	(5) Und-pay. Let.	(6) Tax Coll. Let.	(7) Late dec.	(8) Late pay.	(9) Audit
$LTO_i \times POST_t$	0.87***	-0.13***	-0.05*	0.01	-0.02	0.11***	0.003	-0.004	-0.05*
	(0.11)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)
Observations	21047	21047	21047	21047	21047	21047	21047	21047	21047
# of LTO	176	176	176	176	176	176	176	176	176
# of Non-LTO	3481	3481	3481	3481	3481	3481	3481	3481	3481

Notes: This table presents estimates of the LTO's first cohort assignment on measures of compliance and enforcement. The outcome variable in column 1 is accrual tax paid. The outcome variables in columns 2 to 4 are binary variables equal to 1 if the taxpayer makes additional DPT, VAT, and WHT assessments, respectively. The outcome variables in columns 5 to 9 are binary variables equal to 1 if the taxpayer receives an underpayment letter, a tax collection letter, makes a late declaration, makes a late payment, or is audited, respectively. DPT stands for distributed profit tax assessments; VAT stands for value-added tax assessments; WHT stands for withholding tax; and TOT stands for total tax assessments. The bottom statistics present the number of observations, LTO taxpayers, and non-LTO taxpayers. Weights are constructed by applying the CBPS to estimate the probability of LTO assignment based on VAT turnover, exports, net property value, and number of employees. Standard errors are clustered at the taxpayer level. * p < 0.10, ** p < 0.05, *** p < 0.010.

Table B10. Channels. LTO's First Cohort Assignment Effect on Tax Assessments Conditional on Enforcement Measures

	(1) Total	(2) DPT	(3) VAT	(4) WHT	(5) Total	(6) DPT	(7) VAT	(8) WHT	(9) Total	(10) DPT	(11) VAT	(12) WHT
Cond	Receive under-payment letter				Receive tax collection letter				Be audited			
$LTO_i \times POST_t$	2.02***	0.30***	1.12***	0.64***	1.50***	0.19***	0.72***	0.60***	1.25***	0.18***	0.44***	0.64***
	(0.14)	(0.04)	(0.13)	(0.04)	(0.11)	(0.03)	(0.10)	(0.03)	(0.11)	(0.03)	(0.10)	(0.03)
$LTO_i \times POST_t \times ENF_i$	-1.44***	-0.26***	-1.03***	-0.19**	-0.75**	-0.11	-0.40	-0.25**	1.18***	-0.003	1.52***	-0.34***
	(0.21)	(0.05)	(0.19)	(0.06)	(0.28)	(0.07)	(0.25)	(0.08)	(0.30)	(0.08)	(0.27)	(0.09)
ENF_i	0.05	-0.005	0.05	0.002	0.08*	0.003	0.05	0.03**	-0.06	-0.008	-0.04	-0.01
	(0.04)	(0.01)	(0.03)	(0.01)	(0.04)	(0.01)	(0.03)	(0.01)	(0.04)	(0.01)	(0.04)	(0.01)
$ENF_i \times POST_t$	-0.04	0.004	-0.008	-0.03*	-0.03	-0.004	0.04	-0.06***	-0.10	0.004	-0.11	0.008
	(0.05)	(0.01)	(0.04)	(0.01)	(0.05)	(0.01)	(0.05)	(0.02)	(0.08)	(0.02)	(0.07)	(0.02)
$LTO_i \times ENF_i$	0.51***	0.002	0.51***	-0.009	0.22	0.06	-0.02	0.19***	-0.03	0.04	-0.40**	0.34***
	(0.14)	(0.04)	(0.13)	(0.04)	(0.19)	(0.05)	(0.17)	(0.06)	(0.16)	(0.04)	(0.14)	(0.05)
Observations	21047	20744	21047	21041	21047	20744	21047	21041	21047	20744	21047	21041
# of LTO	176	165	176	176	176	165	176	176	176	165	176	176
# of Non-LTO	3481	3440	3481	3478	3481	3440	3481	3478	3481	3440	3481	3478
Pre-treatment Unweighted Diff.	3.71	0.52	0.89	2.34	3.71	0.52	0.89	2.34	3.71	0.52	0.89	2.34
P-Value Unweighted Diff.	0.00	0.00	0.11	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.11	0.00
Pre-treatment Weighted Diff.	0.30	0.03	-0.51	0.78	0.30	0.03	-0.51	0.78	0.30	0.03	-0.51	0.78
P-Value Weighted Diff.	0.72	0.34	0.16	0.29	0.72	0.34	0.16	0.29	0.72	0.34	0.16	0.29
Std. Unweighted Difference	0.50	0.27	0.14	0.99	0.50	0.27	0.14	0.99	0.50	0.27	0.14	0.99
Std. Weighted Difference	0.05	0.05	-0.15	0.20	0.05	0.05	-0.15	0.20	0.05	0.05	-0.15	0.20

Notes: This table presents estimates of the LTO's first cohort assignment on final tax assessments conditional on enforcement measures. In columns 1 to 4, the conditional variable is "receive an under-payment letter". In columns 5 to 8, the conditional variable is "receive a tax collection letter". In columns 9 to 12, the conditional variable is "be audited". DPT stands for distributed profit tax assessments; VAT stands for value-added tax assessments; WHT stands for withholding tax; and TOT stands for total tax assessments. The bottom statistics present the number of observations, LTO taxpayers, and non-LTO taxpayers. Test statistics show the mean differences and associated p-values for each outcome variable when comparing LTO and non-LTO taxpayers in the pre-LTO assignment period (2017–21), alongside the standardized mean differences. Weights are constructed by applying the CBPS to estimate the probability of LTO assignment based on VAT turnover, exports, net property value, and number of employees. Standard errors are clustered at the taxpayer level. * p < 0.10, ** p < 0.05, *** p < 0.010.

Table B11. Sensitivity. LTO's First Cohort Assignment Effect on Tax Assessments Conditional on Economic Sectors, Higher Tax Assessments

	(1)	(2)	(3)	(4)	(1')	(2')	(3')	(4')
	Final Assessment				Final Assessment			
	Total	DPT	VAT	WHT	Total	DPT	VAT	WHT
Panel A: Information and Communication					**Panel B: Transportation and Storage**			
$LTO_i \times POST_t$	1.28***	0.17***	0.67***	0.45***	1.23***	0.17***	0.51***	0.56***
	(0.10)	(0.03)	(0.09)	(0.03)	(0.10)	(0.03)	(0.09)	(0.03)
$LTO_i \times POST_t \times$ Sector Dummy	11.14***	0.75**	-0.85	11.23***	14.46***	0.46*	14.07***	-0.08
	(1.02)	(0.25)	(0.91)	(0.30)	(0.94)	(0.23)	(0.83)	(0.28)
Observations	21003	20706	21003	20999	21003	20706	21003	20999
# of LTO	176	165	176	176	176	165	176	176
# of Non-LTO	3461	3422	3461	3459	3461	3422	3461	3459
# of LTO in NACE Cat=9	4	4	4	4	2	2	2	2
# of Non-LTO in NACE Cat=9	85	85	85	85	127	127	127	127
Total Effect (million GEL)	62.11	4.59	3.37	58.41	31.37	1.26	29.16	1.12
Total Effect (Percent of GDP)	0.11	0.01	0.01	0.10	0.05	0.00	0.05	0.00
Pre-treatment Unweighted Diff.	3.71	0.52	0.89	2.34	3.71	0.52	0.89	2.34
P-Value Unweighted Diff.	0.00	0.00	0.11	0.00	0.00	0.00	0.11	0.00
Pre-treatment Weighted Diff.	0.30	0.03	-0.51	0.78	0.30	0.03	-0.51	0.78
P-Value Weighted Diff.	0.72	0.34	0.16	0.29	0.72	0.34	0.16	0.29
Std. Unweighted Difference	0.50	0.27	0.14	0.99	0.50	0.27	0.14	0.99
Std. Weighted Difference	0.05	0.05	-0.15	0.20	0.05	0.05	-0.15	0.20
Panel C: Water Supply;Sewerage, Waste Manag.					**Panel D: Arts, Entertainment and Recreation**			
$LTO_i \times POST_t$	1.12***	0.11***	0.56***	0.47***	1.36***	0.16***	0.67***	0.54***
	(0.11)	(0.03)	(0.10)	(0.03)	(0.10)	(0.03)	(0.09)	(0.03)
In LTO X Sector Dummy	1.71***	0.42***	0.69**	0.59***	2.38*	1.49***	-0.44	1.33***
.	(0.28)	(0.07)	(0.24)	(0.08)	(0.95)	(0.23)	(0.84)	(0.29)
Observations	21003	20706	21003	20999	21003	20706	21003	20999
# of LTO	176	165	176	176	176	165	176	176
# of Non-LTO	3461	3422	3461	3459	3461	3422	3461	3459
# of LTO in NACE Cat=16	15	15	15	15	3	3	3	3
# of Non-LTO in NACE Cat=16	365	361	365	364	23	23	23	23
Total Effect (million GEL)	42.47	7.86	18.75	15.85	11.24	4.94	2.01	5.62
Total Effect (Percent of GDP)	0.07	0.01	0.03	0.03	0.02	0.01	0.00	0.01
Pre-treatment Unweighted Diff.	3.71	0.52	0.89	2.34	3.71	0.52	0.89	2.34
P-Value Unweighted Diff.	0.00	0.00	0.11	0.00	0.00	0.00	0.11	0.00
Pre-treatment Weighted Diff.	0.30	0.03	-0.51	0.78	0.30	0.03	-0.51	0.78
P-Value Weighted Diff.	0.72	0.34	0.16	0.29	0.72	0.34	0.16	0.29
Std. Unweighted Difference	0.50	0.27	0.14	0.99	0.50	0.27	0.14	0.99
Std. Weighted Difference	0.05	0.05	-0.15	0.20	0.05	0.05	-0.15	0.20
Panel E: Electricity, Gas, Steam and Air Cond					**Panel F: Administrative and Support Service**			
$LTO_i \times POST_t$	1.37***	0.13***	0.64***	0.61***	1.40***	0.17***	0.70***	0.54***
	(0.11)	(0.03)	(0.10)	(0.03)	(0.11)	(0.03)	(0.09)	(0.03)
$LTO_i \times POST_t \times$ Sector Dummy	0.16	0.46***	0.24	-0.55***	-0.12	0.14	-0.60	0.33**
	(0.34)	(0.08)	(0.30)	(0.10)	(0.41)	(0.10)	(0.37)	(0.13)
Observations	21003	20706	21003	20999	21003	20706	21003	20999
# of LTO	176	165	176	176	176	165	176	176
# of Non-LTO	3461	3422	3461	3459	3461	3422	3461	3459
# of LTO in NACE Cat=6	11	11	11	11	3	3	3	3
# of Non-LTO in NACE Cat=6	36	36	36	36	83	82	83	83
Total Effect (million GEL)	15.10	6.43	7.06	0.68	4.19	0.50	0.29	2.61
Total Effect (Percent of GDP)	0.03	0.01	0.01	0.00	0.01	0.00	0.00	0.00
Pre-treatment Unweighted Diff.	3.71	0.52	0.89	2.34	3.71	0.52	0.89	2.34
P-Value Unweighted Diff.	0.00	0.00	0.11	0.00	0.00	0.00	0.11	0.00
Pre-treatment Weighted Diff.	0.30	0.03	-0.51	0.78	0.30	0.03	-0.51	0.78
P-Value Weighted Diff.	0.72	0.34	0.16	0.29	0.72	0.34	0.16	0.29
Std. Unweighted Difference	0.50	0.27	0.14	0.99	0.50	0.27	0.14	0.99
Std. Weighted Difference	0.05	0.05	-0.15	0.20	0.05	0.05	-0.15	0.20

Notes: This table presents estimates of the LTO's first cohort assignment on tax assessments (in million GEL) conditional on economic sectors. Higher tax assessments. Columns 1 to 4 show the effect on final assessments. DPT stands for distributed profit tax assessments, VAT stands for value-added tax assessments, WHT stands for withholding tax, and TOT stands for total tax assessments. The bottom statistics present the number of observations, LTO taxpayers, and non-LTO taxpayers. The total effect in million GEL is obtained by multiplying the average effect per taxpayer per year (given by $LTO_i \times POST_t + LTO_i \times POST_t \times \text{Sector Dummy}$) by the number of LTO taxpayers in the initial database, including those excluded from the analysis for falling outside the common support. The total effect as a percentage of GDP is calculated by dividing the total effect in million GEL by the average real GDP in 2021 prices over 2022–24. Test statistics show the mean differences and associated p-values for each outcome variable when comparing LTO and non-LTO taxpayers in the pre-LTO assignment period (2017–21), alongside the standardized mean differences. Weights are constructed by applying the CBPS to estimate the probability of LTO assignment based on VAT turnover, exports, net property value, and number of employees based on the year 2021 only. Standard errors are clustered at the taxpayer level. * p < 0.10, ** p < 0.05, *** p < 0.010.

Table B12. Sensitivity. LTO's First Cohort Assignment Effect on Tax Assessments Conditional on Economic Sectors, Higher Tax Assessments

	(1)	(2)	(3)	(4)	(1')	(2')	(3')	(4')
	Final Assessment				Final Assessment			
	Total	DPT	VAT	WHT	Total	DPT	VAT	WHT
Panel A: Information and Communication					**Panel B: Transportation and Storage**			
$LTO_i \times POST_t$	1.40***	0.18***	0.67***	0.56***	1.47***	0.18***	0.69***	0.60***
	(0.10)	(0.026)	(0.091)	(0.031)	(0.105)	(0.026)	(0.093)	(0.032)
$LTO_i \times POST_t \times$ Sector Dummy	-6.026*	-2.590***	-3.846	0.401	-1.428**	-0.191	-0.434	-0.754***
	(2.878)	(0.704)	(2.553)	(0.866)	(0.442)	(0.224)	(0.392)	(0.133)
Observations	21003	20706	21003	20999	21003	20706	21003	20999
# of LTO	176	165	176	176	176	165	176	176
# of Non-LTO	3461	3422	3461	3459	3461	3422	3461	3459
# of LTO in NACE Cat=9	1	1	1	1	15	4	15	15
# of Non-LTO in NACE Cat=9	12	11	12	11	37	32	37	37
Total Effect (million GEL)	-4.63	-2.41	0.67	0.56	0.67	3.19	12.41	-2.79
Total Effect (Percent of GDP)	-0.01	0.00	0.00	0.00	0.00	0.01	0.02	-0.01
Pre-treatment Unweighted Diff.	3.71	0.52	0.89	2.34	3.71	0.52	0.89	2.34
P-Value Unweighted Diff.	0.00	0.00	0.11	0.00	0.00	0.00	0.11	0.00
Pre-treatment Weighted Diff.	0.30	0.03	-0.51	0.78	0.30	0.03	-0.51	0.78
P-Value Weighted Diff.	0.72	0.34	0.16	0.29	0.72	0.34	0.16	0.29
Std. Unweighted Difference	0.50	0.27	0.14	0.99	0.50	0.27	0.14	0.99
Std. Weighted Difference	0.05	0.05	-0.15	0.20	0.05	0.05	-0.15	0.20
Panel C: Water Supply; Sewerage, Waste Manag.					**Panel D: Arts, Entertainment and Recreation**			
$LTO_i \times POST_t$	1.438***	0.220***	0.639***	0.592***	1.516***	0.185***	0.745***	0.598***
	(0.108)	(0.027)	(0.096)	(0.032)	(0.110)	(0.028)	(0.097)	(0.033)
$LTO_i \times POST_t \times$ Sector Dummy	-0.452	-0.396***	0.247	-0.316***	-0.933**	-0.075	-0.577*	-0.293***
	(0.319)	(0.078)	(0.283)	(0.096)	(0.290)	(0.071)	(0.258)	(0.087)
Observations	21003	20706	21003	20999	21003	20706	21003	20999
# of LTO	176	165	176	176	176	165	176	176
# of Non-LTO	3461	3422	3461	3459	3461	3422	3461	3459
# of LTO in NACE Cat=16	12	12	12	12	32	32	32	32
# of Non-LTO in NACE Cat=16	657	656	657	657	463	460	463	463
Total Effect (million GEL)	17.25	-2.12	7.67	3.32	19.83	6.31	5.69	10.36
Total Effect (Percent of GDP)	0.03	0.00	0.01	0.01	0.03	0.01	0.01	0.02
Pre-treatment Unweighted Diff.	3.71	0.52	0.89	2.34	3.71	0.52	0.89	2.34
P-Value Unweighted Diff.	0.00	0.00	0.11	0.00	0.00	0.00	0.11	0.00
Pre-treatment Weighted Diff.	0.30	0.03	-0.51	0.78	0.30	0.03	-0.51	0.78
P-Value Weighted Diff.	0.72	0.34	0.16	0.29	0.72	0.34	0.16	0.29
Std. Unweighted Difference	0.50	0.27	0.14	0.99	0.50	0.27	0.14	0.99
Std. Weighted Difference	0.05	0.05	-0.15	0.20	0.05	0.05	-0.15	0.20
Panel E: Electricity, Gas, Steam and Air Cond					**Panel F: Administrative and Support Service**			
$LTO_i \times POST_t$	1.419***	0.183***	0.712***	0.535***	1.457***	0.190***	0.703***	0.575***
	(0.104)	(0.026)	(0.092)	(0.031)	(0.105)	(0.026)	(0.094)	(0.032)
$LTO_i \times POST_t \times$ Sector Dummy	-0.895	-0.225	-1.348**	0.666***	-1.079**	-0.226*	-0.592	-0.273*
	(0.549)	(0.135)	(0.487)	(0.165)	(0.406)	(0.099)	(0.360)	(0.122)
Observations	21003	20706	21003	20999	21003	20706	21003	20999
# of LTO	176	165	176	176	176	165	176	176
# of Non-LTO	3461	3422	3461	3459	3461	3422	3461	3459
# of LTO in NACE Cat=6	4	4	4	4	5	5	5	5
# of Non-LTO in NACE Cat=6	26	26	26	26	35	35	35	35
Total Effect (million GEL)	5.68	-0.17	-2.54	4.81	1.89	-0.18	3.52	1.51
Total Effect (Percent of GDP)	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00
Pre-treatment Unweighted Diff.	3.71	0.52	0.89	2.34	3.71	0.52	0.89	2.34
P-Value Unweighted Diff.	0.00	0.00	0.11	0.00	0.00	0.00	0.11	0.00
Pre-treatment Weighted Diff.	0.30	0.03	-0.51	0.78	0.30	0.03	-0.51	0.78
P-Value Weighted Diff.	0.72	0.34	0.16	0.29	0.72	0.34	0.16	0.29
Std. Unweighted Difference	0.50	0.27	0.14	0.99	0.50	0.27	0.14	0.99
Std. Weighted Difference	0.05	0.05	-0.15	0.20	0.05	0.05	-0.15	0.20

Notes: This table presents estimates of the LTO's first cohort assignment on tax assessments (in million GEL) conditional on economic sectors. Higher tax assessments. Columns 1 to 4 show the effect on final assessments. DPT stands for distributed profit tax assessments, VAT stands for value-added tax assessments, WHT stands for withholding tax, and TOT stands for total tax assessments. The bottom statistics present the number of observations, LTO taxpayers, and non-LTO taxpayers. The total effect in million GEL is obtained by multiplying the average effect per taxpayer per year (given by $LTO_i \times POST_t$ + $LTO_i \times POST_t \times \text{Sector Dummy}$) by the number of LTO taxpayers in the initial database, including those excluded from the analysis for falling outside the common support. The total effect as a percentage of GDP is calculated by dividing the total effect in million GEL by the average real GDP in 2021 prices over 2022–24. Test statistics show the mean differences and associated p-values for each outcome variable when comparing LTO and non-LTO taxpayers in the pre-LTO assignment period (2017–21), alongside the standardized mean differences. Weights are constructed by applying the CBPS to estimate the probability of LTO assignment based on VAT turnover, exports, net property value, and number of employees based on the year 2021 only. Standard errors are clustered at the taxpayer level. * p < 0.10, ** p < 0.05, *** p < 0.010.

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