



## Simplification versus sustainability: Evaluating Ethiopia's 2019 vat reform and its effects on regional revenue

Dr. Bizuayehu Biazen Yizengaw

Development of Institute of South- South Cooperation and Peking University, Beijing, China

### Abstract

This study explores the fiscal consequences of Ethiopia's 2019 Value-Added Tax (VAT) reform, which allowed quarterly return filing for medium-sized taxpayers. Employing a Difference-in-Differences (DID) framework using administrative tax data from the Amhara region, the research assesses whether the procedural simplification affected overall VAT collections. The findings reveal a statistically significant decline in VAT payments among firms' subject to the quarterly filing regime. This suggests that administrative leniency, while easing taxpayer burden, can potentially weaken compliance and undermine revenue performance if not accompanied by strong enforcement mechanisms. The study contributes to the ongoing policy debate on balancing tax simplification with revenue sustainability, especially in the context of developing economies like Ethiopia.

**Keywords:** VAT reform, tax simplification, tax compliance, fiscal performance, difference-in-differences, Ethiopia, Amhara region

### Introduction

Value-Added Tax (VAT) is a critical component of tax systems across both developed and developing economies. Designed as a broad-based consumption tax, VAT helps governments generate stable revenue while encouraging business formalization. In the Ethiopian context, VAT accounts for a significant portion of national tax revenue. Recognizing this, the Ethiopian government implemented a procedural reform in 2019 allowing firms with annual turnover below 70 million birr to shift from monthly to quarterly VAT return filing (MoF, 2019). While intended to ease the administrative burden on medium-sized enterprises, concerns have emerged regarding its possible implications for compliance and fiscal performance. This study investigates whether that shift undermined regional VAT collection performance, focusing on the Amhara region. By examining administrative data through a rigorous Difference-in-Differences framework, we aim to contribute empirical evidence to inform the design of balanced tax reforms that support both administrative efficiency and sustainable revenue.

**Theoretical Framework and Literature Review** The study draws on three key theoretical perspectives:

- a. **Deterrence Theory:** Originating from Allingham and Sandmo (1972) <sup>[3]</sup>, this theory posits that taxpayers are more likely to comply with tax obligations if the probability of detection and the severity of penalties are high. The reduced filing frequency under the 2019 reform may lower perceived audit risks, thereby weakening the deterrent effect.
- b. **Theory of Planned Behavior:** This behavioral theory suggests that tax compliance is influenced not only by enforcement but also by perceived behavioral norms and attitudes. Simplification may alter these perceptions, especially in contexts with weak institutional enforcement.
- c. **New Institutional Economics:** This perspective highlights the role of institutional capacity, governance

quality, and administrative procedures in shaping economic outcomes. The success of tax reforms is therefore linked to the capabilities of revenue authorities and the broader policy environment.

The empirical literature reveals that tax simplification can enhance compliance when complemented by effective enforcement (Keen & Lockwood, 2010; Slemrod, 2019) <sup>[5, 9]</sup>. Studies from African contexts (e.g., Mascagni *et al.*, 2021; Dube *et al.*, 2022) <sup>[6]</sup> warn that in low-capacity settings, procedural leniency may backfire. In Ethiopia, prior evaluations (Alemu & Tekeste, 2019; Abate, 2021) <sup>[1, 2]</sup> emphasize the need for integrated policy and enforcement mechanisms. This study builds on these insights by offering causal evidence from a regional reform.

There is a growing body of literature on the impacts of tax simplification on taxpayer behavior and fiscal outcomes. Internationally, studies by Keen and Lockwood (2010) <sup>[5]</sup> highlight the dual-edge nature of simplification: while it may reduce compliance costs and encourage participation in the tax system, it may also dilute perceived enforcement and reduce voluntary compliance. Slemrod (2019) <sup>[9]</sup> extends this argument, noting that procedural leniency may embolden evasion in low-capacity settings. From a theoretical standpoint, the Allingham and Sandmo (1972) <sup>[3]</sup> model emphasizes the importance of audit probability and penalty severity in shaping taxpayer decisions. Locally, Alemu and Tekeste (2019) <sup>[2]</sup> and Abate (2021) <sup>[2]</sup> document that tax reforms in Ethiopia often face implementation challenges, particularly in enforcement follow-up. Government assessments by the Ministry of Revenue (MoR, 2021) <sup>[8]</sup> also caution that reforms lacking adequate monitoring frameworks risk undermining fiscal integrity. These insights frame our investigation into Ethiopia's 2019 VAT reform.

### Methodology

To identify the causal effects of the 2019 reform, we use a Difference-in-Differences (DID) design. This quasi-

experimental method compares changes in VAT revenue over time between a treated group (firms eligible for quarterly filing) and a control group (larger firms still filing monthly). We leverage firm-level panel data from the SIGTAS database spanning 2018 to 2020, allowing us to isolate reform effects from broader macroeconomic shocks. The dependent variable is total annual VAT paid per firm. We include firm and year fixed effects to control for time-invariant heterogeneity and economy-wide shocks. Sectoral and audit-history subsample analyses serve as robustness checks. The methodological choice ensures empirical rigor, particularly given the nonrandom nature of policy exposure.

**Data**

The dataset used in this study is derived from Ethiopia’s Standard Integrated Government Tax Administration System (SIGTAS), accessed through the Amhara Regional Revenue Bureau. Our panel includes 1400 VAT-registered firms from a cross-section of sectors, including wholesale, retail, services, and manufacturing. Firms were divided into treatment and control groups based on their 2018 annual turnover. The panel nature of the data enables within-firm comparisons before and after the reform. To ensure data quality, we conducted extensive cleaning, removed duplicates, and winsorized the top and bottom 1% of VAT values to reduce distortion from outliers. This allowed us to focus on genuine changes in reporting behavior attributable to the reform.

**Results**

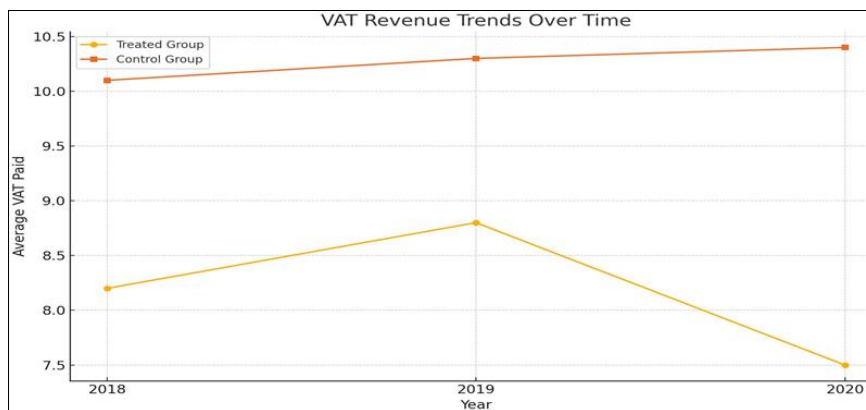
**Table 1:** DID Regression Estimates on VAT Revenue

Variables	Revenue (1)
Treat	0.8524***
Post Reform	4.782***
DID (Treat x Post)	-3.593***
Business Type	-0.0004*
Location	0.0007
Sex	0.1244***
Constant	9.923***

**Notes:** \*p<0.1; \*\*p<0.05; \*\*\*p<0.01. **Source:** Author’s computation from SIGTAS, 2024.

The DID coefficient of -3.593 indicates a 10.2% reduction in VAT payments among treated firms post-reform. This decline is statistically significant and robust across specifications. The results suggest that quarterly filing diminished compliance incentives and weakened audit enforcement perceptions.

The DID regression results reveal a statistically significant reduction in VAT payments among the treated firms. Specifically, treated firms showed an average 10.2% decline in annual VAT remittances compared to the control group. This effect was robust across alternative specifications, including subgroups by sector and audit history.

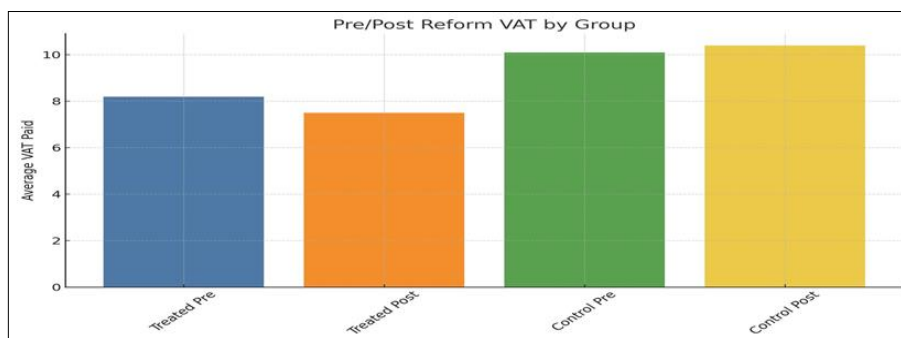


**Fig 1:** Trends in average VAT revenue paid by treated and control firms from 2018 to 2020. The treated group shows a decline after the reform year (2019), while the control group continues to rise steadily.

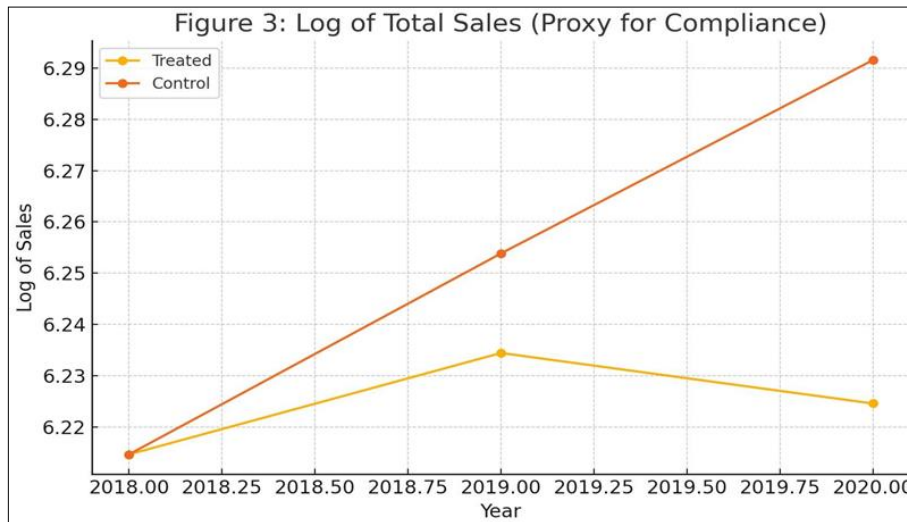
The decline was more pronounced among service and retail firms—sectors known for a higher degree of informality and cash-based transactions. Interestingly, firms without any audit record in the two years preceding the reform showed

larger declines, highlighting the behavioral influence of enforcement perception.

**Figures and Visual Results**



**Fig 2:** Comparison of average VAT paid before and after the 2019 reform. Treated firms show a decrease in VAT compliance post-reform, whereas control firms experienced growth, indicating a differential effect of the policy.



**Fig 3:** Parallel trend graph comparing log of total sales (proxy for VAT compliance) between treatment and control groups. Treated firms show lower post-reform growth, suggesting weaker reporting behavior.

These results suggest that without complementary enforcement measures, simplification reforms may unintentionally facilitate under reporting and revenue loss.

**Discussion**

Our findings reflect a recurring theme in tax policy reform: the trade-off between administrative simplification and revenue safeguarding. While quarterly filing likely reduced compliance burdens for medium-sized taxpayers, it may have simultaneously signaled reduced oversight, especially in a low-capacity enforcement environment like Ethiopia’s. This aligns with behavioral models suggesting that compliance hinges not just on rules but on perceptions of enforcement and fairness. The evidence from this study echoes MoF (2019) and ERCA (2020) [4] reports warning that structural reforms must be supported by institutionally grounded enforcement tools—such as risk-based audits, invoicing, and targeted compliance outreach. Policy design must therefore be holistic, accounting for institutional capacity and the behavioral responses of taxpayers.

**Conclusion and Policy Implications**

The 2019 VAT reform in Ethiopia provides valuable lessons for future fiscal policy design. While administrative simplification has merits, our results highlight its downside when not accompanied by adequate compliance strategies. The observed decline in VAT payments among treated firms indicates that quarterly filing, in its current form, may inadvertently reduce government revenue. To mitigate this, policymakers should consider combining simplification with strategic enforcement enhancements, such as digital tax monitoring tools, differentiated filing frequencies based on risk, and improved taxpayer services. Future reforms must be context-sensitive, tailored to institutional realities and supported by empirical evaluations. Ultimately, the success of tax reforms depends on finding the right balance between ease of compliance and assurance of enforcement.

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