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Small Nets for Big Fish? Tax Enforcement on the Richest – Evidence from Uganda

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Summary

Appropriately taxing the richest is a priority for every government, even more so in Africa, where higher revenue mobilisation is needed to fund growth. In Uganda, the revenue authority launched a specific unit to monitor the tax affairs of the richest individuals. Thanks to a close collaboration with the Uganda Revenue Authority (URA), we evaluate the impact of such policy on a range of tax filing and payment outcomes of targeted taxpayers, as gathered from a wealth of administrative data. We show that the policy only has been partially successful. While it increased the probability of filing, especially by politically relevant taxpayers, it produced a seemingly small response in which treated taxpayers would declare less on different margins, with the end result of not declaring more tax liabilities. On the tax payment side, only a small yet significant impact on tax collected is measured. In parallel, we show a strong compensating response across tax heads. Importantly, we also measure the spillover effect on companies associated with the richest taxpayers, again documenting complex compensating reactions. We inform future policymaking decisions, suggesting a higher simultaneous focus on different tax heads and a more holistic approach to monitoring both individual and corporate tax accounts.

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Contents

Acronyms

ATO	Australian Taxation Office
CIT	Corporate Income Tax
ERSA	Economic Research Southern Africa
FY	Financial Year
HIC	High-Income Country
HMRC	Her Majesty's Revenue and Customs
HNWI	High-Net-Worth Individual
ICTD	International Centre for Tax and Development
IDS	Institute of Development Studies
IMF	International Monetary Fund
LIC	Low-Income Country
LTO	Large Tax Office
MIC	Middle-Income Country
NBER	National Bureau of Economic Research
OECD	Organisation for Economic Co-operation and Development
PAYE	Pay As You Earn
PIT	Personal Income Tax
PSM	Propensity Score Matching
PSO	Public Sector Office
SDG	Sustainable Development Goal
SSA	Sub-Saharan Africa
SSRN	Social Science Research Network
TIN	Tax Identification Number
URA	Uganda Revenue Authority
VAT	Valued Added Tax
VIP	Very Influential Person

Introduction

Taxes remitted by a country's wealthiest individuals are important for a number of reasons. Firstly, simply due to their large size, their contributions are disproportionally more important to boosting national revenue for development.[1] In the United States, for example, the top 1 per cent of taxpayers contribute an estimated 37 per cent of all income tax revenue, despite avoidance and evasion via international tax havens (Tanzi 2018). As Wildasin (2006) puts it, high-income taxpayers may be literally 'worth their weight in gold' and taxing them would, at least partially, satisfy the need for low-income countries (LICs) to collect the tax revenue they need for development. There is strong evidence that there are large amounts of financial wealth held overseas by the richest individuals in LICs, which, in turn, is very much a lower bond estimate of total wealth, including property (Zucman 2017). Secondly, social inequality and unfairness perceptions are likely to rise, as well as the broader deterioration of the social fabric and delegitimisation of the tax code when adequate contributions from the richest taxpayers are missing. Therefore, taxpayers are less likely to trust the tax system if they do not feel that everyone pays their 'fair share' (Dom, Custers, Stephen and Prichard 2022). Lastly, thanks to the role model the richest usually represent in a society, their tax evasion is likely to be replicated, and a dangerous culture of illegality destined to be promoted.

While most of the debate focuses on high-income countries (HICs) (see below), the African continent is no exception. It is believed that the wealthy in Africa, including in our country under study, Uganda, either exploit quite sophisticated tax avoidance schemes or more blatantly hide their wealth from the authority, contributing very little to the public purse. Lack of stable revenue from the richest severely impairs domestic revenue mobilisation in a continent that is considered to be in urgent need of resources, especially after the outbreak of the pandemic and the corresponding fall in tax revenues (Mascagni and Lees 2021). The International Monetary Fund (Gaspar, Amaglobeli, Garcia-Escribano, Prady and Soto 2019) estimates that, on average, LICs will need additional resources amounting to 15.4 per cent of their GDP to finance the Sustainable Development Goals (SDGs) in education, health, roads, electricity and water by 2030. Notably, LICs in sub-Saharan Africa (SSA) would require even higher resources, as high as an extra 19 per cent, totalling 34.4 per cent, of their GDP. Against these targets, the tax-to-GDP ratio in Africa has hovered around 15 per cent, as opposed to 25–30 per cent in HICs, for the last few decades (Akitoby, Honda, Miyamoto, Primus and Sy 2019). In addition, total Personal Income Tax (PIT) collection in LICs averages about 2 per cent of GDP, compared to closer to 10 per cent in rich countries. Furthermore, the composition of PIT revenue is dramatically skewed towards Pay As You Earn (PAYE), while virtually nothing is extracted from capital gains, rental income or professionals (United Nations University 2021). Property tax collection, arguably the most important source of wealth taxation across countries, is also largely underperforming in Africa.[2]

Against this background, it is still an open question whether enhanced tax administration, which would make evasion and avoidance by the wealthy more difficult, may directly impact revenue mobilisation. In this paper, we study this question in the context of an important

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[1] Some estimates of the extra revenue generated from focusing on the High-Net-Worth Individual (HNWI) sector come from high and middle income countries. According to its annual report, the Australian Taxation Office's (ATO) HNWI audit programme yielded AU\$680 million in liabilities and collected over AU\$440 million in cash from 800 compliance activities in 2014/15. In the United Kingdom, the High-Net-Worth Unit of Her Majesty's Revenue and Customs (HMRC), which deals with taxpayers whose wealth is over £20 million, yielded £937 million in additional revenue between 2009, when it was established, and 2013/14. Indonesia reports assessments totaling Rp107 billion arising from compliance actions by its High Wealth Unit in 2013.

[2] Collection of property taxes is, relative to potential, likely weaker than any other tax type – in most LICs it seems to be less than 0.2 per cent of GDP, compared to 2–3 per cent in some OECD countries – and especially important in LICs where significant wealth is held in property and in those whose markets have boomed (Goodfellow 2017).

domestic tax reform in Uganda: the creation of a specialised tax office in URA, which is specifically targeted at improving compliance by the wealthy individuals in the country, who remitted little or no tax before this intervention.[3] As explained in more detail in Section 1, the wealthy in Uganda consist of HNWIs, i.e. the wealthiest in terms of capital, equity and property[4], and very influential persons (VIPs), i.e. prestigious and popular figures in the political and business environment, often important backers of political groups with access to the high levels of government. In sum, the intervention consisted of an exogenous increase in the attention and scrutiny the wealthy taxpayers received from the URA, especially in terms of specialised client relationships and taxpayer assistance, with a less relevant increase in enforcement. The PIT progressive rate structure, as well as other taxes on the wealthy,[5] remained constant.

Building on two previous qualitative studies on this enforcement strategy (see Section 1), we implement a quantitative data analysis of tax returns and payments in order to measure the causal impacts of increased enforcement levels on the wealthy's tax compliance. Thanks to close research collaboration with the URA and access to a wealth of administrative data on different types of tax records over the period 2012–2019, such as income, rental, value added tax (VAT), PAYE custom taxes, we are able to observe the richest's response to the URA strategy. The identification strategy relies on a difference-in-difference design which exploits the timing of the launch of the office (September 2015), the panel structure of the data and the fact that the additional potential wealthy were not targeted by the programme – these individuals were identified by the URA following the same criteria used to categorise the treated wealthy but were not added to the main list of targeted individuals in the unit. We show that parallel trend assumptions seem to hold and pre-trends are similar between treated and untreated taxpayers.

We pay particular attention to the difference in response from the two groups (HNWIs and VIPs) who, despite being exposed to the same interventions, are likely to react differently due to their structurally different profiles. Importantly, we also measure impacts on the reporting behaviour of the companies owned by the treated wealthy; crucially, the intervention did not extend to them and instead left loopholes for tax avoidance behaviour. Considering the behaviour of companies as well is vital since the richest's financial affairs are tightly interconnected with those of their own companies and also because tax avoidance or evasion schemes can take place across the individual and their company. Furthermore, we complement the quantitative analysis with a more qualitative approach by running a series of in-depth interviews with senior tax officials who have been directly involved in the intervention.

Our results show a mixed picture of the success of this strategy. First of all, in terms of impacts on the individual wealthy, the programme effectively increases the filing probability (the extensive margin of compliance) for VIPs only. The programme causes a 37 per cent increase in the probability of such taxpayers filing a return. VIPs, by their very nature (most of them are not business people), are much less likely to know their tax obligations and seem to benefit from the intervention. Likewise, they are thought to be responding along the most

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[3] The creation of a specialised tax unit is a solution internationally recommended for tax authorities to ensure tax compliance by the wealthiest (OECD 2009). At the time of writing, these units are present in at least 62 countries (Lemgruber, Masters and Cleary 2015; Almunia and Lopez-Rodriguez 2018).

[4] According to Mc Laughlin and Buchanan (2017): 'There is no standard definition of HWI, but it is generally understood to mean individuals who have accumulated net worth to the level that places them at the very top of the wealth scale in a country, or indeed globally. Net worth or wealth is defined as the value of financial assets plus real assets (land and buildings), owned by individuals and their immediate families, less their debts. The definition of wealth includes personal wealth and wealth held in trusts, and in legal entities effectively controlled by the individuals and their families'. HNWIs are typically defined as those with wealth exceeding US$1 million, excluding a person's main residence (OECD 2009). HNWIs include both high-wealth and high-income individuals.

[5] Generally, taxes on HNWIs can target diverse bases (Prichard, Dom and Custers 2022): stocks of wealth (such as real and other property); flows (income, savings and consumption); and hybrids (capital gains and asset transfers).

visible margin (filing a return) out of fear of public disapproval and shaming. This increase in visibility through filing takes place in a context where only a third of the untreated wealthy submits their returns. However, at the intensive margin, treated taxpayers respond with an aggressive 'appearing small' strategy through which they substantially reduce their income, expenses and final tax liability within income tax, VAT and land transactions. Especially for PIT, the tax declared falls by 27 per cent, mostly due to HNWIs' backfiring response.

Secondly, the programme produces quite disconnected impacts on payments. Total domestic tax payments slightly increase (for HNWIs only [+2.5 per cent]), while many compensating responses are observed; HNWIs reduce their income tax payment while increasing payments on other taxes in a non-significant manner, and VIPs pay more income tax but cut down on final withholding taxes. Customs payments remain unaltered. Such payment responses, coupled with the 'appearing small' attitude towards filing, seem to confirm previous anecdotal evidence that, since the URA started enforcing the law on HNWIs, these individuals now appear to be exploring tax planning schemes as opposed to engaging in outright evasion (Saka and Waiswa 2019).

Finally, the programme causes interesting spillover effects on companies owned by treated individuals, which, however, were not targeted by the unit. On the one hand, treated companies are less likely to file a corporate income tax (CIT) return. On the other, they are less likely to zero file, even if they do not significantly report more income and tax liability. Again, payment patterns do not follow the same trend and remain unaffected overall, even if considerable heterogeneity emerges when considering different taxes. For instance, VIPs' companies pay more CIT, mirroring the positive impact on VIPs' individual income tax (PIT) payment. Likewise, while rental income tax payments fall at the individual level, they increase at the company level. We are aware that such transmission mechanisms from individual to corporate tax accounts are somewhat complex and leave a more in-depth exploration of them to future research.

With this study, we aim to significantly contribute to the literature on public finance and development. Looking at a first specific strand of this literature, we add to the existing knowledge on how to tax the wealthy, which is a surprisingly limited branch of the literature, with most studies focusing on the compliance of the average citizen. This literature is reviewed in detail in Gangl and Torgler (2020). Since Piketty (2014), top income earners' taxation has been put at the top of national and global political agendas. Additionally, a growing number of studies have explored the repercussions of top-end tax avoidance and evasion on national inequalities and tax burdens. However, these studies mostly come from Europe and the USA, both those considering tax evasion strategies and capital flights to tax havens (Roine and Waldenström 2009, 2015; Larudee 2016; Saez and Zucman 2016; Norway, Sweden and Denmark in Alstadsæter, Johannesen and Zucman 2017; Spain in Agrawal, Foremny and Martínez-Toledano 2020; Agrawal and Foremny 2019; and Martinez-Toledano 2017, among others) and those examining tax progressivity and pre-tax income distribution (see, for example, Feenberg and Poterba 1993; Feldstein 1995, 1999; Slemrod 1996; Slemrod and Bakija 2000; Bach, Corneo and Steiner 2013; Förster, Llena-Nozal and Nafilyan 2014; Piketty, Saez and Stantcheva 2014; Duncan and Sabirianova Peter 2016; Frey and Schaltegger 2016; Saez 2017).

Only recently has evidence from developing countries been produced. Londoño-Vélez and Ávila-Maheca (2020) consider Colombia, while Orthofer (2015) studies income inequality in South Africa. More specifically, very little is known about the success of specialised tax units and the corresponding increase in assistance/monitoring in LICs or even in higher-income ones.[6] In the context of Indonesia (a middle-income country [MIC]), Chatib Basri, Felix, Hanna and Olken (2021) measure the impacts of a new unit, which, however, targeted medium-sized corporate taxpayers, not the wealthiest individuals. The unit more than doubled tax collection from these firms in the following six years. In Africa, only descriptive evidence has been produced, namely in Uganda (see Section 1), followed by a similar exploratory study in Rwanda (Kangave, Byrne and Karangwa 2020). However, quantitative evidence from low-income countries is largely missing. We contribute to these studies by providing a specific perspective on the context of low tax capacity and Uganda. Moreover, to the best of our knowledge, this is the first study to evaluate the causal impact of enforcement strategies on the richest in Africa, if not in any other LIC.

As a second contribution, we tangentially add to the growing literature on tax enforcement in low state capacity contexts. While the impact of audits has been deeply explored in more advanced economies (Kleven, Knudsen, Kreiner, Pedersen and Saez 2011, Løyland, Raaum, Torsvik and Øvrum 2019; Beer, Kasper, Kirchler and Erard 2019; Advani, Elming and Shaw 2021; Bjørneby, Alstadsæter and Telle 2018), enforcement strategies have only recently been studied in LICs. In the case of Rwanda, for instance, Kotsogiannis, Salvadori, Karangwa and Mukamana (2021) find that audits lead to lasting effects and increases in reporting by taxpayers. In South Africa, Lediga, Riedel and Strohmaier (2020), instead, show that audits may lead to spillover effects among the audited firms' business partners if they, too, perceive that detection risks have increased. In Pakistan, randomly auditing firms is largely ineffective and does not deter future cheating, as audits seem to be suboptimally deployed to uncover evasion rather than as a deterrent (Best, Shah and Waseem 2021). The policy under study, despite being soft in nature, connects with this growing evidence.

Our study contributes to policy as well by participating in the global debate around the inequality of tax systems, especially when it comes to personal income taxation, in less developed regions of the world. As the World Inequality Report (Alvaredo, Chancel, Piketty, Saez and Zucman 2018) shows, in 2016, the share of total national income accounted for by just that nation's top 10 per cent of earners was 54 per cent on average among SSA countries. The level of inequality in SSA is higher than in Europe (37 per cent), China (41 per cent), Russia (46 per cent) and US-Canada (47 per cent) and only lower than in the Middle East (61 per cent). Further to this, income inequality has remained relatively stable in SSA since 1990. A growing body of empirical evidence shows that taxation in many African countries is inequitable in various respects. It is widely documented that individuals in SSA make various tax-like payments and informal contributions, which extract more money from low-income households than they do from high-income households (Jibao, Prichard and van den Boogaard 2017; van den Boogaard 2018; Olken and Singhal 2011). Furthermore, the focus on HNWIs can help tax systems in SSA to rely more on a progressive tax like PIT, which is largely underperforming in the region at the moment. Moore, Prichard and Fjeldstad (2018), for example, estimate that less than 5 per cent of the African population pays PIT, compared to about 50 per cent in high-income countries. Even more alarmingly, individuals in formal employment, whose PAYE taxes are obtained at source from their employers, contribute the largest portion of PIT revenues. In contrast, much more revenue could be extracted from progressive taxation on individuals' business income and wealth.

More specifically for Uganda, this study directly assesses a policy-relevant anti-tax evasion

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[6] An important exception is Almunia and Lopez-Rodriguez's (2018) study of Spain. Exploiting the fact that large firms in Spain are monitored by a national Large Tax Office (LTO), they show that firms bunch beneath the threshold of inclusion into the LTO, and that those above the threshold report a 20 per cent higher value-added tax base than those below.

strategy implemented by the authority and is able to provide important policy recommendations. Firstly, the success of such an initiative heavily relies on the deployment of adequate staffing and technical resources to capture the often-complex tax avoidance schemes of the richest. We document that the unit is largely understaffed and could benefit from more resources. Secondly, we suggest the URA embraces a more holistic approach to monitoring the tax compliance of the richest, considering both the individual and corporate tax accounts more coherently. Lastly, we provide some recommendations on the still partially addressed data needs, as well as on the broader political ecosystem in which the authority exists and the challenges in inter-institutional cooperation and data sharing.

The paper is structured as follows. Section 1 describes the Ugandan context and the HNWI audit strategy under study. Section 2 delineates the research methodology. Results are provided in Section 2, while additional evidence on the underlying mechanisms gathered from in-depth interviews with tax officials is discussed throughout the paper.

1 Tax enforcement in Uganda

1.1 Tax system

Uganda's tax system is composed of direct taxes like Income Tax and indirect taxes like Excise Duty and VAT. It also comprises a series of non-tax revenues like stamp duty, such as on the transfer of land ownership. The Income Tax Act (Uganda, Ministry of Finance, Planning and Economic Development 1997) imposes a tax on every person[7] earning rental income (Section 5 of the Act), business income (Section 18), employment income (Section 19) and property income (Section 20). Individuals, the wealthy included, are therefore liable to pay PIT, rental income tax and PAYE, VAT, as well as other applicable non-tax revenues, which are all tax types we observe in our study. In addition, a CIT is imposed on incorporated businesses' profits. Moreover, despite such companies being separate legal entities, it adds to the range of taxes the wealthy have to remit in those cases in which they have a stake in the business.

Due to the difficulty in enforcing income tax compliance in Uganda, especially among the wealthy, the URA primarily relies on a withholding tax system to collect most of the income taxes from individuals and corporations alike. For instance, employers are required to withhold a portion of employees' salaries and remit it to the URA as PAYE tax. The URA also designated some taxpayers as withholding agents on a range of transactions, including management and professional fees, general supplies, winnings from gambling and lotteries.[8] Withholding taxes contribute roughly 37 per cent of total domestic tax collection and 23 per cent of overall URA revenue collection (Stewart-Wilson and Waiswa 2021). When individuals (employees and suppliers of goods and services) file their income taxes for the year of income, they can claim a credit for all the withholding taxes paid throughout the year and receive a refund if they have overpaid.

1.2 Tax enforcement on individual taxpayers

Despite these tax administration efforts, individual taxpayers' compliance is generally low. Non-compliance is widespread among the general population of income taxpayers (Kangave, Waiswa and Sebaggala 2021), as well as among the wealthy (Kangave, Nakato, Waiswa, Nalukwago and Lumala Zzimbe 2018). Over 80 per cent of individuals required to file tax returns, such as those with business, rental and property income, are perpetual non-filers. Similarly, very few individuals (excluding employees) actually pay taxes (Kangave et al. 2021). As for the wealthy, defined in more detail below, tax compliance has been historically poor. For the financial year (FY) 2013/14, for example, only 5 per cent of directors of the top taxpaying companies were paying income taxes, with some paying as little as US$5. Similarly, a sample of the top 60 lawyers in the country revealed that less than a third were remitting PIT between FY 2011/12 and FY 2013/14 (Kangave et al. 2018). Part of the explanation for the low compliance of individuals is that URA pays little attention to their taxation. Most of the URA's enforcement measures have concentrated on companies and their accounts without considering the close interconnections with PIT accounts (Kangave, Nakato, Waiswa and Lumala Zzimbe 2016).

To improve compliance of the country's wealthy individuals, the URA set up a specialised unit in the LTO of the Domestic Taxes Department in September 2015. The unit managed

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[7] A person includes an individual, partnership, trust, company, retirement fund, government, political subdivision of government and listed institution.

[8] Purchasers of these goods and services are designated as withholding agents with the legal responsibility to remit a portion of the total transaction value to the URA.

157 individuals that mostly comprised owners of large companies under the LTO and individuals who were publicly known to be rich: the so-called HNWIs.[9] In parallel, the URA also set up a specialised office to manage tax affairs of the country's VIPs, including high ranking government officials, such as the president, the vice president, cabinet ministers, speaker and deputy speaker of parliament, heads of political parties, heads of government institutions and members of parliament that lead committees, as well as influential non-governmental officials, such as kingdom heads, heads of professional and business associations, famous religious leaders and public figures. The VIP unit was established under the Public Sector Office (PSO) in the Domestic Taxes Department, which manages tax affairs of government ministries, departments and agencies. In terms of both offices, there were 393 individuals on the URA's priority list by the end of 2021 (157 HNWIs and 236 VIPs – see Section 2.1).

To improve the compliance of HNWIs and VIPs, the team in the unit mainly employs soft compliance improvement measures (client relationship management approaches) that include educating and advising them and, in the end, gaining their commitment to remit some taxes. Harsh enforcement actions, such as audits and harsh penalties for non-compliance, were and remain limited. As we learn from audit data, in 2012–2021, only 44 out of the 393 wealthy were officially audited, and, of these, 38 underwent an audit after the unit was launched. While this indicates a significant jump in enforcement from a baseline of very limited action, it is also true that only about 10 per cent of the targeted wealthy have been audited since the unit was launched. When compared to the other groups of taxpayers, such as the general population of small/medium/large taxpayers on the one side and the other potential HNWI/VIPs on the other, enforcement levels are higher for the targeted wealthy, as shown in Figure A2.1.[10] If, on the enforcement side, the URA has not been extremely aggressive, it is also true that the unit put in place a number of soft actions. These included taxpayer education, advisory services and directly supporting them with managing their other tax issues with the URA, such as helping them clear their imported goods and register their motor vehicles. For most VIPs, the unit supports them in filing their tax returns and generating payment registration slips (Interview with HNWI official).

In the early years of establishing the unit, there was strong support by the URA's senior management to engage and tax these individuals. In some cases, the URA's senior management participated in the initial meetings with people identified as 'rich'. They also participated in developing the criteria for categorising the rich. The support from the URA's top leaders URA, in part, explains the initial successes realised by the unit; as shown in Kangave et al. (2018), within the first year of its operation, the unit increased revenue collection by USh19 billion (US$5.5 million) in rental tax, PIT, VAT and stamp duty. In total, USh40.05 billion (US$11.44 million) had been collected as of June 2017. Kangave et al. (2018) also document that the proportion of wealthy individuals who filed income tax returns increased from 13 per cent to 78 per cent.

However, as emerged from both our in-depth interviews with tax officials and one of the author's direct exposure to the context, we acknowledge that senior management support, however, appears not to have been that strong, especially in regards to (a) resourcing the unit with a sufficient number of skilled staff and (b) increasing the number of HNWIs in the unit. At the unit's inception in 2015, there were five officials (four tax officers and a supervisor) managing the affairs of 117 HNWIs. Adding the VIPs, the number of individuals increased to almost four hundred, but the number of staff in the unit was only increased by

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[9] For details on the criteria used in categorising the rich, see Kangave et al. (2018).

[10] As a result of the launch of the unit, the relative incidence of audits on wealthy significantly increased. While they represented about 5 per cent of all audits in 2012–2015, their share jumped to about 20 per cent or above in the following years. At the same time, the share of audits on the general taxpayer population fell from about 85 per cent in 2012 to just 63 per cent in 2020, showing how URA redirected their enforcement efforts towards the wealthy.

one tax officer, totalling six staff members. In 2021, at the time of conducting the interviews, the unit was staffed by only four officials (one supervisor and three officers). Similarly, excluding the supervisor who has served in the unit since it was moved to the PSO, all the officers were new. Important insights emerge from the in-depth interviews informing this study. Firstly, the fact that former staff in the unit were eventually transferred to other tax offices, in a quick turnover quite common to other tax administrations, as well. Secondly, the criteria developed for identifying HNWIs (Kangave et al. 2018) have not been fully used. Even when the staff in the unit did use them to identify potential HNWIs and made recommendations to top leaders in the Domestic Taxes Department to transfer the identified individuals to the unit, the management is yet to approve the migration of taxpayers from their current tax offices to the HNWI/VIP unit. Furthermore, the last limitation we explore in this study, the intervention did not target companies owned by HWNI/VIPs, thus leaving them under a status quo of limited enforcement and with more room for tax avoidance.

There is, however, renewed interest in taxing HNWIs among URA's top leaders, including the new commissioner general and the new commissioner for domestic taxes. Our interviews indicate that the management has directed teams in the Research Division, Business Intelligence Division, Compliance Division, Planning Division and HNWI/VIP unit to work together to refine the criteria for defining rich taxpayers and have it automated in the URA systems. The proposal is to have the unit expanded in terms of the number of taxpayers and staff members.

2 Research design

2.1 Data sources and descriptive statistics

We recur to two main data sources: administrative data and in-depth interviews with tax officials. While the former provides a wealth of taxpayer-level information used to quantitatively capture the impact of the HNWI unit, the latter helps us collect qualitative information to better contextualise the findings.

Regarding administrative data, we have access to a range of detailed taxpayer records. Firstly, the taxpayer registry is used to identify the target sample of HNWIs and VIPs. They amount to 393 individuals in total: 157 HNWIs and 236 VIPs. This is the group of taxpayers who actually receive the intervention under study. On top of that, we also observed a group of 1,731 potential HNWIs whom the URA identified as candidates to be included in the treatment but who were never actually exposed to it, given budget and resource constraints, as well as the need to 'start small' and develop experience (see Section 1). Key features of such taxpayers are extracted from the registry, such as sector, location, gender, registration year and the different taxes for which these individuals registered.

Secondly, we have access to the universe of tax returns submitted over a seven-year period, from 2012/13 to 2018/19. The taxes covered are PIT, rental income tax, VAT, stamp duty on land transactions and custom taxes. The variety of taxes covered is crucial to understanding tax-avoidance schemes and spillover effects across tax types that may take place after the intervention.

Thirdly, we consider tax payments over an eight-year period, from 2012/2013 to 2019/2020.[11] Observing payment behaviour on top of filings is also important to gather a more complete understanding of the actual impacts of the unit. The availability of payment data represents an important contribution to the existing literature on tax and development, which mostly

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[11] For both tax returns and payments data, we exclude the tax period likely to be affected by the COVID pandemic, namely from FY 2020/2021 onwards. In this way, our impact estimates are unaffected by the dramatic shock of the pandemic.

builds on tax returns only (see Introduction). Yet, the actual payment of taxes is an essential aspect of tax compliance. This is particularly true in the context of Uganda (and in many similar low capacity contexts), where tax collectors often prioritise compliance with payments rather than with accurate reporting, given the need to meet tax collection targets and address budget constraints. As mentioned in Section 1, much of the enforcement capacity of the new URA office (and of the wider audit department in general) is geared towards extracting some payments from the wealthy. Importantly, we observe payments of all types of national taxes: PIT, rental tax, VAT and withholding taxes. For PIT, we also know the size of payments of the different components: final withholding taxes,[12] income tax on business and income tax advance for motor vehicles (see Section 1).

Fourthly, another key innovation of the study comes from data available on companies. Thanks to the URA data warehouse, we are able to link both the treated and potential wealthy to the companies they own. The combination of individual and corporate tax records in this way is particularly absent in the literature (Introduction). While we are aware of the difference between ownership, directorship and control (see Section 4), we focus on ownership given data availability; in this way, we seek to produce some initial evidence on the intimate connection, proxied by ownership, between individuals and companies. Within the treated group, we find a total of 847 companies. The 157 HNWIs appear to be directors of as many as 564 companies – an average of 3.6 companies per individual. A total of 283 companies are found to be owner by the 236 VIPs – just one company per VIP. The difference in company ownership is consistent with the fact that HNWIs are much more relevant as economic players and much richer, hence more likely to hold multiple companies when compared to VIPs, who enjoy a higher status due to their political roles. At the same time, we identify 1,903 control companies as connected to the 1,731 potential HWNIs. These companies will serve as a control group.

For all these companies, we observe both their filing and payment behaviour. The structure of these datasets is the same as those for individuals, both in terms of the span of financial years covered and the variety of taxes included. Considering data from companies is ultimately crucial for our study to show how the richest taxpayers disclose their income across their personal and corporate returns. In so doing, we shed new light on the role of tax-avoidance schemes and tax planning strategies as a response to increasing enforcement.

Lastly, along the lines of the preliminary exploratory work of Kangave et al. (2016; 2018), we ran a series of in-depth interviews with senior management officials at the URA. Throughout 2021, we interviewed the head of the HNWI unit and the senior officers working in the unit. Likewise, we ran interviews with the audit and risk departments, the research and planning and business intelligence units, the domestic tax management and the large taxpayer office, including the public sector office. Qualitative data gathered from the interviews are used to add a more nuanced interpretation of the quantitative findings produced with the administrative data.

Preliminary descriptive tables are presented in the appendices. Firstly, it is worth stressing that the treated group is dramatically different from the remaining taxpayer population. Table A1.1 shows that they are all based in Kampala, registered much earlier and are much more present in the real estate sector (on top of trade). However, the general population operates in trade, transport and agriculture. Strikingly, the treatment group is much more likely to be registered for import/export, stamp duty and VAT. Unsurprisingly, the treatment group is dramatically larger in sales, profits, tax due and assets when considering the tax year before the intervention. Similar differences are observed when considering treatment group companies and the broader population of companies (Table A1.4).

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[12] In the category of withholding taxes, we include the following withholdings: on bank interests, dividends, foreign transfers, management fees, supplies to government, gambling.

At the same time, some differences persist when comparing the treatment group with the potential HNWI category (see Table A1.2). The latter group is also present outside the capital city, registered a bit later and is a little more present in the transport sector. Differences in the types of taxes the two groups registered for remain, as well as in their sizes as businesses. The corresponding findings for companies are reported in Table A1.5. Interestingly, differences in size are partially reduced now when looking at companies. It is also puzzling to see that potential wealthy are more likely (31 per cent) to be connected to large/medium companies than treated ones (22 per cent).

As a last consideration, Table A1.3 shows how the two treated subgroups, HNWIs and VIPs, are structurally different from each other, along with what we already explained in Section 1. Being more market-oriented, HNWIs are more likely to be in trading and registered for PAYE and VAT. Instead, VIPs are more likely to be productive in agriculture and managing motor vehicles, lands and property. Expectedly, HNWIs are remarkably larger than VIPs regarding sales, tax due, assets and similar margins. Table A1.6 compares companies connected to HNWIs with those connected to VIPs. Linking to what was mentioned above when comparing treated and potentials, inexplicably, only a minority of both HNWIs and VIPs are connected to a large/medium company – and significantly more HNWIs (27 per cent) than VIPs (12 per cent). This finding is intriguing, as it may indicate that the richest taxpayers may be explicitly appearing small with the companies they own in order to reduce their tax liability. Finally, differences in size between companies are not significant, while they were when compared across treated individuals (Table A1.3).

2.2 Estimation strategy

In order to produce causal estimates of the implementation of the unit across time, we exploit the fact that the office was launched in September 2015 and affected all targeted HNWI-VIPs the same. We then recur to the following generalised difference-in-difference framework:

$$Y_{it} = \gamma_t POST_t + \gamma_i TREAT_i + \delta POST_t \times TREAT_i + \epsilon_{it}$$

In this equation, Y_{it} is the tax outcome of taxpayer i in time t, described in detail below. $Treat_i$ equals 1 if the taxpayer i is assigned to the HNWI-VIP office and 0 otherwise. $Post$ indicates whether the filing or payments of taxes took place after the launch of the office in September 2015. The interaction term $PostxTreat$ captures the diff-in-diff coefficient of interest, delta. This exercise measures the averaged effect across all post-reforms periods, from September 2015 to 2020. To increase statistical precision, we also add time-invariant controls. These are gender, location, registration year and sector. The error term e is clusterised at the taxpayer level.

As a suitable control group, we use those 1731 taxpayers classified as potential HNWIs but never actually treated by the authority, as described in the previous section. For them, the *Treat* indicator equals 0. Anecdotal evidence hints that such potential wealthy were identified at the time of the unit's creation but never targeted due to resource limits. The comparison between the two groups discussed below seems to confirm the fact that their filing behaviours pre-intervention were similar. We disregard all other taxpayers, largely medium and small. As discussed in the previous section, the broader population of taxpayers is inherently and substantially different from the treated group. In contrast, the potential HNWIs are more similar to the treated group. Potential HNWIs serve to show the counterfactual pattern of tax filing and payment to which the treated taxpayers are compared.

As we are also interested in spillover effects on companies, we replicate the analysis above by considering the sample of treated and control companies. The former are those incorporated entities owned by treated HNWI-VIPs, while the latter are those owned by potential wealthy.

The underlying assumption for the DiD approach is that the treatment and control groups would have similar trends over time in the absence of the treatment. The parallel trend assumption can be tested only indirectly, and we do so in two ways. Firstly, we visually show whether filing trends are similar for treated and control HNWIs. Figure 2.2.1 below reports the trend both for the filing (zero filing, tax payable) and payment (income and rental tax) margins. Secondly, we test the parallel trend assumption by estimating the treatment effect for the pre-reform period through a placebo test. As shown in Figure 2.2.1, no significant effect emerges between treatment and control before the reform, indicated by the vertical blue line. A similar visualisation of trends for companies' filing is presented in Appendix Figure A2.1, which shows that the parallel trend assumption seems to hold.

In the attempt to improve comparability between treated and control taxpayers (which seems to be already high by a visual inspection of pre-trends in Figure 2.2.1), we enhance the DiD approach by first running a propensity score matching (PSM) on the two groups and then implementing the DiD equation above on the matched sample.[13] The basic intention behind PSM is to pair each treatment group taxpayer with one or more relatively similar control group taxpayers. The key goal of PSM is to restrict the sample to a subset of observationally comparable treatment and control taxpayers to reduce unbalance in covariates and confounding factors between the two groups. Matching is based on the propensity score, defined as the conditional probability of assignment to a treatment given a vector of covariates (Rosenbaum and Rubin 1983).[14] While different matching algorithms exist, we recur to a Kernel PSM, which produces a weighted average for each treatment group individual (in which weights follow a kernel function) of all control group taxpayers, giving more weight to those controls more comparable to that specific treated taxpayer.[15] As shown in Appendix Figure A2.3, the Kernel matching successfully improves covariates balance between groups. Likewise, and as expected, Figure A2.4 indicates that the matching makes the two groups remarkably comparable in terms of the probability of getting the treatment.

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[13] PSM estimators (Rosenbaum and Rubin 1983) have become increasingly common in medical trials and the evaluation of economic policy interventions mostly because matching the propensity scores helps approximate randomised experiments.

[14] In building the score (through a Logit function), we make use of the wealth of information on taxpayers as derived from administrative data. Namely, we consider sectors, registration year, type of tax the taxpayer is registered for and pre-intervention outcomes, such as total sales, gross profit, rental income, operational expenses, income tax amount.

[15] Kernel PSM is a nonparametric matching estimator that uses weighted averages of (nearly) all individuals in the control group to construct the counterfactual outcome. How many individuals are chosen from the control group depends on the kernel function. Weights depend on the distance between each individual from the control group and the participant observation for which the counterfactual is estimated.

Figure 2.2.1 Trends in filing and payment

(a) Nil-filing

(b) Tax payable

(c) Income tax payment

(d) Rental tax payment
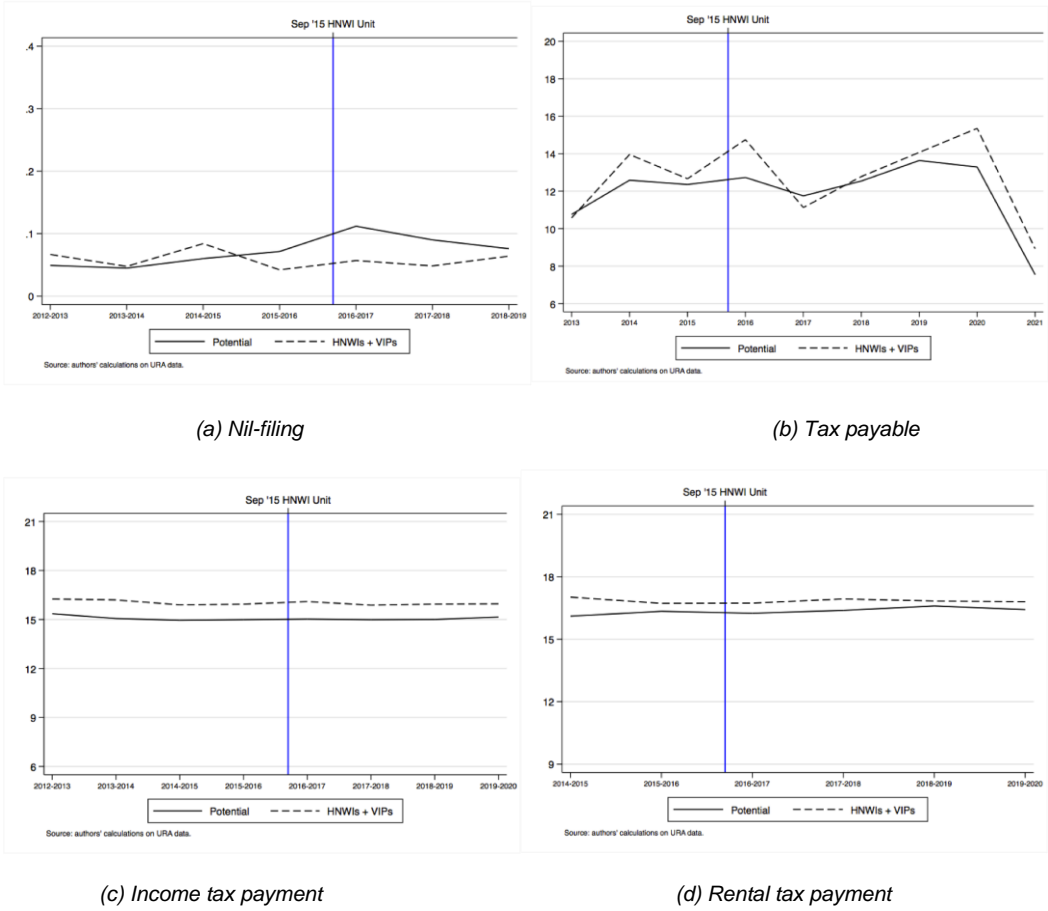
Thanks to the availability of URA data, we consider a range of different tax outcomes. Firstly, we focus on filing behaviour with income tax. We focus both on the extensive margin of compliance, proxied by the probability of filing a return, and the intensive margin. The latter is studied by looking at the probability to nil-file and the amount of tax declared, transformed in logs. On top of the mere impact on final tax amounts, we explore changes in total income, sales, operating and administrative expenses (as well as the cost of sales and total purchases) and depreciation. This exercise helps us decipher which specific margin is impacted by the intervention and in which direction. We complement the analysis of income tax returns with a parallel analysis of VAT returns. Secondly, we turn to payment behaviour – a particularly interesting outcome in the Uganda context (Section 2.1). We rerun our main specification for all different taxes included in tax payments data (Section 2.1). The same analysis is then run on the sample of companies.

3 Results

3.1 Filing behaviour

Building on the URA administrative data described in Section 2.1, we start by presenting results on the filing behaviour of HNWI-VIPs as compared to controls. We consider income tax, VAT and land transactions. As a first step, we explore whether increased enforcement capacity impacted the extensive margin of compliance – i.e. the probability of filing a tax return. Table 3.1.1 below reports our DID estimates on the probability of filing. Columns 1-2 pool both HNWIs and VIPs together, without and with controls, respectively. We also present

results split by category, focusing on HNWIs in Columns 3-4 and VIPs in Columns 5-6. We replicate this approach in all result tables in this paper.[16]

Table 3.1.1 shows that the DID impact on filing probability is positive but not significant in Columns 1-2. However, when comparing HNWIs and VIPs, it transpires that this positive effect is totally driven by VIPs, who increase their likelihood to file by 12 percentage points (henceforth p.p.) or a sizable 37 per cent over the control group mean after being exposed to the new strategy. HNWIs, instead, do not respond to this intervention. These results are only the first in a long series of evidence indicating the differing responses of the two categories along different margins.

This evidence resonates with previous qualitative work (Kangave et al. 2018) and the in-depth interviews we conducted, as it suggests that VIPs have larger margins to improve their compliance. On the one hand, VIPs are characterised by poorer knowledge of tax obligations (including filing) and are historically less used to being compliant before the experiment; hence the unit is particularly effective in sensitising and assisting them in filing. Returning to the data, Figure A2.2 indicates that VIPs had a much lower filing share before the experiment (about 23 per cent in 2013–2015), much lower than HNWIs (46 per cent) and potential/controls (33 per cent). Relatedly, much credit must go to the PSO, who developed experience dealing with VIPs' tax affairs. Furthermore, incorporating HNWIs in the PSO may have brought new expertise and professionalism.

On the other hand, interviewees agree that VIPs may be responding out of fear of public opinion and shaming, as the URA routinely publishes a list of tax defaulters for public interest. The role played by shaming policies and fear of public disapproval has already been tested in other settings (Bérgolo, Ceni, Cruces, Giaccobasso and Perez Truglia 2017) and is the likely catalyst behind the VIPs' response in Uganda. Against this context, Table 3.1.1's results gain economic relevance and show that the programme effectively pushed this specific category of wealthy taxpayers under the URA's radar. At the same time, Table 3.1.1 indicates that the same motivational factors and compliance approach that work with VIPs are largely ineffective with HNWIs – interviewees believe that such a category is much more knowledgeable of the flaws of Ugandan tax systems and not threatened by the unit.

Table 3.1.1 DID estimates of HNWI-VIP unit on filing probability

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP*Post	0.05	0.04	0.02	-0.01	0.12***	0.12***
	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)
HNWI/VIP	-0.09***	-0.08**	0.03	0.02	-0.25***	-0.25***
	(0.03)	(0.04)	(0.04)	(0.05)	(0.04)	(0.05)
Post period	0.12***	0.15***	0.12***	0.16***	0.12***	0.14***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	0.375	0.375	0.375	0.375	0.375	0.375
R-sq.	0.020	0.049	0.014	0.058	0.044	0.071
Observations	5751	5751	5077	5077	4955	4955

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Having shown that the programme is impactful at the extensive margin, at least for VIPs, we now turn to the intensive margin, considering the amounts disclosed in the tax return. We document a consistent response, which we label as 'appearing small', according to which

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[16] In all tables showing outcomes in amounts, we transform those amount variables in logs.

most of the key amounts in the return consistently decrease. Starting from total income, Appendix Table A1.7 shows that it significantly reduces by 1.78 p.p. or a striking 38 per cent of the control mean. Along the same lines, total sales decrease even more, by 2.3 p.p. or 65 per cent (Table A1.8). While the sign is negative for both HNWIs and VIPs, heterogeneity analysis for sales suggests that HNWIs could reduce this margin more aggressively. Following the logic of 'appearing small', treated HNWI-VIPs also significantly cut down their operational expenses by 1.5 logs or about 47 per cent (Table A1.9) and depreciation by 3 logs or 50 per cent (Table A1.10). Again, heterogeneity results indicate that while HNWIs can further reduce operational expenses, VIPs substantially drive the drop in depreciation, even if not significantly so. A consistent pattern emerges when we consider the cost of sales (-65 per cent), total purchases (-98 per cent) and administrative expenses (-44 per cent).[17]

The end result of the large cuts above is that final tax payable decreases as well. Table 3.1.2 below shows the corresponding DID results. Tax payable falls by 3.48 p.p., which translates to a sizeable 27 per cent decrease. Impact estimates by category are only partially and weakly significant but may indicate that HNWIs' response is driving the result. This evidence adds to what is found in similar studies: that taxpayers strategically reduce different margins of their returns to end up paying the same or less tax (Carrillo, Pomeranz and Singhal 2017). This strategic response is also documented for top-income taxpayers (Mascagni and Nell 2022; Santoro, Groening, Mdluli and Shongwe 2020). Combined with the results from Tables A1.7-9, it indicates an inconclusive assessment of the programme's effectiveness. Especially HNWIs, who are ideally more tax-savvy and better equipped to navigate the tax system and its loopholes, seem stuck in their filing decisions. Compliance improves for VIPs, at least at the extensive margin, but does not translate into higher tax remitted.

Table 3.1.2 DID estimates of HNWI-VIP unit on tax declared

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	-3.20**	-3.48***	-1.67	-2.40*	-2.62	-3.63
	(1.27)	(1.22)	(1.26)	(1.24)	(3.34)	(2.58)
HNWI/VIP	2.41**	2.61**	2.88**	2.65**	-3.46	-1.29
	(1.13)	(1.19)	(1.13)	(1.21)	(3.18)	(2.44)
Post period	1.88**	2.54***	1.88**	2.50***	1.88**	2.28**
	(0.92)	(0.92)	(0.92)	(0.92)	(0.92)	(0.91)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	12.612	12.612	12.612	12.612	12.612	12.612
R-sq.	0.009	0.130	0.021	0.108	0.097	0.158
Observations	1148	1148	1071	1071	895	895

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

As a last note, no meaningful impact is found on VAT due, as shown in Table A1.11 nor on other VAT-related margins, such as VAT on output, input and VAT offset.[18] Likewise, the programme is ineffective in improving compliance with land transactions and stamp duty. Despite this being a key field in which it is believed that the Ugandan wealthy operate, the programme does not improve revenue with this tax. Tables A1.12 and A1.13 indicate no change in the number of land transactions declared and the corresponding stamp duty imposed on that transaction. Mostly building on one of the authors' direct exposure to the context and abundant anecdotal evidence, we speculate that this is because the process for

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[17] Tables omitted for brevity, as they essentially give the same information as tables A1.9 and A1.10. They are available upon request.

[18] Tables omitted for brevity, as they essentially give the same information as tables A1.9 and A1.10. They are available upon request.

declaring land and assets is largely ineffective. For instance, the URA is largely aware that accurate identifying information of land buyers and sellers is not appropriately captured, as these are not mandatory fields. This implies that brokers of land, therefore, choose not to declare their purchasers' Tax Identification Number (TIN) details to avoid being traced. Likewise, collusion between officials at the land registry and purchasers is commonplace, where amounts declared in the systems are significantly lower than the actual purchase price.[19]

Evidence from the in-depth interviews helps us to understand these results better. Firstly, there is a consensus that aggressive tax planning gained relevance just after the unit's launch. The targeted wealthy apparently sought advice from professional tax firms and reacted along often less verifiable margins. Secondly, it is believed that lack of credibility in the unit due to the limited resources available is another explanation for the negative response. On the one side, HNWIs do not believe the authority has the enforcing capabilities to threaten them. On the other, VIPs react on more visible margins (such as filing a return due), while they just file rather small amounts to please the URA, in what has been called a 'throw us a bone' strategy.

3.2 Payment behaviour

Regarding domestic tax payments of the treated wealthy, results are inconclusive. Firstly, we observe an apparently inconsistent response pattern compared to that of tax filing discussed above. This aspect reinforces our claim that paying taxes in Uganda is administered largely in disjunction with filings; as confirmed by URA interviewees, payments data in a given year are not reconciled with the corresponding tax filing year, hence they might include payment arrears. Secondly, we again document a significant number of compensating payment strategies, through which some tax payments rise while others are reduced.

More specifically, Table 3.2.1 below shows DID impacts on income tax payments. Results on the pool treatment group are insignificant (Column 2). However, when disaggregating by category, it transpires that, on the one hand, HNWIs reduce their payments. On the other hand, VIPs pay significantly more income taxes, equal to about 2.8 logs or 20 per cent of the control group mean. This finding mirrors the large differences in filing responses of the two categories described above. The fact that VIPs did not increase their tax payable in their declarations (Table 3.1.2) and yet ended up paying more taxes may indicate that the URA unit directed efforts to extract payments rather than induce correct reporting. This strategy may have been more effective with VIPs, but it seemingly backfired with HNWIs.

Table 3.2.1 DID estimates of HNWI-VIP unit on income tax payment

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	0.05	-0.04	-0.58	-0.76	2.68***	2.79***
	(0.49)	(0.48)	(0.50)	(0.48)	(0.92)	(0.89)
HNWI/VIP	0.41	-0.18	1.78***	1.08**	-4.12***	-4.49***
	(0.47)	(0.46)	(0.47)	(0.47)	(0.90)	(0.87)
Post period	2.54***	2.68***	2.54***	2.66***	2.54***	2.67***
	(0.27)	(0.26)	(0.27)	(0.26)	(0.27)	(0.26)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	13.740	13.740	13.740	13.740	13.740	13.740
R-sq.	0.078	0.133	0.093	0.138	0.154	0.205
Observations	3107	3107	2933	2933	2622	2622

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[19] More specifically, the selling agreements and receipts for payments are not required to have the transaction approved by the system.

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Studying the other tax types, it emerges that rental income tax payments appear to decrease, despite it being a crucial tax that the wealthy are expected to pay in Uganda (Table A1.14). Stronger offsetting responses take place when it comes to final withholding taxes. As shown in Table A1.16, payments for these taxes sizably and significantly decrease for VIPs (while no effect is found on HNWIs). Negative impacts are found with the payment of income tax advance for motor vehicles (Table A1.17), affecting both categories significantly.

In conclusion, total domestic tax payments do not change for the pooled treatment group, as shown in Table 3.2.2 below.[20] If anything, an increase is observed for HNWIs, even if by a small magnitude (+2.5 per cent). Grand total payments of VIPs remain unaffected, mostly due to the compensating mechanisms above. With regard to the positive impact on HNWIs (albeit of limited economic relevance), no meaningful evidence emerges on which tax drives this slight increase.[21] When we run our specification on tax types and further disaggregate by category (focusing on HWNIs), estimates lose statistical power as a smaller group of taxpayers usually pay those specific components. We are, therefore, unable to understand what drives this impact on HNWIs.

Table 3.2.2 DID estimates of HNWI-VIP unit on total domestic tax payment

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	-0.11	-0.08	0.51**	0.37*	0.05	0.22
	(0.21)	(0.20)	(0.22)	(0.21)	(0.32)	(0.30)
HNWI/VIP	0.52***	0.32*	1.02***	0.77***	-1.24***	-1.30***
	(0.16)	(0.19)	(0.17)	(0.20)	(0.25)	(0.25)
Post period	-0.06	0.10	-0.06	0.10	-0.06	0.09
	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	14.997	14.997	14.997	14.997	14.997	14.997
R-sq.	0.006	0.121	0.055	0.161	0.029	0.147
Observations	4465	4465	4089	4089	3791	3791

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

3.3 Spillover effects on companies

At this stage, we rerun our main specification on companies, comparing those owned by the treated wealthy and controls (Section 2.2). As stated above, companies were not targeted by the intervention and were thus left with more room for tax avoidance. We present two sets of results on filing and payment trends.

Firstly, concerning filing, in Table 3.3.1 below, we document an opposite, negative response in filing probability than when considering individual filings. Companies owned by the wealthy are 6 p.p. or about 10 per cent less likely to file a corporate income tax return in response to the treatment. Such a backfiring effect is largely driven by VIPs' companies. When considering the intensive margin, it is true that, on the one hand, treated companies are less likely to nil-file, in particular those owned by HNWIs (Table A1.18). On the other hand, the

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[20] Impacts on customs payments are not significant either, so the table has been omitted for brevity and is available on request.

[21] Increase in VAT for HNWIs could be a good candidate, even though the impact estimates are not statistically significant. For VIPs, the increase in income tax payment does not translate into more total domestic tax paid, due to a corresponding and highly significant decline in VAT payments. The table has been omitted for brevity and is available on request.

corporate income tax liability does not significantly change, even if it seems to be increasing (Table A1.19). Along the other key margins, companies do not report more business income (Table A1.20) but significantly report more expenses and depreciation (Tables A1.21-A1.22).

Table 3.3.1 DID estimates of HNWI-VIP unit on filing probability – Companies

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	-0.05**	-0.06***	-0.02	-0.04*	-0.07**	-0.07**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
HNWI/VIP	0.03	0.03*	0.06***	0.06***	-0.08***	-0.05*
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
Post period	0.12***	0.19***	0.12***	0.19***	0.12***	0.19***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	0.652	0.652	0.652	0.652	0.652	0.652
R-sq.	0.008	0.062	0.012	0.064	0.022	0.073
Observations	15479	15479	13951	13951	12056	12056

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Secondly, we look at payments data. When considering total payments, results are inconclusive, if not negative. This indicates once more the disjunction between filing and payment patterns. Table 3.3.2 below reports a slight decrease in tax payments of about 1.5 per cent (Column 2), which seems to be completely due to HNWIs' companies (Column 4). However, this result hides a great deal of heterogeneity among tax types and resonates with the compensating strategies presented at the individual level (Section 3.3). On the one hand, HNWIs' companies pay more rental income tax (+27 per cent, in line with their wealth in property) but less VAT (-6 per cent). On the other, VIPs' entities tend to pay more corporate income tax (+9.5 per cent) but less withholding tax (-12 per cent). All tables for specific tax types are attached in the Appendix (A1.22 to A1.25).

Table 3.3.2 DID estimates of HNWI-VIP unit on total tax payment – Companies

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	-0.20	-0.31**	-0.23	-0.38**	-0.03	-0.03
	(0.16)	(0.15)	(0.17)	(0.16)	(0.31)	(0.28)
HNWI/VIP	-0.07	0.11	0.23	0.32**	-0.95***	-0.43*
	(0.14)	(0.13)	(0.14)	(0.13)	(0.27)	(0.25)
Post period	0.42***	0.85***	0.42***	0.83***	0.42***	0.88***
	(0.10)	(0.09)	(0.10)	(0.09)	(0.10)	(0.09)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	18.206	18.206	18.206	18.206	18.206	18.206
R-sq.	0.003	0.200	0.002	0.187	0.015	0.216
Observations	12298	12298	11271	11271	9551	9551

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In sum, the overall assessment of the URA audit strategy on the wealthy in tackling evasion at the company level is rather unsatisfactory. A fall in zero-filing is indeed associated with the programme, but this does not translate into higher tax liability. It is also true that the programme is ineffective in improving the actual collection of domestic tax payments, if not for specific tax types and subgroups, such as rental income tax for HNWIs and corporate income tax for VIPs. Much more effort is needed to identify and address often complex

offsetting responses, which seem to explain the lack of impact in the case of both individuals and companies.

4 Conclusion

In this paper, we evaluated the impacts of a compliance strategy for the wealthy in Uganda. Our findings indicate a rather inconclusive story. Positive effects are only marginal and vary widely across the two targeted categories and tax types. Also, the patterns are quite different when comparing filing and payment of taxes and when considering individual versus corporate tax accounts.

When it comes to the limitations of our analysis, on the one hand, it is fair to say that we attempted to exploit the universe of administrative tax data as available in the URA's databases. Acknowledging the high level of complexity of the wealthy's tax behaviour, we disentangle taxpayer responses across many margins. On the other, our analysis still suffers from missing information, which we were unable to retrieve from URA data. For instance, there are many missing values for withholding taxes, which are thought to be very important for the wealthy. We found difficulties in retrieving the PAYE data as remitted by those wealthy working as employers, mostly due to missing employee TINs in PAYE returns (Mayega, Waiswa, Mubajje, Nabuyondo and Nalukwago 2021). Capturing the restructuring of income sources, a clear sign of tax planning, was not easy from the data available. As a further limitation in the data, for instance, we were unable to group VIPs into different subcategories due to a lack of information on their role. It is true that the VIP group is already small and disaggregating it further would mean a loss of statistical power. However, it would have also been interesting to test whether the intervention is more effective for certain VIPs, such as those holding public offices, than others, such as religious leaders or heads of professional associations, or vice-versa.

More broadly, an argument can be made that maybe the income tax return form and the integrated tax management systems at the URA are not best geared towards capturing the economically complex structure of the wealthy. Moreover, future research could help indicate the data and IT needs in this respect. Along the same lines, the list of targeted HNWIs and VIPs is fixed over time and not updated. Indeed, the URA is currently preparing a new categorisation of the wealthy to update the list. Furthermore, a wealthy could drop off the targeted group anytime due to changes in their economic profile and relevance. As such, the question remains as to how the compliance behaviour of a treated wealthy changes after they leave such a category. On the qualitative side, we acknowledge the impossibility of interviewing key staff previously involved in the unit's launch, mostly because they had left the institution and/or were unresponsive.[22] Much more research is needed in this direction.

Despite these limitations and thanks to the insights from in-depth interviews with tax officials, we are able to form a range of policy recommendations. First and foremost, there was an almost unanimous consensus among interviewees about the lack of adequate staffing and technical capacity within the HNWI-VIP unit. The unit, formed of one head and two to four officials, is largely inadequate to deal with the compliance issues of about four hundred taxpayers across the whole country. After the unit was formed, such taxpayers seem to have shifted to complex and aggressive tax minimisation and avoidance schemes, which the small HNWI-VIP unit appears to be unfit to reveal. A vicious cycle persists by which the unit is not strengthened as it shows little revenue-generating potential, as our estimates also indicate. Conversely, very few tax officials at the URA have the required skillset (both professional and relational) to deal with the delicate mix of highly economically and politically relevant actors.

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[22] We also refer to the two previous qualitative studies on the unit (Kangave et al. 2016; 2018) as they more directly spoke to the key officials involved in the implementation of the unit at the time.

We also speculate that other tax officials are resistant to joining a unit deeply involved in, at least tangentially, political affairs.

A second key recommendation to better enforce compliance on the richest is to embrace a more holistic approach to monitoring their filing and payment behaviour and to consider the individual and corporate tax profiles as highly intertwined. However, data and administrative limitations severely hamper such an aim. From one perspective, payment data, due to the way they are stored (by year of payment and not by filing year), are difficult to match with tax returns data. This means that it is quite difficult for both the URA and researchers to link filings in a given year with payments in the same year, as payments data likely include arrears.[23] In contrast, monitoring spillover effects on controlled companies implies constant collaboration and data sharing across URA departments, which rarely occurs in practice. There are also immediate challenges in unambiguously identifying ownership, directorship and control, which is, again, due to data limitations regarding companies' boards. As stated in Section 2.1, we only have information on direct ownership, which we use in our analysis.

Further reasoning within URA is needed to better categorise individual taxpayers' influence over companies. More broadly, the potential of such a holistic approach is documented by the successful examples of more developed economies, where wealthy taxpayers' tax matters are considered alongside those of the companies with which they are associated. In Australia, for example, the ATO takes a wealth group approach, where it manages the affairs of these individuals jointly with those of the entities with which they are associated.[24] Similarly, in the UK, HMRC reorganised its business in 2016, which resulted in the HNWI unit being added to the part of HMRC that deals with the tax affairs of large businesses, trusts and inheritance tax.[25]

Our paper's last policy consideration hints at the broader set of challenges around access to data, data sharing, political will and legal capacity to win tax cases against the wealthy. On the data side, key barriers to inter-institutional data sharing persist, limiting the URA's ability to gain sensitive information from third parties, such as banks and other financial institutions. In 2018, for instance, the URA lost an important battle to access financial transaction information from banks (Busuulwa 2018) after vehement protests from the industry (Waswa 2018). In that case, the government quickly blocked this attempt, stressing the political element around inter-institutional data sharing.[26] If such barriers exist within Uganda, getting information on wealth kept offshore is even more daunting.[27] On the political side, significant barriers persist for the URA enforcement strategies to really curb evasion. HNWIs and VIPs are often publicly known, but, because of their economic and political influence, high-level political and administrative support is needed to enforce their tax compliance (Dom, Custers, Stephen and Prichard 2022). In this sense, civil society organisations could play a major role in raising awareness.

Despite such mixed considerations, it is also worth mentioning the potential inherent in such a strategy for taxing wealth, as shown by the URA's experience. This case study demonstrates that identifying the richest taxpayers is indeed possible, even without a

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[23] This challenge seems to have been solved at the URA only recently.

[24] See, for example, Australia, Australian Government (2014) *Managing Compliance of High Wealth Individuals*, Canberra: Australian Taxation Office: Auditor-General Report No. 35, Performance Audit Report, and Australia, Australian Government (2022) *Privately Owned and Wealthy Groups*, Canberra: Australian Taxation Office: QC 49033

[25] See United Kingdom, National Audit Office (2016) *HMRC's approach to collecting tax from high net worth individuals*, London: HMRC

[26] See, for example: Mumbere, D. (2018) 'Museveni blocks tax body from accessing Ugandans' bank details', *Africa News*, 10 April, https://www.africanews.com/2018/04/10/museveni-blocks-tax-body-from-accessing-ugandans-bank-details/

[27] Moreover, even when data are available, the potential of data cross-checking is not always fully exploited (Mascagni, Mukama and Santoro 2019).

comprehensive list, due to the difficulties in identifying offshore wealth and accessing all the relevant information. Likewise, the URA is among the very few institutions in Africa that plans to tap into available data to better tax the wealthy. Particularly relevant is the careful relationship management and appropriate communication that the URA put in place when launching the unit, at least initially, while leaving aggressive enforcement actions to a secondary role. Other tax administrations could potentially follow such an approach.

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Appendices

Appendix 1 – Tables

All tables provided in this Appendix are the authors' own.

Table A1.1 Mean differences by treatment status

	All other TPs		HWNIs/VIPs		
	Mean	Obs.	Mean	Obs.	Difference
Kampala	0.32	1488533	1.00	385	-0.68***
Reg. year	2015.79	1360933	2005.53	375	10.27***
Trade	0.20	543594	0.19	208	0.01
Transport	0.26	543594	0.02	208	0.24***
Financial	0.07	543594	0.01	208	0.06***
Agriculture	0.14	543594	0.04	208	0.10***
Real estate	0.07	543594	0.55	208	-0.48***
Income Tax	0.92	1488533	0.97	385	-0.06***
Import/Export	0.49	1488533	0.91	385	-0.42***
Motor vehicle	0.75	1488533	0.77	385	-0.02
PAYE	0.00	1488533	0.08	385	-0.08***
Stamp duty	0.27	1488533	0.45	385	-0.17***
VAT	0.00	1488533	0.17	385	-0.17***
Withholding	0.00	1488533	0.01	385	-0.00***
Sales 2014-15	854406.31	1488533	1.17e+09	385	-1.17e+09***
Turnvover 2014-15	864168.54	1488533	1.18e+09	385	-1.18e+09***
Gross profit 2014-15	155641.65	1488533	99165511.34	385	-9.90e+07***
Rental income 2014-15	86517.16	1488533	1.62e+08	385	-1.62e+08***
Income tax 2014-15	16897.28	1488533	13994251.09	385	-1.40e+07***
Fixed assets 2014-15	255171.43	1488533	1.85e+08	385	-1.84e+08***
N	1488918				

Table A1.2 Mean differences by treatment status

	Potential		T		
	Mean	Obs.	Mean	Obs.	Difference
Kampala	0.71	1573	1.00	385	-0.29***
Reg. year	2008.78	1516	2005.53	375	3.25***
Trade	0.21	686	0.19	208	0.02
Transport	0.10	686	0.02	208	0.08***
Financial	0.01	686	0.01	208	0.00
Agriculture	0.05	686	0.04	208	0.01
Real estate	0.49	686	0.55	208	-0.06
Income Tax	0.97	1573	0.97	385	-0.01
Import/Export	0.81	1573	0.91	385	-0.10***
Motor vehicle	0.72	1573	0.77	385	-0.05**
PAYE	0.04	1573	0.08	385	-0.04***
Stamp duty	0.34	1573	0.45	385	-0.11***
VAT	0.09	1573	0.17	385	-0.08***
Withholding	0.01	1573	0.01	385	0.00
Sales 2014-15	60999136.70	1573	1.17e+09	385	-1.11e+09***
Turnvover 2014-15	62939331.63	1573	1.18e+09	385	-1.12e+09***
Gross profit 2014-15	14221047.56	1573	99165511.34	385	-8.49e+07***
Rental income 2014-15	23110236.40	1573	1.62e+08	385	-1.39e+08***
Income tax 2014-15	3051551.85	1573	13994251.09	385	-1.09e+07***
Fixed assets 2014-15	40184430.87	1573	1.85e+08	385	-1.44e+08***
N	1958				

Table A1.3 Mean differences by wealthy category

	HNWIs		VIPs		
	Mean	Obs.	Mean	Obs.	Difference
Kampala	1.00	157	1.00	236	0.00
Reg. year	2003.24	153	2007.08	230	-3.84***
Trade	0.28	119	0.09	96	0.18***
Transport	0.02	119	0.02	96	-0.00
Financial	0.01	119	0.01	96	-0.00
Agriculture	0.02	119	0.07	96	-0.06**
Real estate	0.50	119	0.57	96	-0.08
Income Tax	0.97	157	0.97	236	-0.00
Import/Export	0.92	157	0.91	236	0.02
Motor vehicle	0.60	157	0.89	236	-0.30***
PAYE	0.18	157	0.01	236	0.17***
Stamp duty	0.32	157	0.55	236	-0.23***
VAT	0.38	157	0.03	236	0.35***
Withholding	0.01	157	0.00	236	0.01*
Sales 2014-15	2.71e+09	157	1.06e+08	236	2.61e+09***
Turnover 2014-15	2.73e+09	157	1.10e+08	236	2.62e+09***
Gross profit 2014-15	2.47e+08	157	-2348593.43	236	2.49e+08***
Rental income 2014-15	3.85e+08	157	8469130.59	236	3.76e+08***
Income tax 2014-15	34237751.70	157	52795.14	236	34184956.56***
Fixed assets 2014-15	4.50e+08	157	1581832.43	236	4.49e+08***
N	393				

Table A1.4 Mean differences by treatment status, companies

	All other TPs		HWNIs/VIPs		
	Mean	Obs.	Mean	Obs.	Difference
Kampala	0.52	129805	0.77	847	-0.25***
Reg. year	2015.52	129805	2008.64	847	6.87***
Large/medium	0.02	129805	0.22	847	-0.20***
Trade	0.21	129805	0.15	847	0.06***
Transport	0.04	129805	0.05	847	-0.01
Financial	0.09	129805	0.06	847	0.03***
Agriculture	0.07	129805	0.06	847	0.01
Real estate	0.02	129805	0.13	847	-0.11***
Construction	0.10	129805	0.05	847	0.05***
Mining/manufacturing	0.04	129805	0.11	847	-0.07***
Services	0.19	129805	0.16	847	0.03**
Rental	0.03	129805	0.23	847	-0.19***
Business	0.97	129805	0.96	847	0.01*
Property	0.04	129805	0.05	847	-0.01
Sales 2014-15	4.00e+08	129805	1.31e+10	847	-1.27e+10***
Gross profit 2014-15	90739794.11	129805	5.68e+09	847	-5.59e+09***
Rental income 2014-15	1452152.75	129805	1.68e+08	847	-1.66e+08***
Income tax 2014-15	3567461.60	129805	2.95e+08	847	-2.91e+08***
Fixed assets 2014-15	2.46e+08	129805	1.69e+10	847	-1.67e+10***
N	130652				

Table A1.5 Mean differences by treatment status, companies

	Potential		Treated		
	Mean	Obs.	Mean	Obs.	Difference
Kampala	0.81	1903	0.77	847	0.04**
Reg. year	2009.76	1903	2008.64	847	1.12***
Large/medium	0.31	1903	0.22	847	0.09***
Trade	0.24	1903	0.15	847	0.09***
Transport	0.06	1903	0.05	847	0.00
Financial	0.05	1903	0.06	847	-0.01
Agriculture	0.07	1903	0.06	847	0.02
Real estate	0.07	1903	0.13	847	-0.06***
Construction	0.07	1903	0.05	847	0.02**
Mining/manufacturing	0.14	1903	0.11	847	0.03**
Services	0.13	1903	0.16	847	-0.03**
Rental	0.18	1903	0.23	847	-0.04***
Business	0.98	1903	0.96	847	0.02***
Property	0.03	1903	0.05	847	-0.02**
Sales 2014-15	1.53e+10	1903	1.31e+10	847	2.17e+09
Gross profit 2014-15	3.55e+09	1903	5.68e+09	847	-2.13e+09
Rental income 2014-15	43181014.91	1903	1.68e+08	847	-1.25e+08***
Income tax 2014-15	1.70e+08	1903	2.95e+08	847	-1.25e+08
Fixed assets 2014-15	9.79e+09	1903	1.69e+10	847	-7.12e+09*
N		2750			

Table A1.6 Mean differences by wealthy category, companies

	HNWIs		VIPs		
	Mean	Obs.	Mean	Obs.	Difference
Kampala	0.83	564	0.66	283	0.17***
Reg. year	2007.46	564	2011.01	283	-3.55***
Large/medium	0.27	564	0.12	283	0.15***
Trade	0.15	564	0.15	283	0.01
Transport	0.06	564	0.04	283	0.03
Financial	0.07	564	0.06	283	0.01
Agriculture	0.03	564	0.11	283	-0.09***
Real estate	0.16	564	0.08	283	0.08***
Construction	0.05	564	0.05	283	0.00
Mining/manufacturing	0.14	564	0.06	283	0.08***
Services	0.15	564	0.18	283	-0.03
Rental	0.26	564	0.16	283	0.11***
Business	0.96	564	0.95	283	0.01
Property	0.05	564	0.04	283	0.02
Sales 2014-15	1.61e+10	564	7.15e+09	283	8.96e+09
Gross profit 2014-15	6.03e+09	564	4.98e+09	283	1.06e+09
Rental income 2014-15	2.10e+08	564	83402726.33	283	1.27e+08
Income tax 2014-15	3.92e+08	564	99592359.24	283	2.93e+08
Fixed assets 2014-15	1.82e+10	564	1.43e+10	283	3.93e+09
N		847			

Table A1.7 DID estimates of HNWI-VIP unit on income

	(1) All	(2) All	(3) HNWIs	(4) HNWIs	(5) VIPs	(6) VIPs
HNWI/VIP *Post	-1.94[*]	-1.78[*]	-1.51	-1.35	0.27	-0.05
	(1.15)	(1.03)	(1.33)	(1.17)	(1.23)	(1.13)
HNWI/VIP	1.87[*]	-5.32[***]	3.34[***]	-3.97[***]	-3.32[***]	-10.55[***]
	(1.03)	(1.28)	(1.17)	(1.37)	(1.12)	(1.35)
Post period	-0.01	0.28	-0.01	0.18	-0.01	0.08
	(0.71)	(0.59)	(0.71)	(0.59)	(0.71)	(0.59)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	4.594	4.594	4.594	4.594	4.594	4.594
R-sq.	0.004	0.198	0.015	0.228	0.026	0.248
Observations	2502	2502	2241	2241	2025	2025

Standard errors in parentheses. [*] $p < 0.10$, [**] $p < 0.05$, [***] $p < 0.01$

Table A1.8 DID estimates of HNWI-VIP unit on total sales

	(1) All	(2) All	(3) HNWIs	(4) HNWIs	(5) VIPs	(6) VIPs
HNWI/VIP *Post	-2.43[**]	-2.33[**]	-2.11	-1.98[*]	-0.26	-0.59
	(1.12)	(1.02)	(1.30)	(1.17)	(1.20)	(1.13)
HNWI/VIP	2.17[**]	-4.48[***]	3.53[***]	-3.23[**]	-2.68[**]	-9.35[***]
	(1.01)	(1.31)	(1.14)	(1.39)	(1.10)	(1.38)
Post period	0.09	0.34	0.09	0.23	0.09	0.17
	(0.67)	(0.60)	(0.67)	(0.60)	(0.67)	(0.60)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	4.085	4.085	4.085	4.085	4.085	4.085
R-sq.	0.006	0.196	0.014	0.223	0.025	0.233
Observations	2502	2502	2241	2241	2025	2025

Standard errors in parentheses. [*] $p < 0.10$, [**] $p < 0.05$, [***] $p < 0.01$

Table A1.9 DID estimates of HNWI-VIP unit on operational expenses

	(1) All	(2) All	(3) HNWIs	(4) HNWIs	(5) VIPs	(6) VIPs
HNWI/VIP *Post	-1.62[*]	-1.50[*]	-1.49	-1.36	0.53	0.30
	(0.92)	(0.84)	(1.06)	(0.96)	(0.94)	(0.92)
HNWI/VIP	1.50[*]	-3.57[***]	2.71[***]	-2.46[**]	-2.76[***]	-7.89[***]
	(0.83)	(1.10)	(0.93)	(1.17)	(0.84)	(1.15)
Post period	-0.14	0.07	-0.14	-0.01	-0.14	-0.08
	(0.57)	(0.51)	(0.57)	(0.51)	(0.57)	(0.51)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	3.202	3.202	3.202	3.202	3.202	3.202
R-sq.	0.005	0.170	0.014	0.193	0.023	0.194
Observations	2502	2502	2241	2241	2025	2025

Standard errors in parentheses. [*] $p < 0.10$, [**] $p < 0.05$, [***] $p < 0.01$

Table A1.10 DID estimates of HNWI-VIP unit on depreciation

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	-1.85	-3.04*	-0.70	-1.66	-2.14	-3.74
	(1.75)	(1.76)	(1.82)	(1.82)	(4.11)	(2.96)
HNWI/VIP	1.94	-1.07	2.05	-1.13	-1.20	-4.26
	(1.51)	(1.72)	(1.53)	(1.73)	(3.95)	(2.85)
Post period	0.92	1.70	0.92	1.56	0.92	1.32
	(1.21)	(1.26)	(1.21)	(1.26)	(1.21)	(1.27)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	6.092	6.092	6.092	6.092	6.092	6.092
R-sq.	0.003	0.109	0.007	0.122	0.019	0.126
Observations	891	891	833	833	679	679

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A1.11 DID estimates of HNWI-VIP unit on VAT due

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	0.27	0.08	-0.25	-0.50	7.13	7.10
	(1.08)	(1.09)	(1.07)	(1.06)	(4.49)	(5.12)
HNWI/VIP	-0.92	-0.75	-0.45	-0.22	-7.27*	-7.18
	(0.89)	(0.97)	(0.85)	(0.91)	(4.25)	(4.91)
Post period	0.30	0.37	0.30	0.39	0.30	0.35
	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	15.347	15.347	15.347	15.347	15.347	15.347
R-sq.	0.006	0.047	0.004	0.058	0.031	0.086
Observations	705	705	689	689	516	516

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A1.12 - DID estimates of HNWI-VIP unit on land transactions

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	-0.28	-0.35	-0.18	-0.20	-0.28	-0.34
	(0.24)	(0.23)	(0.29)	(0.28)	(0.27)	(0.27)
HNWI/VIP	0.29	0.89***	0.63***	1.14***	-0.26	0.34
	(0.20)	(0.32)	(0.24)	(0.34)	(0.24)	(0.34)
Post period	0.23	0.33**	0.23	0.27*	0.23	0.32**
	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	19.575	19.575	19.575	19.575	19.575	19.575
R-sq.	0.004	0.023	0.037	0.062	0.041	0.067
Observations	873	873	732	732	684	684

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A1.13 DID estimates of HNWI-VIP unit on stamp duty

	(1) All	(2) All	(3) HNWIs	(4) HNWIs	(5) VIPs	(6) VIPs
HNWI/VIP *Post	-0.28	-0.34	-0.18	-0.20	-0.26	-0.32
	(0.24)	(0.23)	(0.29)	(0.28)	(0.27)	(0.27)
HNWI/VIP	0.29	0.90***	0.63**	1.14***	-0.26	0.36
	(0.20)	(0.32)	(0.24)	(0.34)	(0.24)	(0.34)
Post period	0.55***	0.64***	0.55***	0.59***	0.55***	0.63***
	(0.16)	(0.16)	(0.17)	(0.16)	(0.17)	(0.16)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	15.891	15.891	15.891	15.891	15.891	15.891
R-sq.	0.019	0.038	0.055	0.077	0.059	0.084
Observations	873	873	732	732	684	684

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A1.14 DID estimates of HNWI-VIP unit on rental income tax payment

	(1) All	(2) All	(3) HNWIs	(4) HNWIs	(5) VIPs	(6) VIPs
HNWI/VIP *Post	-0.65*	-0.63*	-0.41	-0.44	-0.42	-0.44
	(0.37)	(0.38)	(0.45)	(0.45)	(0.31)	(0.31)
HNWI/VIP	0.94***	1.45***	1.24***	1.70***	-0.12	0.41
	(0.36)	(0.38)	(0.42)	(0.44)	(0.29)	(0.32)
Post period	0.39**	0.40**	0.39**	0.41**	0.39**	0.40**
	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	16.372	16.372	16.372	16.372	16.372	16.372
R-sq.	0.015	0.050	0.060	0.091	0.030	0.075
Observations	1518	1518	1344	1344	1235	1235

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A1.15 DID estimates of HNWI-VIP unit on WHT payment

	(1) All	(2) All	(3) HNWIs	(4) HNWIs	(5) VIPs	(6) VIPs
HNWI/VIP *Post	-0.35	-0.51	-0.28	-0.44	-2.49***	-2.69***
	(0.82)	(0.81)	(0.84)	(0.84)	(0.54)	(0.55)
HNWI/VIP	-0.21	0.13	-0.14	0.19	-0.33***	0.05
	(0.17)	(0.14)	(0.22)	(0.20)	(0.12)	(0.11)
Post period	14.95***	15.06***	14.95***	15.05***	14.95***	15.00***
	(0.54)	(0.53)	(0.54)	(0.53)	(0.54)	(0.55)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	0.711	0.711	0.711	0.711	0.711	0.711
R-sq.	0.806	0.808	0.800	0.802	0.735	0.739
Observations	777	777	717	717	659	659

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A1.16 DID estimates of HNWI-VIP unit on motor vehicle income tax payment

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	-0.91**	-0.60	-0.81	-0.74	-0.83*	-0.29
	(0.45)	(0.47)	(0.53)	(0.55)	(0.47)	(0.53)
HNWI/VIP	-0.05	-1.32*	0.35	-0.98	-1.02***	-2.22***
	(0.38)	(0.69)	(0.46)	(0.74)	(0.35)	(0.67)
Post period	12.18***	11.88***	12.18***	11.87***	12.18***	11.88***
	(0.29)	(0.32)	(0.29)	(0.32)	(0.29)	(0.31)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	5.367	5.367	5.367	5.367	5.367	5.367
R-sq.	0.750	0.765	0.735	0.750	0.795	0.810
Observations	1027	1027	962	962	882	882

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A1.17 DID estimates of HNWI-VIP unit on nil-filing probability – Companies

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	-0.04*	-0.03	-0.05**	-0.04*	-0.01	-0.00
	(0.02)	(0.02)	(0.02)	(0.02)	(0.04)	(0.04)
HNWI/VIP	0.04**	0.03*	0.04*	0.04*	0.04	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
Post period	0.11***	0.07***	0.11***	0.07***	0.11***	0.07***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	0.182	0.182	0.182	0.182	0.182	0.182
R-sq.	0.008	0.147	0.008	0.155	0.012	0.143
Observations	11503	11503	10648	10648	8854	8854

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A1.18 DID estimates of HNWI-VIP unit on tax declared – Companies

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	0.68	0.48	0.67	0.38	1.01	0.98
	(0.46)	(0.44)	(0.50)	(0.48)	(0.75)	(0.73)
HNWI/VIP	-0.95**	-0.84**	-0.55	-0.56	-2.47***	-1.94***
	(0.41)	(0.39)	(0.45)	(0.43)	(0.67)	(0.65)
Post period	-0.36	0.50*	-0.36	0.51*	-0.36	0.55*
	(0.29)	(0.28)	(0.29)	(0.28)	(0.29)	(0.28)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	8.103	8.103	8.103	8.103	8.103	8.103
R-sq.	0.001	0.122	0.000	0.124	0.006	0.126
Observations	11416	11416	10579	10579	8779	8779

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A1.19 DID estimates of HNWI-VIP unit on income – Companies

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	0.74	0.53	0.73	0.43	1.08	1.06
	(0.49)	(0.47)	(0.54)	(0.52)	(0.80)	(0.78)
HNWI/VIP	-1.03**	-0.92**	-0.60	-0.63	-2.63***	-2.08***
	(0.44)	(0.42)	(0.48)	(0.46)	(0.71)	(0.70)
Post period	-0.40	0.51*	-0.40	0.52*	-0.40	0.56*
	(0.31)	(0.30)	(0.31)	(0.30)	(0.31)	(0.30)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	8.663	8.663	8.663	8.663	8.663	8.663
R-sq.	0.001	0.120	0.000	0.123	0.006	0.125
Observations	11400	11400	10563	10563	8768	8768

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A1.20 DID estimates of HNWI-VIP unit on expenses – Companies

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	1.05**	0.82**	1.04**	0.76*	1.18	0.97
	(0.42)	(0.38)	(0.45)	(0.40)	(0.76)	(0.75)
HNWI/VIP	-0.89**	-0.61*	-0.76**	-0.66*	-1.37**	-0.34
	(0.35)	(0.32)	(0.38)	(0.34)	(0.66)	(0.67)
Post period	-3.16***	-2.16***	-3.16***	-2.17***	-3.16***	-2.06***
	(0.26)	(0.24)	(0.26)	(0.24)	(0.26)	(0.24)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	15.540	15.540	15.540	15.540	15.540	15.540
R-sq.	0.015	0.202	0.016	0.212	0.018	0.225
Observations	11501	11501	10646	10646	8852	8852

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A1.21 DID estimates of HNWI-VIP unit on depreciation – Companies

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	1.08**	0.88*	1.01*	0.72	1.77*	1.64*
	(0.49)	(0.46)	(0.52)	(0.49)	(0.91)	(0.88)
HNWI/VIP	-1.17***	-0.91**	-0.58	-0.52	-3.42***	-2.41***
	(0.43)	(0.40)	(0.46)	(0.42)	(0.82)	(0.80)
Post period	-1.85***	-0.78***	-1.85***	-0.79***	-1.85***	-0.77***
	(0.30)	(0.28)	(0.30)	(0.28)	(0.30)	(0.29)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	14.290	14.290	14.290	14.290	14.290	14.290
R-sq.	0.004	0.169	0.004	0.170	0.011	0.172
Observations	11415	11415	10579	10579	8778	8778

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A1.22 DID estimates of HNWI-VIP unit on CIT payment – Companies

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	-0.49	-0.52	-0.95[*]	-0.98[*]	0.94	0.86
	(0.47)	(0.46)	(0.52)	(0.50)	(0.78)	(0.75)
HNWI/VIP	-0.02	0.22	0.71	0.77[*]	-2.21[***]	-1.40[**]
	(0.43)	(0.42)	(0.47)	(0.45)	(0.70)	(0.68)
Post period	3.59[***]	3.88[***]	3.59[***]	3.88[***]	3.59[***]	3.86[***]
	(0.30)	(0.29)	(0.30)	(0.29)	(0.30)	(0.29)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	14.396	14.396	14.396	14.396	14.396	14.396
R-sq.	0.046	0.104	0.042	0.098	0.066	0.121
Observations	7581	7581	7034	7034	5985	5985

Standard errors in parentheses. [*] $p < 0.10$, [**] $p < 0.05$, [***] $p < 0.01$

Table A1.23 DID estimates of HNWI-VIP unit on VAT payment – Companies

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	-0.45	-0.74[**]	-0.96[**]	-1.21[***]	0.79	0.51
	(0.40)	(0.37)	(0.42)	(0.40)	(0.72)	(0.68)
HNWI/VIP	0.11	0.55[*]	1.20[***]	1.37[***]	-3.12[***]	-1.96[***]
	(0.34)	(0.32)	(0.36)	(0.35)	(0.58)	(0.56)
Post period	4.63[***]	4.83[***]	4.63[***]	4.83[***]	4.63[***]	4.82[***]
	(0.24)	(0.23)	(0.24)	(0.23)	(0.24)	(0.24)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	14.855	14.855	14.855	14.855	14.855	14.855
R-sq.	0.076	0.162	0.075	0.152	0.105	0.180
Observations	9206	9206	8544	8544	7080	7080

Standard errors in parentheses. [*] $p < 0.10$, [**] $p < 0.05$, [***] $p < 0.01$

Table A1.24 DID estimates of HNWI-VIP unit on rental tax payment – Companies

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	0.10	-0.00	0.62	0.52	-1.74[**]	-1.80[**]
	(0.45)	(0.45)	(0.50)	(0.50)	(0.70)	(0.70)
HNWI/VIP	0.01	0.09	0.18	0.14	-0.43[**]	-0.10
	(0.20)	(0.21)	(0.24)	(0.25)	(0.22)	(0.25)
Post period	7.05[***]	6.98[***]	7.05[***]	6.98[***]	7.05[***]	7.00[***]
	(0.28)	(0.29)	(0.28)	(0.29)	(0.28)	(0.29)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	4.431	4.431	4.431	4.431	4.431	4.431
R-sq.	0.188	0.209	0.194	0.215	0.188	0.204
Observations	3867	3867	3562	3562	2939	2939

Standard errors in parentheses. [*] $p < 0.10$, [**] $p < 0.05$, [***] $p < 0.01$

Table A1.25 DID estimates of HNWI-VIP unit on WHT payment – Companies

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	HNWIs	HNWIs	VIPs	VIPs
HNWI/VIP *Post	-0.06	-0.59	0.05	-0.33	-0.37	-1.25[*]
	(0.45)	(0.43)	(0.50)	(0.48)	(0.76)	(0.66)
HNWI/VIP	-0.76[**]	-0.33	-1.01[***]	-0.75[**]	-0.08	0.83
	(0.35)	(0.34)	(0.38)	(0.37)	(0.59)	(0.53)
Post period	6.78[***]	6.73[***]	6.78[***]	6.73[***]	6.78[***]	6.74[***]
	(0.28)	(0.27)	(0.28)	(0.27)	(0.28)	(0.27)
Controls	No	Yes	No	Yes	No	Yes
Control Mean	10.699	10.699	10.699	10.699	10.699	10.699
R-sq.	0.142	0.232	0.146	0.215	0.138	0.245
Observations	7507	7507	6901	6901	5888	5888

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Appendix 2 - Figures

Figure A2.1 Audit probability by taxpayer groups

Source: Own Computation from Raw Data
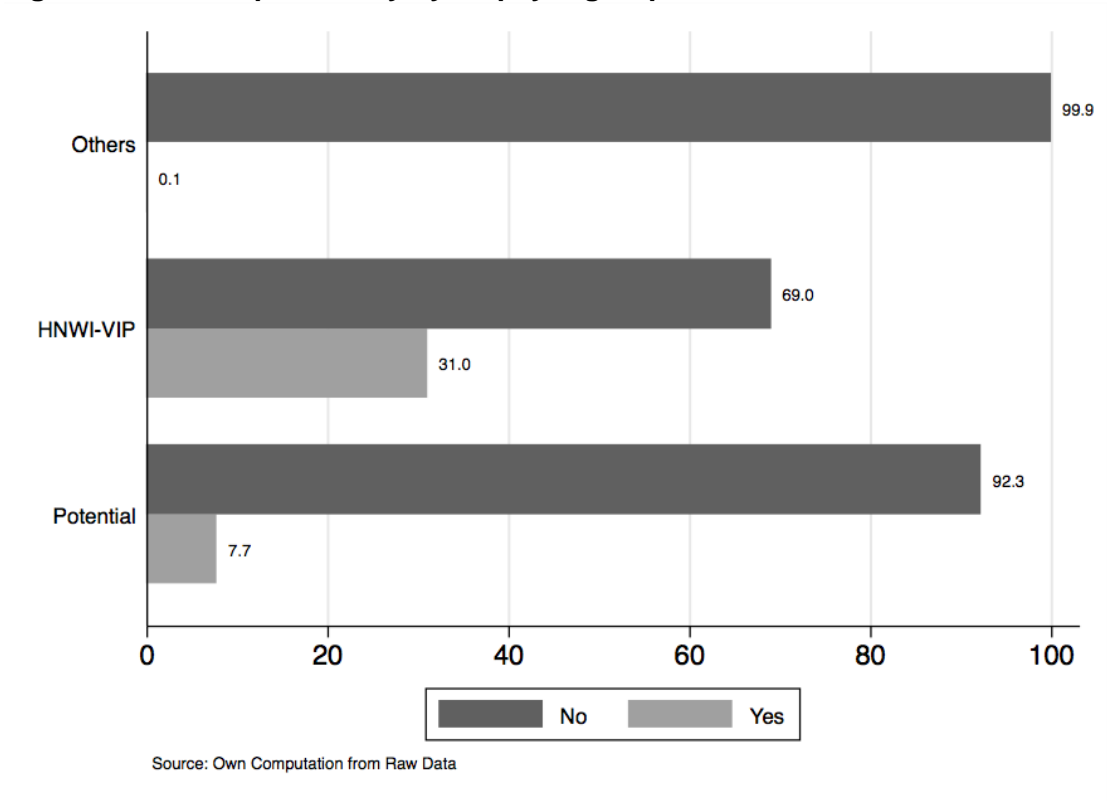
Figure A2.2 Trend in filing and payment

(a) Companies' Income *(b) Companies' Tax Payable*
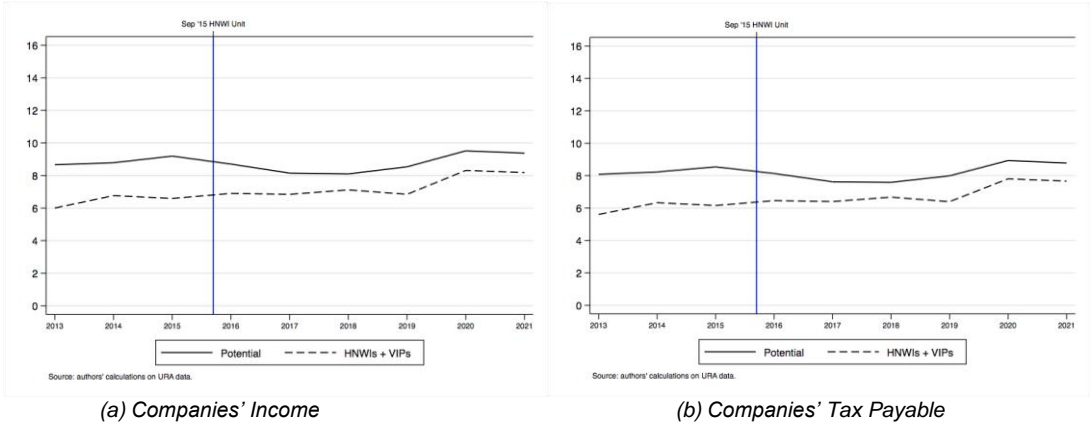
Figure A2.3 Trend in filing probability
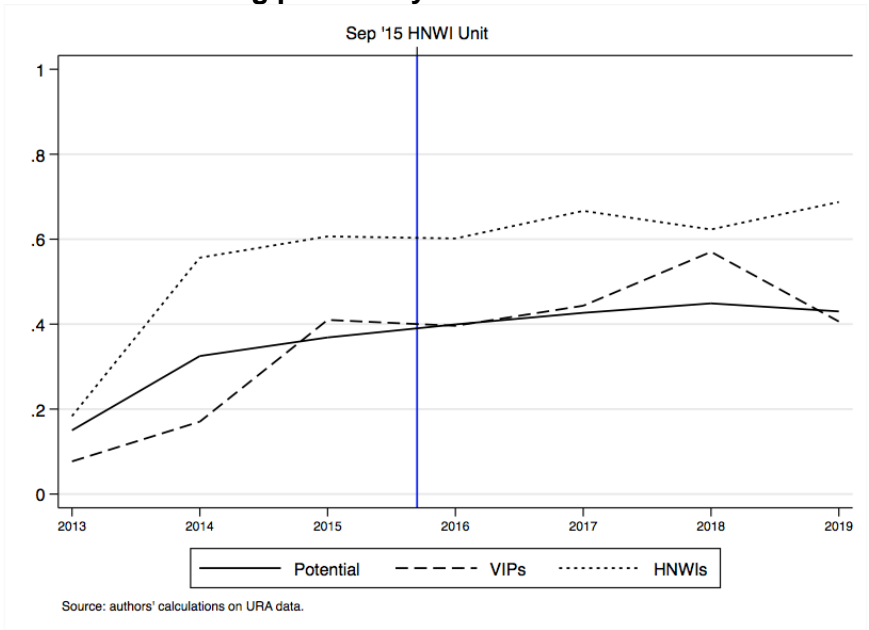

Source: authors' calculations on URA data.

Figure A2.4 Balance reduction after Kernel matching
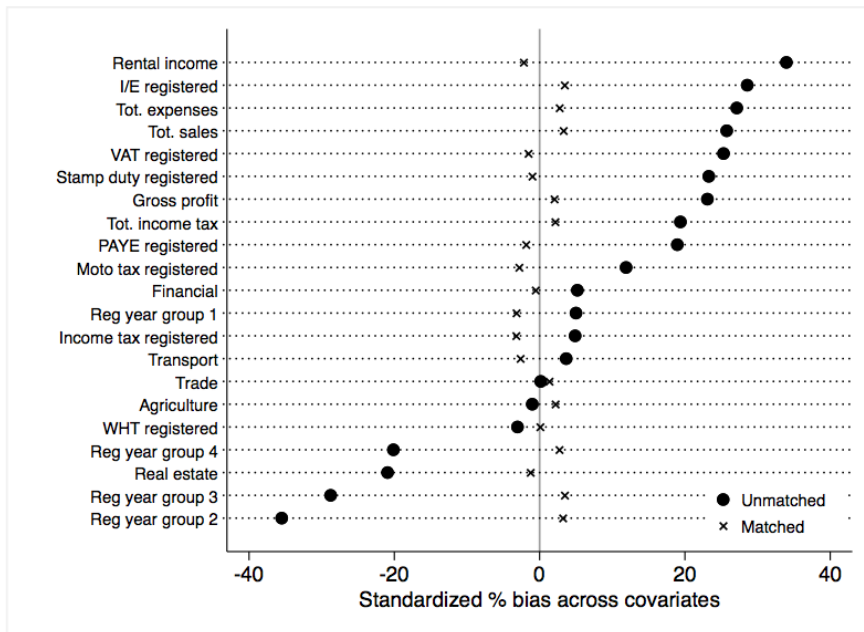
Figure A2.4.a Individuals
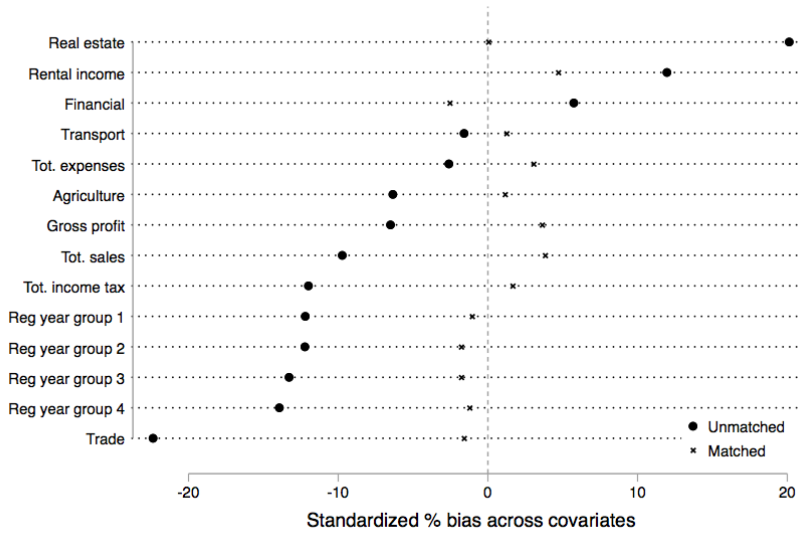
Figure A2.4.b Companies

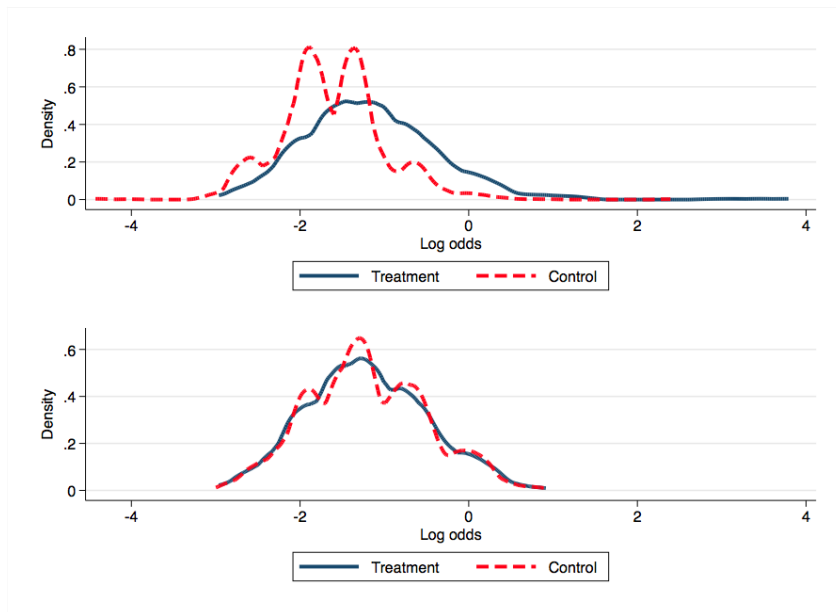**Figure A2.5 Log odds distribution before and after Kernel matching**
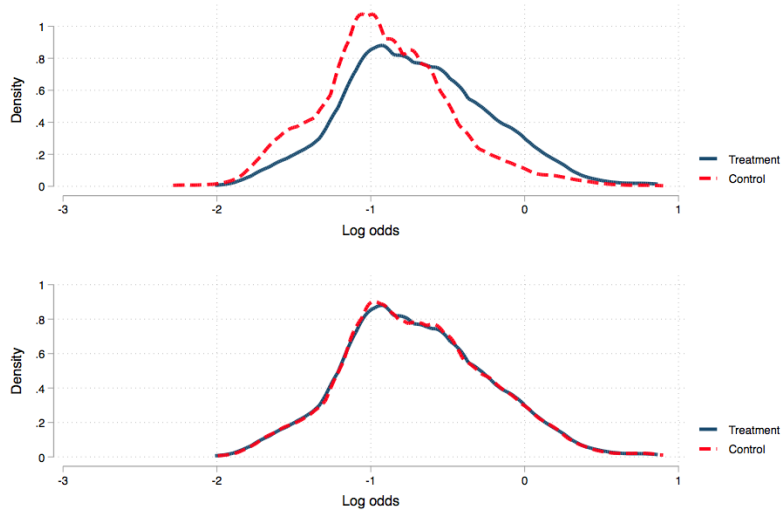

Figure A2.5.a Individuals

Figure A2.5.b Companies