

Report No: AUS0001886

# Ghana

## Enhancing Revenue Mobilization Through Improved Tax Compliance and Administrative Systems

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Poverty and Equity Global Practice  
Africa Region



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GOVERNMENT FISCAL YEAR

January 1 – December 31

CURRENCY EQUIVALENTS

Official Exchange Rate Average for 2019

Currency Unit = Ghanaian Cedi (GHS)

USD\$1 = GH¢ 5.22

WEIGHTS AND MEASURES

Metric System

ACRONYMS and ABBREVIATIONS

DW	Data Warehouse
DTRD	Domestic Tax Revenue Department
ESRM	Electronic Sales Registry Machines
FED	Fiscal Electronic Device
GDP	Gross Domestic Product
GITMIS	Ghana Integrated Tax Management Information System
GRA	Ghana Revenue Authority
GSS	Ghana Statistical Service
HNWI	High Net Wealth Individuals
HNWICP	High Net Wealth Individuals Compliance Program
ITAPS	Integrated Tax Administration Processing System
IBES	Integrated Business Establishment Survey
IRS	Internal Revenue Service
LTO	Large Taxpayers Office
MOF	Ministry of Finance
PIT	Personal Income Tax
PAYE	Pay As You Earn
SIM	Subscriber Identity Module
MoMo	Mobile Money
TIN	Tax Identification Number
TRIPS	Total Revenue Integrated Processing System
URA	Uganda Revenue Authority
VAT	Value Added Tax

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## Abstract

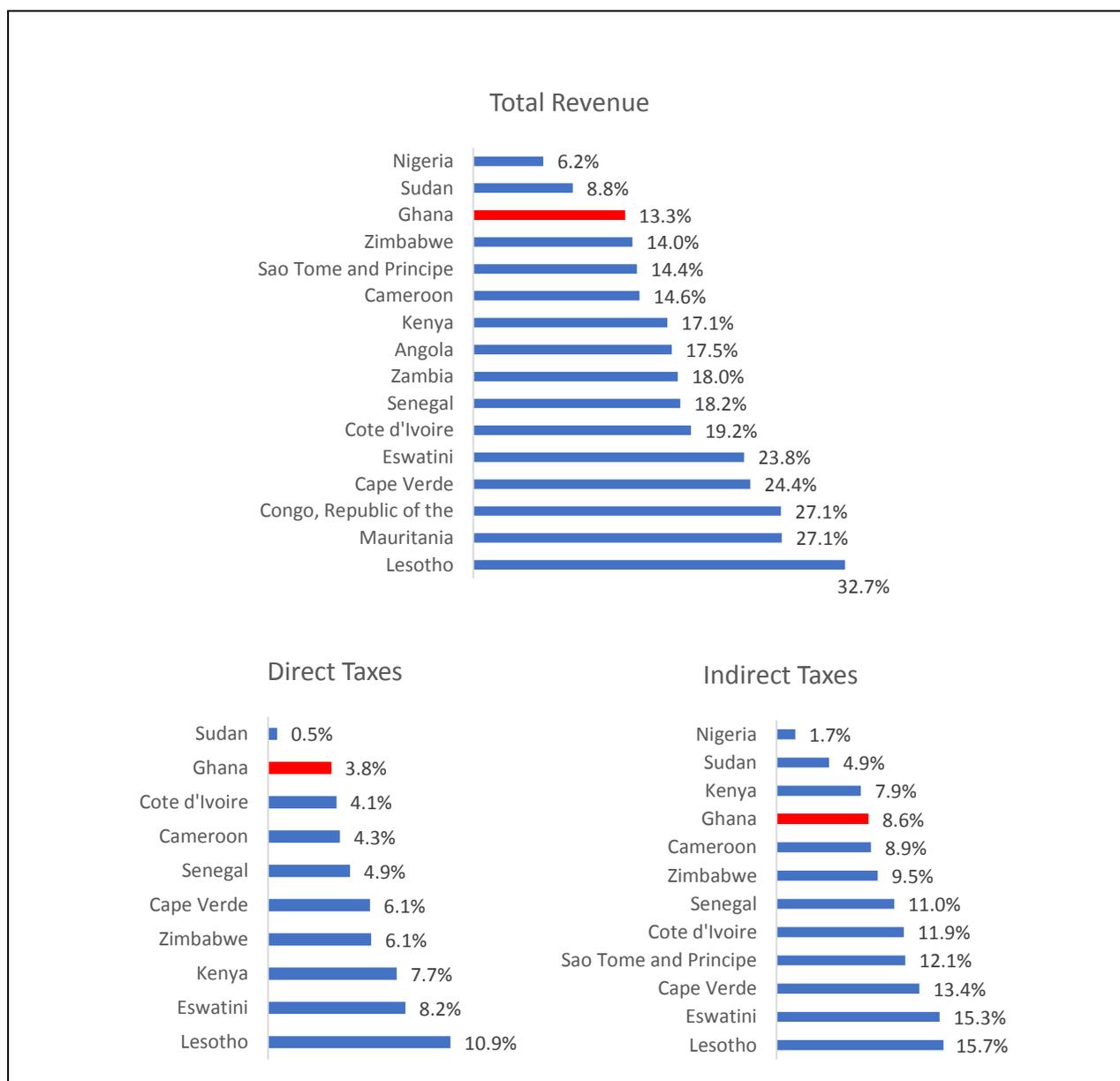
Ghana's tax collection is low compared with other lower middle-income countries. Non-compliance of tax payments is an urgent issue in Ghana, as the government has been suffering from a widening fiscal deficit and a rising debt burden. Learning from experiences in other countries, this report proposes potential interventions that could improve tax compliance.

- a. **Corporate Tax.** Ghana's corporate tax gap is significant. It was estimated to be at least 9.4 percent of GDP in 2014. This report proposes six interventions: 1) improve delivery of electronic database of firms and electronic submission of tax returns and declarations, 2) digital payment of transactions, 3) withholding, 4) third party information reporting, deterrent messages, and a minimum tax scheme. The top priority is the creation of a database of firms. The database system will allow the GRA to estimate tax gaps, conduct tax incidence analysis, monitor and enforce compliance, and set up online and mobile tax payment systems.
- b. **VAT.** The worsening VAT collection performance is largely attributed to the structure of the Ghanaian economy. A high share of cash payments accounts for the poor performance of VAT in Ghana. Many retailers do not file their tax returns and even those who file, under-report their sales. An electronic payment system will improve tax collections by reducing the ability of taxpayers to evade or avoid tax payments.
- c. **Income Tax.** Personal income tax (PIT) collection in Ghana is low. PIT from self-employed individuals is particularly low. In 2018 for example, personal income taxes (PAYE) and self-employed were 2.1 percent and 0.13 percent of GDP, respectively. The country needs to design and implement a High Net Wealth Individuals Compliance Program (HNWICP), identify High Net Wealth Individuals, and establish a strategy and system to collect taxes from them.
- d. **Formalization.** The majority of businesses in Ghana are informal. Formalizing informal firms could broaden the tax net and improve domestic revenue mobilization. Studies suggest that firms would only become formal when the benefits to doing so exceed the benefits of staying informal. The Government could also design programs, which provide incentives to consumers, demanding receipts from firms with TIN numbers and verifiable receipt numbers. It could compel informal firms not only to register to formalize, but also comply with tax regulations in order to make customers patronize their services.

## Introduction

1. Ghana's tax collection is low compared with other lower middle-income countries. Figure 1 presents tax revenue as percentages of GDP in low middle-income countries in Sub Saharan Africa in 2016. Among 16 countries for which the data are available, Ghana's total revenue as a percentage of GDP is the third lowest. The revenue from direct tax, including corporate tax, is particularly low. It is only 3.8 percent of GDP. The revenue from indirect tax is a little better, at 8.6 percent of GDP, but it is still lower than many low middle-income countries in Sub Saharan Africa.

Figure 1: Tax revenue as percent of GDP in 2016



Source: Government Revenue Dataset - UNU-WIDER

2. Non-compliance of tax obligations including registration in the tax system, filing of tax declarations, timely payments of tax liabilities, and complete and accurate reporting of information in declarations is an urgent issue in Ghana, as the government has been suffering from a widening fiscal deficit and a rising debt burden. This report discusses recent findings of policy interventions on domestic revenue mobilization from developing countries and proposes policy interventions that are potentially most effective in Ghana.

3. With the urgent need to boost tax revenue collection in Ghana from the current average tax-to-GDP ratio of 13 percent to 20 percent, the Ghana Revenue Authority (GRA) has embarked several reforms and initiatives to reduce non-compliance with tax obligations for various tax types. These include improve effectiveness of taxpayer services and improving the business environment, albeit with slower progress in the reformation agenda since 2014 (Keen et al., 2019). Improvement of taxpayer services is one key area of with some level of progress. A range of products, tools and processes with varying mediums to reach taxpayers have been developed. Current available channels of taxpayer service delivery include website, newsletters, written and email correspondence, taxpayer education brochures and publications, tax seminars, television and radio talk shows, and press releases (Sparkman et al., 2017). GRA has recently introduced and promoted online filing and payment to reduce both the financial and time costs of compliance for taxpayers (Keen et al., 2019). GRA has also made effort to expand the taxpayer base and has so far achieved a modest result—about 1,394,842 taxpayers were registered in 2019, increasing the number of taxpayers registered with Tax Identification Numbers (TINs) to 3,394,488 as of December 31, 2019<sup>1</sup>.

4. GRA also employs various IT supports for its revenue mobilization efforts, as it sees data and its timely analysis to be important for modern tax administrations. However, the current Information Technology (IT) systems of the GRA that support tax revenue collections are assessed to be diverse, complex and incomplete with inadequacies that do not allow effective administration of taxes (Keen et al., 2019). GRA uses three different systems to support the operations of Domestic Tax Revenue Department (DTRD): Total Revenue Integrated Processing System (TRIPS), the Integrated Tax Administration Processing System (ITAPS), and the Ghana Integrated Tax Management Information System (GITMIS).

5. For TRIPS, which was procured to be the main system for the DTRD, has been identified as the weakest point in the GRA IT environment by IMF technical assistance through a comprehensive evaluation of information systems. First, TRIPS system does not possess performance and functional availability to all tax administration business processes and functions. E-filing, for example, cannot be processed by TRIPS system due to the high levels of errors it churned out thereby creating processing delays prompting and inevitable use of manual processing of paper-based returns. In addition, due to the TRIPS system inability to support the administration of non- self-assessed taxes such as the presumptive assessment of personal income tax (PIT) for the small taxpayer segment, GITMIS<sup>2</sup> is still used by the GRA. The system is also characterized by incomplete data as only two-thirds of all payments for core taxes are recorded in the TRIPS system and therefore does not support creation of useful reliable information such as total number of registered taxpayers, number of returns expected and filed per tax type, amount of payments etc. The consequence of these inadequacies in a system, which was initially expected to support the implementation of a single core tax administration system, is the undue delay in the progress toward modernize tax administration and low tax revenue mobilization.

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<sup>1</sup> <https://www.ghanaweb.com/GhanaHomePage/business/1-39-million-taxpayers-registered-in-2019-989962>

<sup>2</sup> GIFMIS, which is part of the legacy systems, are limited in their functionalities and cannot be evolved to meet the changing needs of the tax administration which require modern IT infrastructure.

6. To secure future Information Technology system of GRA, the Ministry of Finance was preparing to acquire a modified version of TRIPS (called TRIPS+) in 2019. The Ministry of Finance and the GRA are currently under preparation of implementing Electronic Fiscal Device (FED), which will allow VAT invoices to be automatically transmitted to the GRA in real-time or within a short period of time after transactions occur. This is expected to suppress tax avoidance, promote non-cash payment in sales transactions, and enable GRA to have access to an accurate record of the volume of sales of each taxable person (Taxation Act 2018 (Act 966)).

7. The GRA has recently introduced Withholding Vat Return (WHVAT), which mandates some selected entities in Ghana to withhold 7 percent of VAT whenever they make a payment on purchases of VAT taxable goods and services, is also a compliance mechanism to monitor and enforce accurate reporting as the process allows for verification of the tax filing of the suppliers. Very recently, the Ministry of Finance (MoF) and GRA have launched the Tax Audit and Quality Assurance Unit at GRA (MoF, 2020). The unit, which will report to the GRA Board and Ministry of Finance, will interrogate and review tax audits conducted by GRA tax auditors to ensure audit quality assurance and provide protection to taxpayers from abuse by some corrupt tax officers in GRA. The Tax Audit and Quality Assurance Unit will also be involved in the digitization of all tax audits and e-tax payment systems at GRA. The Ministry of Finance also re-emphasized the need for using technology to widen the tax net to cover the informal sector, professionals, middle-class and the larger informal markets.

8. Despite several reforms being made by the Ministry of Finance and the GRA to improve the tax collection to the comparable levels of Ghana's peers within Sub-Saharan Region of 20 percent, a lot can still be learned from interventions<sup>3</sup> used by other countries to speed-up the progress. There are empirical studies on tax compliances in both developed and developing countries that can serve as examples to boost domestic revenue mobilization. Developing countries face additional challenges such as weak institutions and large informal economies that limit their tax capacity. Besley and Persson (2014) attribute low tax collection in developing countries to inadequate administrative capacity, presence of a large informal sector, weak checks and balances, and a lack of social norms for tax compliance. It is important to evaluate whether a particular intervention that works in developed countries also works in developing countries. Even though prior studies suggest that the deterrence-approach increases tax compliance in developed countries (Kleven et al. (2011) and Harju et al. (2013)), conducting such interventions is costly. As well, providing the right incentives to tax officials to undertake monitoring can be challenging in developing countries (Ahmed et al. (2012)).

## 1. Corporate Tax

### 1.1 Corporate Tax Evasion in Ghana

9. This section first summarizes estimated scales of the corporate tax gap among firms registered with the GRA, with a focus on the manufacturing sector. The manufacturing sector contributes about 35.2 percent of the total actual corporate income tax gap in Ghana. The estimated potential<sup>4</sup> corporate income

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<sup>3</sup> Some interventions discussed in this paper go beyond administrative and compliance that can be provided within the GRA but involve economy-wide interventions that need to be spearheaded by the Ministry of Finance.

<sup>4</sup> The potential corporate tax revenue is broadly defined as what the government of Ghana could collect from the manufacturing sector, given the characteristics of the national economy. This definition does not account for sources

tax from the manufacturing sector ranged from 0.5 percent of GDP (excluding Manufacturing firms in Tema, which contains the free-zone area) to about 3.7 percent of GDP in 2013, compared to the total company income taxes of 1.5 percent of GDP. This suggests that, with appropriately designed interventions, Ghana can increase its tax collections from the manufacturing sector. **Error! Reference source not found.** below presents potential corporate income tax in the manufacturing sector by firm size. The results reveal that at least 48.5 percent of potential corporate income tax revenues can be earned from large establishments in the manufacturing sector. To allocate resources efficiently, in the effort of improving tax capacity, large firms in the manufacturing sector can be targeted with interventions to increase corporate tax revenues. It is important to note that large firms are in better positions to engage in aggressive tax planning, transfer pricing, and have corrupt tax officials who lobby for tax exemptions to reduce their tax bases.

**Table 1: Potential Corporate Tax Revenue in Manufacturing by Size<sup>5</sup>**

Firm Size (# of Employees)	Manufacturing sub-sector		Manufac. Sub Excl. Tema Manufacturing	
	Potential (GH C Million)	% Potential	Potential (GH C Million)	% Potential
1	17.6	0.3	17.6	2.2
2-4	336.0	5.8	336.0	42.8
5-9	10.8	0.2	2.4	0.3
10-19	12.9	0.2	10.0	1.3
20-30	5.6	0.1	5.3	0.7
30-39	6.6	0.1	6.5	0.8
40-49	28.5	0.5	26.3	3.3
50 or more	5,374.0	92.8	380.8	48.5
Total	5,791.9	100.0	784.8	100.0

Source: Authors' computations from IBES data (2013) and tax rates in the manufacturing sub-sector

## 1.2 Successful Interventions in Other Countries

10. Several studies and interventions have been conducted to understand the underlying issues associated with corporate tax collection and investigated how to improve corporate tax collections in developing countries.

11. **Deterrent Messages Intervention:** Letter interventions—where the tax authority sends letters to randomly selected groups of taxpayers, with a control group receiving no letter (pioneered by Slemrod et al. (2001))—can substantially reduce noncompliance, at least in the short term. Letter interventions remain the most prominent example of tax enforcement intervention for individual tax compliance, partly because it is a relatively inexpensive policy instrument.

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of missed revenue that are based on laws, regulations, and agreements, most notably fiscal incentives such as tax holidays and tax exemptions for manufacturing firms.

<sup>5</sup> A bottom-up approach using firm level data of a nationally representative datasets—IBES I and II data—collected by Ghana Statistical Service was used to estimate the potential Corporate Income Tax (CIT) Revenue. Tema hosts free zone area where companies enjoy tax incentive of zero (0) corporate tax rate. The data does not allow as separate free zone companies hence overestimation of corporate tax due to the presence of policy gap. We therefore estimate the potential CIT without manufacturing companies in Tema, which will also obviously underestimate CIT.

12. Bérgolo et al. (2018) find that sending letters of deterrence with a paragraph providing statistics about the probability of being audited and the penalty rates, increased tax compliance by about 6.3 percent (about one-fourth of its current level) in Uruguay. Adding a paragraph that informs firms that evading taxes increased the probability of being audited increases tax compliance by about 7.4 percent.

13. Brockmeyer et al. (2019) show that credible enforcement emails increase the tax payment rate among previously non-filing firms. The messages contained various threats to deter non-compliers, mentioning the possibility of an audit, shop closure, or online publication of a list of non-filers. In addition, for those taxpayers that refused to respond to the treatment, the tax authority made a personalized follow-up with phone calls and visits. The results of the experiment demonstrate the emails sent to non-filers tripled their rate of income tax filing and more than doubled their rate and amount of payment relative to the control group that received no message. More importantly, emails that highlight third-party reports of a firm's transactions further increases compliance, with the effect persisting for three years. Among firms with third-party information, these effects correspond to a 21 percentage point increase in the filing rate, a 3.4 percentage increase in the payment rate, and a US\$15 increase in the payment amount. Listing specific examples of third-party reports about the firm had an additional positive effect on all outcomes. The payment return on the strongest email was US\$18. The intervention, by inducing firms to file substantial additional informative declarations, also had an externality on future and other firms' tax compliance and enforcement—about 30 percent of the new informative declarations cover non-filers or firms underreporting their sales. The treatment also improved the reporting behavior among the tax filing self-employed. The mentioning of the available third-party information and a deduction rule limiting tax evasion shifting behavior led to higher reported sales, tax liabilities and tax payments of the self-employed individuals who were contacted by the tax authorities, compared with self-employed filers who were not contacted. Previous studies (Carrillo et al. 2017, Slemrod et al. 2017) found firms nearly fully offset reported sales increases with cost increases.

14. **Third-Party Reporting:** Third-party information reporting, where entities (usually firms) report to the tax authority information relevant for someone else's tax liability, increases the probability that tax evasion is detected and penalized. Currently, third-party information can be only available to GRA through on-field inspection and auditing of receipts and invoices, except the information provided by the VAT withholding agents. To reduce evasion and improve tax collections, the use of third-party information reporting can be very important. Brockmeyer et al. (2019) show that third-party reports of a firm's transactions increase compliance. Firms in Costa Rica reported taxable income increases by up to 50 percent, 25 percent and 22 percent after the first third party report by another firm, by a credit-card company, and by a state institution, respectively, suggesting the important impact of third-party information reporting on firm compliance and tax revenue mobilization. The effect persisted over two years, and firms became more likely to report transactions with other firms, facilitating future tax enforcement.

15. In Ecuador, the tax authority notified about 8,000 firms of discrepancies between their self-reported revenue and third-party information and offered them the opportunity to file an amended return. Comparing the reporting behavior of firms before and after notification, the authors found that 24 percent of firms underreported revenue (Carrillo et al. 2017). A telling result of this study is the finding that firms' reported costs increased astronomically: for every dollar of revenue adjustment, costs tend to increase by 96 cents. The authors found the costs to have increased mainly through adjustment in administrative costs, which is particularly difficult to verify, because of its miscellaneous nature. The adjustment of both the costs and revenues resulted in only a limited increase in corporate profits and tax payments.

16. In the United States, payment settlement entities such as credit-card companies and other third-party payment organizations are required to report electronic payments received by businesses to the Internal Revenue Service (IRS) for the purpose of cross-verification of the income declared by small businesses and sole proprietors. Slemrod et al. (2017) find that reported receipts increased by up to 24 percent, even though the growth in reported corporate income was relatively limited, due to the dampen effect of a 13 percent increase in reported expenses. One of the striking findings of the study is that there was a large increase in the number of businesses reporting income that is exactly equal to the amount reported by payment settlement companies. This indicates information reporting had the intended effect of inducing more accurate reporting of business receipts, though the same conclusion cannot be made about reported taxable income. The study also finds that the introduction of this reporting system by payment settlement companies was able to induce more than 20 percent of the affected group to file a tax return on self-employment income.

17. **Withholding Tax:** Related to third party information reporting is tax withholding by other business entities. In reverse withholding, large firms withhold and remit to the tax authority a fixed share of their purchases from other firms (and individuals), who can then apply for the withheld amount as a credit against their self-reported tax liability (Slemrod 2018). Many developing countries have adopted a withholding tax scheme to combat sales and profit tax evasion by small firms and the self-employed. While withholding tax, in principle, does not change the firms' true tax liability, it can improve revenue collections in economies with widespread evasion and low level of compliance and salience of enforcement or non-filing firms (Brockmeyer and Hernandez 2016). Like the third party information report, information provided by withholding tax agents can be used to improve corporate income tax compliance. The default payment mechanism of a withholding tax scheme in increasing VAT revenue collections (Brockmeyer and Hernandez 2016), in particular, could also be applicable for corporate income tax.

18. **Turnover as tax base or minimum tax schemes:** Minimum tax schemes—firms are taxed on either profits or turnover, depending on which tax liability is larger—are common around the world and used to enhance tax compliance and reduce compliance costs. Firms are liable to pay the maximum tax liability from either turnover tax schemes or profit tax schemes. Using turnover as the tax base (instead of profit) reduces evasion, improves tax compliance, and tax collection. If costs and expenses are not easily verifiable by tax authorities, firms might inflate their reported costs to reduce the tax base. Minimum tax schemes can reduce this type of incentive. A broader turnover base of the tax may be harder to avoid and evade compared to profits. Minimum tax schemes can be applied to at least some industries with a high tax gap, where expenses are difficult to verify—for example construction and wholesale and retail sectors. In this scheme, a lower tax rate is applied to turnover. In Pakistan, for instance, turnover taxes reduced evasion by up to 60–70 percent of corporate income and increased revenue by 74 percent, without reducing aggregate profits.

19. **Penalty and Punishment:** Punishment and penalty can be imposed conditionally for being caught cheating by the tax authority. The theoretical literature postulates that an increase in penalty level would reduce tax evasion and improve compliance. The empirical literature on increasing penalties is, however, scarce. One exception is Aparicio et al. (2011), who evaluate the impact of a reform in Ecuador that introduced the threat of prison time to CEOs of firms that evaded tax regulations. The new law led to a 10 percent increase in corporate tax payments.

### 1.3 Proposed interventions

20. **Improve delivery of electronic database of firms and electronic submission of tax returns and declarations:** For easy extraction of information for analysis and identification of compliance firms, it is important to establish electronic databases and platforms for filing tax returns. The success of modern tax authorities to enforce compliance critically depends on easily available data that can be used to monitor firms and target them for enforcement. Electronic databases also help in linking various information on firms across different tax units (customs imports tax), domestic indirect tax, and direct tax units) for monitoring their activities for easy auditing, enforcement and compliance. The success of interventions proposed below largely depend on the establishment of a taxpayer database. Although, the current Total Revenue Integrated Processing System (TRIPS) provides such database, its current form does not support such analytical process. Thus, enhancing TRIPS will be very important for this agenda. In addition, to conduct systematic data analytics and data matching to provide basis for compliance risk management, it is critical for GRA to implement the World Bank's proposed Data Warehouse (DW).

21. **Digital Payment of transactions:** Slemrod et al. (2017) in United States and Carrillo et al. (2017) in Ecuador suggest the importance of comprehensive third-party information reporting involving both the revenues and costs of firms in the attempt to increase corporate income tax. The use of cost items or lines, which can be shredded in secrecy, can limit the positive effect of third party reporting on corporate income tax. One way to reduce over-reporting the expenditure is to encourage digital payments for transactions between businesses and ensure third party information on payments from entities in the digital payments. In this regard, tax authorities should nudge firms to embrace digital payments, which will provide an easy and accessible trail of transactions to audit. Thus, further reductions of over-invoicing in the area of cost can be expected by encouraging digital payments.

22. Related to mechanisms to prevent the eroding corporate income tax base (profit) by firms through digital payments is **rules on deductible expenditure**. Deductible rules provide a maximum percentage of allowable deduction by firms without auditable receipts. Brockmeyer et al. (2019) found that the use of rules on deductible expenditure in Costa Rica prevented self-employed firms from eroding the corporate income tax base (profits), by increasing expenditure in response to third party information providing higher sales, therefore increasing tax liability and payment.

23. **Withholding Taxes:** In May 2018, Ghana introduced VAT withholding tax. Since then large companies and state agencies are mandated to withhold a certain percentage of purchases from VAT registered entities and remit same to tax authorities. Similar withholding tax on all payments to business entities irrespective of their VAT status should be applied for the purposes of corporate income tax. The withholding tax in lieu of corporate income tax should be fully deductible or refunded upon the filing of tax returns. For instance, a withholding tax rate of 1 percent can be applied for all payments. The submission of reports and payments to tax authorities will serve as an important source of information to monitor firms that would be reported by third parties, in order to ensure compliance. Moreover, in case of non-filing by some of the firms whose taxes have been withheld, the amount serves as a default payment for corporate tax payments, which will likely improve revenue collections. Credit card payment entities should also be appointed as withholding tax agents to withhold and report to tax authorities. This will be particularly **important to widen the tax net to online and the digital economy**, which has been increasing in the recent period.

24. **Third Party Information Reporting:** The tax authority could mandate firms, including financial institutions, fintech, and credit card payments entities, to report transactions with firms that exceed a

certain stated minimum threshold to the tax authority. With the availability of such information, the tax authority will be in a better position to monitor and enforce filing of tax returns and conduct effective auditing that could limit the opportunity for firms to reduce chargeable income.

25. **Deterrent Messages:** Tax authorities should explore the use of sending messages to register but non-filing firms to remind them to file tax returns, preferably making use of third party information reporting. These are simple and cost-effective interventions, if undertaken with some level of credibility of enforcement by the tax authority.

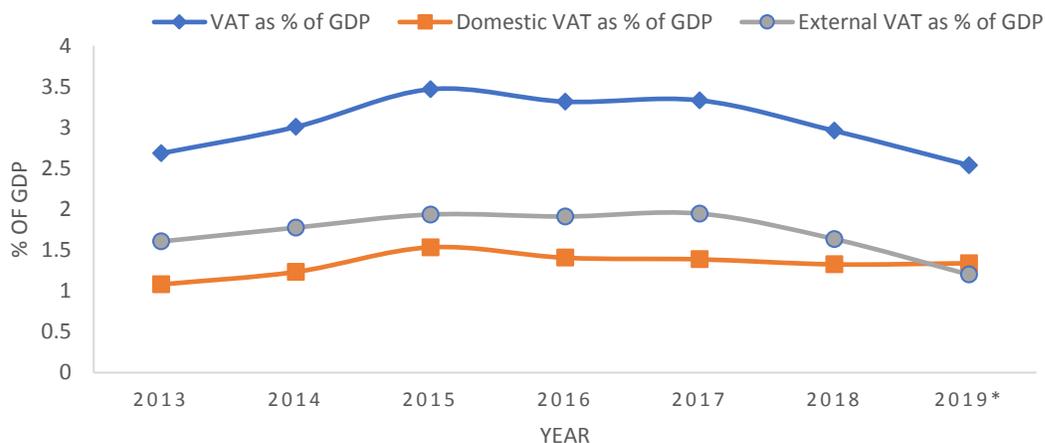
26. **Minimum Tax Scheme:** With a high tax non-compliance rate among firms in Ghana and possible misreporting costs behavior to reduce the tax base, the minimum tax scheme policy can be effective in mitigating incentives to underreport profits or overreport costs. The policy could be targeted to some selected industries or subsectors with high corporate tax gaps.

## 2. Value Added Tax (VAT) or Sales Tax

### 2.1 VAT Tax Evasion in Ghana

27. Despite the rising level of nominal GDP, the VAT-GDP ratio has been falling since 2015. The declining performance of VAT is explained by a reduction in the external component of VAT, and the inability of domestic VAT grow relative to GDP. Under well-functioning tax systems, VAT, by distributing the responsibility of reporting to all firms in the supply chains, is supposed to induce a self-enforced mechanism that improves voluntary compliance. However, it is not the case in many developing countries, including Ghana.

Figure 2: VAT Collections as Percentage of GDP



Source: Authors' computation based on Fiscal Data from Ministry of Finance; <https://www.mofep.gov.gh/fiscal-dataa>

28. VAT evasion is often pervasive at the retail and wholesale level due to the 'last-mile' problem. Underreporting of income or revenue seems to be common among retailers. Many retailers do not file their VAT returns and even those who file, under-report sales, with the goal of reducing their tax bases. Without effective monitoring and auditing systems, VAT collections are difficult at the retail and wholesale

level. The self-enforcing mechanism ensuring reliable self-reporting by firms' breaks down given that most of their customers are final consumers, who do not have any reporting responsibility with tax authorities.

29. Statistics from Ghana Statistical Service (GSS) indicate that out of 638,234 business establishments in Ghana in 2013, 290,466 (45.5 percent) were wholesale and retail enterprises. Business establishments in Ghana generated a total sales revenue amounting to GH¢ 457 billion in 2013. The service sector, which remains the largest contributor to the GDP in Ghana, contributed 74 percent of the overall establishments' receipts. Table 2 indicates that, out of the total receipts of the service sector, wholesale, retail trade, and repair of motor vehicles and motorcycles account for about 50 percent. Thus, giving the size of wholesale and retail sub-sector any lapses in monitoring and enforcement that lead to tax evasion in the sub-sector will have significant adverse impact on the performance of VAT in Ghana.

Table 2: Distribution of Sources of Receipts in the Sector by Sub-sector (in percent) in 2013

Sector/Subsector	Total	Receipts for Services (%)	Sales of Goods in same condition (%)	Other Income (%)
<b>Service</b>	<b>224,640,204,738</b>	<b>55.2</b>	<b>41.1</b>	<b>3.7</b>
Wholesale and retail trade; repair of motor vehicles and motorcycles	111,678,150,308	16.2	82.0	1.9
Transportation and storage	3,575,598,025	90.7	4.4	4.9
Accommodation and food service activities	4,793,771,020	96.0	2.4	1.6
Information and communication	8,487,955,147	99.1	0.4	0.5
Financial and insurance activities	82,942,926,917	93.4	0.1	6.5
Real estate activities	782,585,058	95.8	1.7	2.5
Professional, scientific and technical activities	1,185,362,872	93.1	0.6	6.3
Administrative and support service activities	847,397,392	93.5	0.8	5.7
Education	6,185,644,507	97.4	1.0	1.6
Human health and social work activities	1,816,660,573	91.2	1.7	7.1
Arts, entertainment and recreation	225,397,989	97.3	1.5	1.2
Other service activities	2,118,754,930	80.1	13.8	6.1

Source: Ghana Statistical Service (2017)

30. If a 3 percent VAT flat tax is applied to wholesale, retail trade, and repair of motor vehicles and motorcycles receipts, the GRA should have collected GH¢3.4 billion from this sub-sector alone in 2013<sup>6</sup>. The actual VAT collection for the entire domestic VAT in 2013 was GH¢1.3 billion. This suggests a huge gap between the potential VAT collections and actual VAT receipts from the wholesale, retail trade, and repair of motor vehicles and motorcycles sub-sectors during the period. Thus, the wholesale, retail trade, and repair of motor vehicles and motorcycles sub-sectors, where there exist lags in monitoring and enforcement of VAT returns and tax payments, should be the target for VAT collections improvement.

## 2.2 Successful Interventions in Other Countries

31. **Third Party Information Reporting:** Mahajan and Mittal (2017) tested the implication of third-party information on tax compliance and revenue mobilization in India, by exploiting the differences between wholesale and retail firms. VAT self-enforcement and third-party verification mechanisms are believed more likely to break down for retailers than wholesalers. Thus, third-party information reporting and verification are supposed to have a large and significant effect on tax collections from wholesale firms

<sup>6</sup> This is based on the assumption that firms operating in this sector qualified to register to charge VAT. However, retailers and wholesalers with less than GH¢ 10,000 as annual turnover are eligible to register to charge VAT flat rate. About 21 percent of these firms did not meet the threshold to register to charge VAT. Thus, a minimum potential tax VAT revenue of 2.7 could be realized if all eligible firms were to register and charge VAT.

relative to retail firms. They found that allowing third-party verification had a large and significant effect on tax collections from wholesale firms relative to retail firms. Average tax collections of wholesalers increased by 29 percent relative to the improvement of retailers. The increase in tax collection mainly resulted from an increase in output taxes collected by wholesalers, with no differential reduction in input credits. Using difference-in-difference design to estimate changes in reported revenue by retail and wholesale firms before and after the implementation of the program, they found firms' reported revenue increased by at least 22 percent over four years, with a high compliance rate for firms that face a high volume of consumers.

32. **Incentivize Consumers to Demand Receipts of Transactions:** In 2007, the São Paulo tax authority provided monetary incentives to customers to report evasion by retail firms in an effort to reduce VAT non-compliance by retail firms. In this incentive scheme, consumers receive tax rebates and are entered into lotteries in exchange for requesting receipts, and can also check firms' reports of their transactions with the consumer online, and report any discrepancies. Naritomi (2019) analyzed the effect of the program on tax revenues and found that over a four-year period, after the introduction of the program, retail firms increased their reported revenues by 22 percent compared to a control group of wholesale firms. In addition, firms' reported receipts went up by 14 percent on average right after they received their first consumer complaint. Wan (2010) also found that the introduction of an incentive system to encourage consumers to demand receipts increased sales tax revenue by 17 percent in China.

33. **Withholding Tax:** Credit card companies report all card transactions, withholding and remitting a fraction of the sales to the tax authority in Costa Rica. The withholding tax can be credited against firms' sales tax liability in the same or future fiscal periods or can be refunded by tax authorities in the firms with zero tax liability. A reform in August 2011 changed the withholding rate, on average doubling it, but altering the rate with considerable heterogeneity. Brockmeyer and Hernandez (2016) exploit the differential changes in withholding tax among different categories of firms to study the impact of tax withholding on tax compliance. The study analyzes the change in the amount of tax remitted by firms that experienced an increase in the withholding rate, compared to the change in tax remitted by firms that either experienced no change or were not subject to withholding. The study found that doubling the rate of withholding increased sales tax collection from those subject to withholding. Specifically, the doubling of the withholding rate led to a 34 percent increase in sales tax payment among treated firms and an 8 percent increase in aggregate sales tax revenue, justifying its widespread use in many developing countries. Default payment effect and reduced misreporting are the main mechanisms through which withholding tax schemes increase tax payments.

34. **Electronic Sales and tax filing:** The use of electric filing technology in tax administration is increasing in both advanced and developing countries. Digital technology can ease tax compliance, reduce tax collection costs, and increase administrative efficiency. A shift from traditional paper-based tax filing to an online system, with pre-population and real-time activity, could significantly improve tax compliance (Chen et al. 2017).

35. Digitalization can help the tax authority to improve its enforcement capacity by providing more possibilities to verify the true economic outcomes of taxpayers. With digitalization of consumer transactions through electronic payment, government could easily employ information on sales of individual firms to improve tax compliance and reduce tax avoidance and evasion of firms in the VAT or sales tax. In addition, since tax evading firms have strong incentives to transact business in cash rather than electronically, tax authorities can tailor audits and incentivize customers to choose electronic payment options.

36. Ethiopia introduced electronic sales registry machines (ESRMs). ESRM use resulted in a large and significant increase in tax payments. Moreover, this effect is driven by firms that were more likely to evade taxes prior to ESRM use (Ali *et al.* 2015).

37. Tajikistan, Okunogbe and Pouliquen (2018) examined the adoption and subsequent impact of electronic tax filing (e-filing) on small and medium enterprises. E-filing allows taxpayers to submit their tax declarations online, avoid time-consuming visits to the tax office and frequent interactions with tax officials. Firms that e-file have lower compliance costs, spending five fewer hours each month on fulfilling tax obligations. Among firms previously more likely to evade, e-filing doubles tax payments, likely by disrupting collusion with officials. Among firms less likely to have been evading, e-filing reduces tax payments, suggesting that officials had previously required them to pay more. These firms also pay fewer bribes, as e-filing reduces opportunity for extortion. The study finds that the provision of logistical support in e-filing registration is important for firms to adopt electronic tax filing. Among firms, which received the e-file training and logistical help, the e-filing system adoption was 93 percent.

### 2.3 Proposed interventions

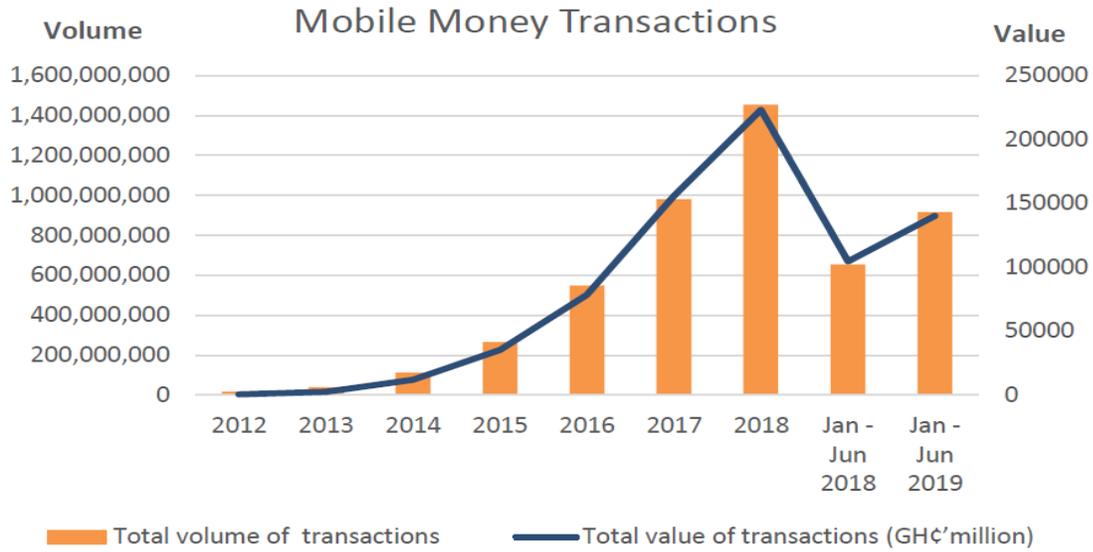
38. **Electronic or Digital Payments:** The worsening VAT collection performance is largely attributed to the structure of the Ghanaian economy. In particular, the relatively high share of cash payments in the overall payment system in part accounts for the poor performance of VAT collection in Ghana—the economy largely remaining as a cash economy, with cash transactions constituting 85 percent of volume of transactions and about 90 percent of transactions values. Many retailers do not file their tax returns and even those that file, may under-report sales—only 33,837 of VAT taxpayers were active filers in 2014. Without effective monitoring and auditing systems, improvements in VAT collections are difficult at the retail and wholesale levels. The self-enforcing mechanism that ensures reliable self-reporting by firms’ breaks down given that most of their customers are final consumers who do not have any reporting obligation with tax authorities. Since cash economies facilitate tax evasion, an electronic payment system will undoubtedly improve tax collections by reducing the ability of taxpayers to evade or avoid taxes. Indeed, evidence indicates that people are compliant to tax rules and pay taxes when they have little option to evade. Tax payments have improved substantially in countries where large volumes of transactions are undertaken electronically instead of with cash. Thus, technology and the use of electronic payment systems can be employed to improve domestic revenue mobilization in Ghana. Hence, the need for urgent policy, aiming to increase electronic payments for a cash-lite society and revenue mobilization purposes.

39. Many forms of electronic payment are available for the promotion of cashless economies. Mobile money payment, which is the most widely used electronic system, should be specially promoted for the cash-lite agenda, because of its wide coverage and potential for financial inclusion<sup>7</sup> and also to complement the Fiscal Electronic Device (FED). In recent times, the use of mobile money has witnessed a remarkable increase—both in terms of active accounts and in transactions, as shown in Figure 3 and Figure 4. At the same time, the use of cash has also fallen, but at a snail’s pace, less than the expected transition to make substantial progress for a cash-lite Ghana beyond aid agenda.

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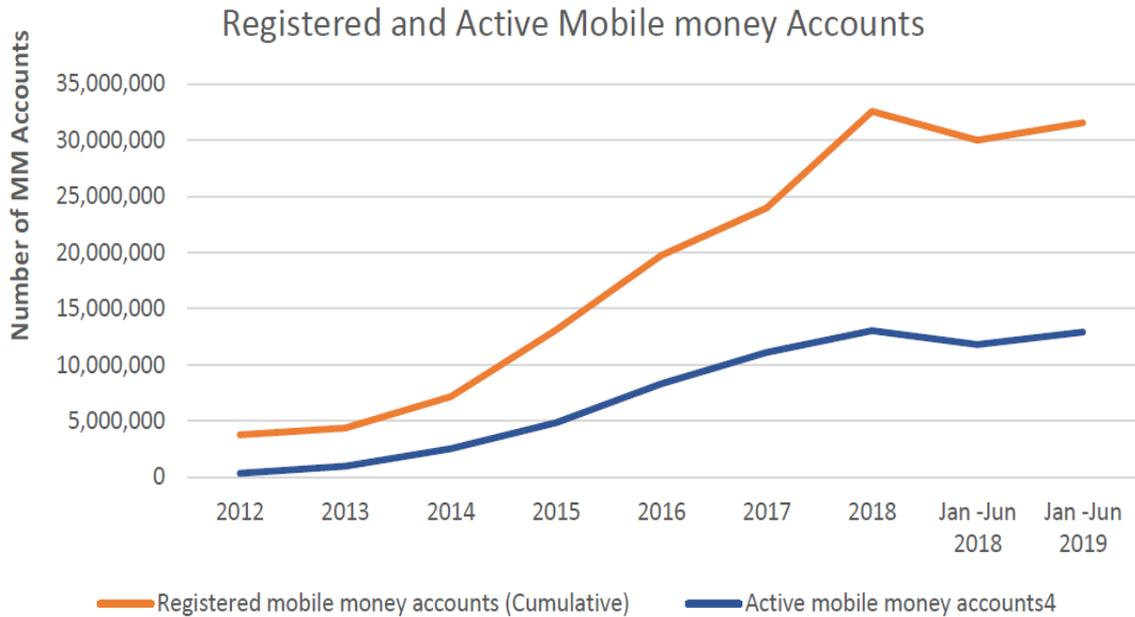
<sup>7</sup>After analyzing Africa’s potential for electronic payments, with extensive research of the banking infrastructure, Herrera (2018) recommended mobile payments as the solution for extending financial inclusion in African countries

Figure 3: Mobile Money Transactions



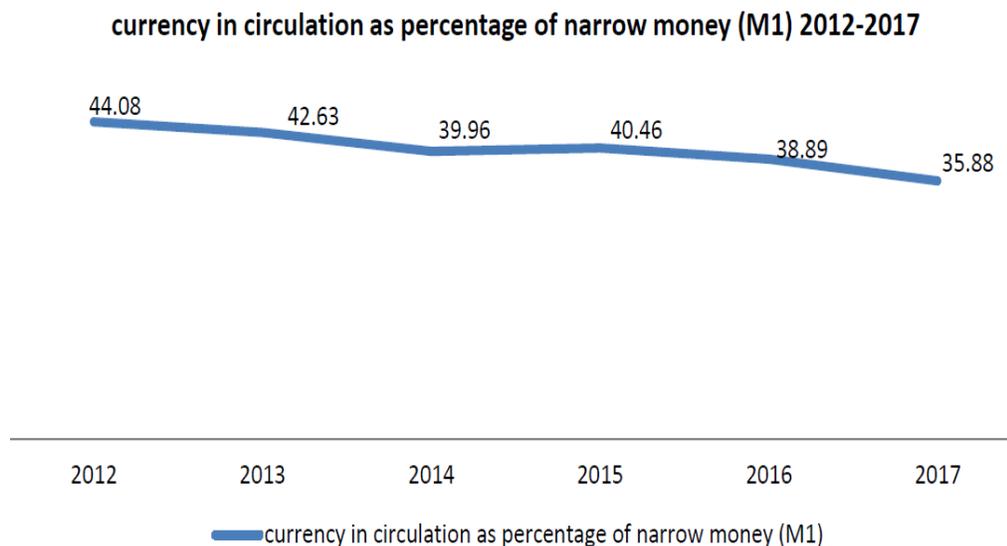
Source: Bank of Ghana (2019)

Figure 4: Mobile Money Accounts



Source: Bank of Ghana (2019)

Figure 5: Money in Circulation M12



Source: Bank of Ghana (2017).

40. While the use of mobile money services and the associated digitalization are being exploited in many areas of the economy (such as money transfer, purchase of shares, and treasuring bills),<sup>8</sup> its potential effect on expanding the tax net and improving tax compliance has not been well explored.

41. Millions of non-banked populations save and transfer money, make and collect payments, and perform many other financial transactions using mobile phone accounts. However, transaction trails left by mobile money payments for goods and services are yet to be utilized and scaled up for tax mobilization purposes. These trails have enormous potential to provide cheap access to valuable information that can be exploited to assess business tax liabilities and easy monitoring to ensure tax compliance. Moreover, they will serve as the basis of a digitalization process envisaged as an important instrument to achieve the cashless economy, with the ultimate goal of reducing corruption, accelerating economic growth and providing tools for efficient targeting of government transfers.

42. The government of Ghana can leverage mobile money payments at the retail level to improve sales tax/VAT compliance. In this respect, the GRA, in partnership with mobile operators, can issue codes or till numbers—purposely for receiving payments for goods and services—that would be linked to registered mobile subscriber identity module (SIM) and mobile money (MoMo) or bank account numbers, and to each trader’s tax identification number (TIN), similar to the Lipa Na Mpesa service in Kenya. The linkage to the TIN (as requirement to get the till number) would allow the GRA to determine traders’ tax obligations, even facilitating automatic tax payments to the GRA accounts, just like withholding tax. This will provide easy access to information provided by third-party reporting. With the availability of personal transactions of trails of customers (who are likely to be taxpayers PIT), the GRA can be provided with information on individual taxpayers for estimating chargeable income for PIT purposes and also help the design of progressive taxes. The information can also be used for verification to improve corporate income tax collections.

<sup>8</sup> The digital wallet or mobile money provide an alternative to cash for those without access to bank accounts and convenient payment systems, even for those with bank accounts.

43. By waiving the transaction cost of making payments for goods and services through till numbers, buyers/consumers could be incentivized to make payments through the till numbers of traders, instead of cash payments. Incentives could be financial, such as discounts and opportunities to win a lottery that depends on the volume of transactions through mobile payment. With increasing mobile payment availability, restrictions on a quantum of cash withdrawals from banks could be introduced in order to encourage electronic payment via mobile. Currently, the use of Point Of Sale Devices is being promoted to ensure electronic transfer of sales data (the current Point Of Sale devices does not promote electronic payment, which is critical for easy monitoring). Promoting MoMo for VAT compliance purposes would be more cost effective compared to the use of Point Of Sale devices. Moreover, it will be easy to incentivize buyers to pay with MoMo, which will immediately takeaway the option of tax evasion from the seller. Digitalization of consumer transactions at retail and wholesale levels presents the opportunity for consumers to act as third-party reporters for the VAT or sales tax, whether intended or unintended. Thus, government should take the initiative to provide this payment mechanism and promote its use for a cashless economy and to increase domestic revenue mobilization.

44. Although the waiver of transaction costs will be borne by the government, the net benefit of the intervention measured by the potential increase in revenue from this intervention less the cost incurred in waiving the transaction costs has to be estimated. In addition, the reduced costs of monitoring and enforcement, delayed payments, arrears and default in payment of tax liabilities for trust fund tax like VAT should be considered.

45. **Incentivize Consumers to Demand Receipts of Transactions:** The self-enforcing mechanism of VAT breaks down when the final consumers, who cannot demand a refund, purchase taxable goods and services, i.e., 'the last mile problem'. The incentives to demand VAT invoices or receipts are low for the final consumers. Retailers are therefore less likely to issue VAT invoices to consumers. The 'last mile' problem of VAT could be mitigated by incentivizing consumers to demand VAT registered receipts and invoices. This can be accomplished by education, awareness creation, and rewarding consumers (like the case in China through lottery), who demand the appropriate receipts and submit them (invoice and receipts numbers) to the tax authority. Consumers can, however, be incentivized to demand VAT invoices and receipts, making it possible to use genuine invoice numbers for lotteries. This can be done by creating short codes with telecommunication companies, where all the genuine VAT invoices and receipt numbers can be cross checked by consumers. The tax authority can use the information to detect VAT non-compliance businesses, conduct audits, and appropriately sanction them. More importantly, the reward policy, which encourages consumers to report to the tax authority, would also change the cheating behavior of businesses and traders to comply with the tax system.

### 3. Establishing Income Tax Collection for the High Net-Worth Self-Employed

#### 3.1 Personal Income Tax in Ghana

46. Personal income tax (PIT) collection is especially low in Ghana. A substantial part of the revenue from PIT is collected from people who are in formal employment, which is less than 15 percent of the total work force in the country. PIT payment from self-employed individuals is insubstantial. In 2018 for example, personal income taxes (PAYE) and the self-employed were 2.1 percent and 0.13 percent of GDP. Tax revenue from property and rental income is negligible and do not feature as main sources of revenue in Ghana, even though there is a great potential to gain tax revenue from property and rental income.

47. In many developing countries, high income individuals are likely be rentiers and capital owners, as found in Columbia by Alvaredo and Londoño (2013): income in Colombia is highly concentrated, the top 1 percent of income distribution accounting for over 20 percent of total income; high-income individuals in Colombia are mostly rentiers and capital owners. Giving the low self-employment PIT revenue collections in Ghana, it likely that many High Net Wealth Individuals (HNWI) in Ghana are not tax compliant with income tax—they do not file income tax returns, and therefore do not make the appropriate tax payments. This phenomenon leads to losses of a large amount of income tax revenue, and an unfair distribution of the tax burden.

48. High Net Wealth<sup>9</sup> Individuals (HNWI) are individuals who have accumulated net worth to the level that places them at the very top of the wealth scale in a country (IMF, 2017). Mobilizing tax revenues from the HNWI presents enormous challenges to tax administrations due to complexity of their financial affairs, possible political influence, and usage of aggressive tax planning to minimize effective tax rates. However, neglecting this highly visible group of taxpayers not only affects the country by sizable reduction of tax revenue collections from them<sup>10</sup>, but can also lead to the erosion of trust in the fairness of tax administration. The perceived unfairness in the tax system could serve as a cancer for tax administration and worsen non-compliance in the wider taxpayer population. High and rising income inequality in Ghana particularly necessitate tax compliance from these wealthy individuals to finance government's developmental projects, without overburdening the poor.

49. The sheer sizable potential contribution of this group of taxpayers to revenue generation, coupled with the complexities in dealing with them, necessitate special attention that focuses on increasing compliance and maximizing revenue collection from them in a strategic manner.

#### 3.2 Successful Interventions in Uganda

50. The Uganda Revenue Authority (URA) set up a High Net Wealth Individual (HNWI) unit in September 2015 to focus on mobilizing tax revenues from High Net Wealth Individuals. The unit developed their programs in two phases.<sup>11</sup> During the first phrase, the unit identified and categorized HNWI, and analyzed legal and administrative strengths and weakness of the URA. The unit identified the following

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<sup>9</sup> According to the IMF (2017), 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.

<sup>10</sup> About 2300 individuals in Accra are classified as Millionaires in 2016 (see The Wealth Report, 2017).

<sup>11</sup> [https://www.theigc.org/wp-content/uploads/2018/07/Taxing-high-net-worth-individuals\\_-Lessons-from-the-Uganda-Revenue-Authority%E2%80%99s-experience.pdf](https://www.theigc.org/wp-content/uploads/2018/07/Taxing-high-net-worth-individuals_-Lessons-from-the-Uganda-Revenue-Authority%E2%80%99s-experience.pdf)

sectors as the top priorities: real estate, financial and insurance services, professional and technical services (lawyers and doctors), manufacturing, construction, and public (policy makers). The Unit paid special attentions to those who had 1) land transactions of large amounts, 2) high value commercial forests, 3) rental income, 4) income from imports and exports, 5) expensive cars, 6) large loans and bank transactions, and 7) CEOs and business owners. During the second phrase, the unit approached identified NHWIs and educated them about their rights and obligations, signaling to them that the URA is looking into their tax affairs.

51. The unit's tax revenue collection increased by \$5.5 million within the first year of setting up the unit. More importantly, there was a substantial improvement in voluntary tax compliance among wealthy individuals: The proportion of wealthy individuals who filed income tax returns increased from 13 per cent to 78 per cent. It is important to note that the high level of commitment of the top management of the Uganda Revenue Authority and their active engagement to tax these individuals (who are mostly politically influential) was an indispensable step in taxing the HNWI in Uganda.

### 3.3 Proposed interventions

52. As recommended by the IMF (2017), the first and foremost step towards implementing a High Net Wealth Individuals Compliance Program (HNWICP) is for a tax administration to make an assessment of its readiness to proceed and create feasible and sustainable programs. The complexities and political factors necessitate tactfulness at the planning stage, in order to embark on reforms and programs to appropriately tax, monitor, and enforce compliance on tax filing and payment of tax liabilities.

53. Four important areas need critical assessment prior to any implementation of HNWICP. First, the alignment of a HNWICP approach with the realities of the political environment—garnering direct support of the Minister of Finance and Cabinet and members of parliament is important for addressing any tension between compliance goals and political reality, especially where politicians and people with political influence are likely to comprise the HNWI group. A crucial step in taxing HNWI is also the commitment of the top management of the GRA to tax appropriately, without any discrimination, all individuals within this group of potential taxpayers. Furthermore, it is important to assess how HNWI tax compliance may affect the overall economic objectives of the country, including incentives to encourage foreign direct investment. Public and media acceptance is very critical for the success of enforcing compliance of HNWI, and therefore must be thoroughly assessed. Other critical areas for assessment include; evaluation of the extent to which fundamental legal authority and taxing rights are present, assessment of the capacity of the administration to engage HNWI and their intermediaries; and lastly, assessment of the availability of necessary data and information (see IMF, 2017).

54. Following the Ugandan model, special units should be established, the HNWICP staff dedicating their efforts and expertise akin to the LTO office for large taxpayers. If properly managed, concentrating on HNWI not only will improve revenue mobilization from the categorized group, but will also improve tax morale for the general populace or potential taxpayers. In addition, it will also enhance the reputation and mandate of the GRA to enforce tax compliance regulations of other taxpayers. Certainly, setting up such specialized unit will entail costs, at least in terms of staffing and other resources including financial resources that will be reallocated to the division probably from other tax administrative units. Thus, a proper costs benefits analysis should be conducted to assess the potential increase in revenues vis-a-vis the costs of maintaining such specialized unit.

55. **Identification of High Net-Worth Self-Employed:** A critical step to establish tax collection systems for “High Net Worth” / self-employed individuals is identifying the HNWIs population, by generating an initial list of potential HNWIs, comprising directors of large companies under the LTO and individuals whose wealth is publicly known. Influential individuals such as paramount chiefs, heads of professional associations, heads of business associations, religious leaders, and outspoken journalists and lawyers should also be considered. Top state officials from executives, legislative, and judiciary should also be added to the list of HNWIs. Others should include owners of large real estate properties and homeowners in regional capitals and additional cities, especially in Accra. In this regard, the GRA should consult land commissions for owners of landed and real estate properties with a certain minimum estimated threshold value. Financial transaction values could also provide signals of wealthy individuals in the society; loans and deposits with financial institutions, undoubtedly provide indications of income of individuals. Thus, banks should be consulted for the list of individuals with loans, deposits and transactions above a certain threshold.

## 4. Formalization

### 4.1 Size of Informal Sector in Ghana

56. Informal firms are defined as those firms and establishments that are engaged in legitimate business activities but are not registered with the tax authority (Bruhn and McKenzie 2014). Basic and Financial information of informal firms are outside the direct purview of governments and tax authorities. For governments, the existence of substantial informal firms results in a loss in tax revenue, unfair competition for formal firms, and a culture of informality (Perry et al. 2007, Levy 2008).

57. Like in many developing countries, the majority of businesses in Ghana are informal. Most firms are not registered with the Ghana Revenue authority (GRA). About 67.9 percent of sole proprietorship firms and 66 percent partnership firms operate in the informal sector in 2013— not registered with Ghana Revenue Authority (Table 3). Potential revenues from formalizing unregistered sole proprietorship and partnership establishments and enforcing tax compliance from these establishments would have amounted to 11.8 percent of GDP and 0.2 percent of GDP, respectively. Formalizing informal firms could broaden the tax net and dramatically improve domestic revenue mobilization.

**Table 3: Level of Formality in Ghana: Sole Proprietorship**

Firm Size( # of Employees)	Formal	Informal	Total
1	26.79	73.21	199,850
2-4	32.67	67.33	235,387
5-9	41.30	58.70	43,371
10-19	52.55	47.45	12,535
20-30	64.85	35.15	3,198
30-39	60.52	39.48	1,550
40-49	79.51	20.49	576
50 or more	85.9	14.1	1,373
Total	32.1	67.9	497,840

Source: Authors' computations from IBES data (2013)

**Table 4: Level of Formality in Ghana - Partnership**

Firm Size( # of Employees)	Formal	Informal	Total
1	28.74	71.26	7,007
2-4	31.64	68.36	32,820
5-9	41.05	58.95	6,802
10-19	46.54	53.46	2,656
20-30	55.08	44.92	708
30-39	57.92	42.08	259
40-49	58.40	41.60	125
50 or more	62.4	37.6	303
Total	34.0	66.0	50,680

Source: Authors' computations from IBES data (2013)

## 4.2 Successful Interventions in Other Countries

58. Many countries have employed various interventions in an attempt to formalize informal firms. Most interventions have concentrated on making it cheaper and less burdensome for informal firms to formalize. Others include enforcement of existing registration regulations. Most informal firms won't formalize unless forced to do so, suggesting formality offers little private benefit to them. However, the tax revenue benefits to the government more than offset the costs of inspections (De Andrade et al. 2013).

59. **Improving enforcement of existing regulations:** Two main mechanisms of formalizing informal firms are reducing the costs (time, administrative procedures, registration fees, etc.) of formalizing and increasing the costs of remaining as an informal firm. Using the long arm of the law to increase enforcement of existing regulations is one of the instruments of raising the costs of informality. Whilst enforcement of regulations can induce firms to register, it can also lead to an exit of informal firms. Enforcement is one of the interventions that has been proving to increase firms' formalization agenda in many countries. In Brazil, De Andrade et al. (2013) found that enforcement of regulations—sending an inspector to a firm—substantially compelled firms to formalize. Specifically, the study found that a firm's reception of an inspector's visit resulted in a 21 to 27 percentage point increase in registration. More importantly, the benefits of enforcements through inspections to formalize firms were also found to outweigh the costs of ensuring the enforcement if it is well targeted to profitable firms—the formalization of informal firms that earn an average of USD1, 000 a month in profits outweighs the costs of such enforcement. Widening the tax net through formalization of these large and more profitable informal firms—that are more likely to be competitors of formal firms for customers—is particularly vital in reducing unfair competition that can prevent more efficient formal firms from growing.

60. **Government setting up one-stop shop service point.** One-stop shop service point could cover business permits and registration, regulatory procedures and tax identification number registration. One-stop shop reduces the administrative burden associated with business registration and formalization. Also, duplications services by government agencies would be avoided with an improved level of efficiency in service delivery (Jensen, undated). Thus, the reduction in costs of formalization including time, administrative procedures, also remains an important mechanism to pull many informal firms to formalize and new entry firms to start in the formal sector. Bruhn (2011) and Kaplan, et al. (2011) use individual labor survey data and administrative data, respectively, to examine a reform that reduced the number of days

needed to start a business from 30.1 days to 1.4 days in Mexico. Both studies found that the reform improved the registration compliance. Bruhn (2011) found that the number of registered businesses increased by 5percent as a result of the reform. Kaplan, et al. (2011) also found that the reform increased the number of new firm registrations with the Mexican Social Security institute by 5percent but although the gain in registration was not sustained. A reduction in time required to register a business from 55 to less than 9 days and 30 percent reduction in the registration fees to have improved business registrations by 5percent (Cárdenas and Rozo, 2007 cited in Bruhn and McKenzie, 2014 ). Thus, interventions that reduce both financial and time costs of business registration provide modest gains in terms of improving the number of formal firms.

61. **Customers monitoring and enforcement:** A different but subtle mechanism of enforcement of registration and formalization creates incentives for customers to trade with formal firms. The Government can give customers incentives to demand that firms become formal (De Andrade et al. 2013). In the case of China, when tax receipts count as lottery tickets, it creates an incentive for customers to ask for receipts, and therefore monitor and enforce the compliance of tax registration and payment indirectly on behalf of the tax authority. Wan (2010) finds that sales tax revenue increased by 17 percent in Chinese districts that introduced a system that created incentives for customers to demand receipts. Naritomi (2019) finds that in Brazil, tax revenue was increased by 23 percent.

62. **Third Party (customers) reporting information:** Third Party (customers) reporting information to the tax authority could also help in monitoring and enforcing existing tax regulations and formalization. Brockmeyer et al. (2019) examined the role of third party reporting in enhancing extensive-margin compliance, showing that third-party information is a great instrument to identify non-filing firms, and strengthen enforcement, resulting in better filing compliance. By providing valuable information about operations (sales and purchases) of informal or unregistered firms, the tax authority would have access to critical information about firms, which are viable enough to provide targeted intervention such as information on formalization, reduction of registration costs, and enforcement.

63. **Monetary Incentives:** Monetary incentives work as “carrots” in inducing informal firms to register and formalize, as opposed to sticks—enforcement or inspection (De Andrade et al. 2013). Whilst De Mel et al. (2013) found doubtful evidence of formalization benefits on firm performance, they discovered that offering money that substantially exceeds initial registration costs to informal firms significantly increased registration with the tax authority in urban Sri Lanka. The study suggested that firms would only become formal when the benefits to doing so increase—the proportion of firms that were willing to become formal reduced sharply in response to an increase in the net cost of formality. This suggests that interventions should be targeted to categories of firms which would likely benefit from formalization.

### 4.3 Proposed interventions

64. **Customers monitoring and enforcement:** Creating incentives for customers to monitor compliance ~~to~~ formalization and tax compliance seems to be an important intervention to increase firm formalization in Ghana. Since profitability and sustainability of firms depend on customers’ acceptability of firms products, firms would internalize the need of customers in relation to tax compliance by registering with the tax authority. The GRA could design programs which give incentives to consumers to demand receipts from firms with TIN numbers and verifiable receipt numbers used to enter into an electronically organized government lottery, compelling informal firms not only to register to formalize, but also comply with tax regulations, in order to make customers patronize their goods and services

65. **Setting up one stop shop:** Currently, the registered general department, which is responsible for business registration, is able to issue tax identification numbers (TIN) on behalf of GRA and should be starting point for wider integration of services into one-stop shop service point for businesses. This should include, among other things, registration of companies and business names and other regulatory requirements necessary for smooth commencement and operations of businesses. Online registration services for both business and tax identification numbers can be improved.

## Conclusion

66. Improving domestic revenue mobilization in Ghana remains a critical milestone in the country's developmental agenda under the 'Ghana Beyond Aid Agenda'. This study reviewed successful interventions for improving revenue collections in other countries and provided recommendations on interventions that can be considered by the Ghana's government.

67. The first step in improving corporate tax revenue is an establishment of taxpayer databases. Infrastructure is critical for making other interventions possible and effective. Since economy payment systems are important for easily accessing information about taxpayers, encouraging and compelling digital payments could help improve revenue mobilization. Deterrents and other messages to boost taxpayer morale, if appropriately designed, could also be effective in encouraging tax filing and compliance. The introduction of minimum tax schemes and tax deductible laws can be promulgated to reduce substantial corporate tax evasion and increase domestic revenue mobilization. Fully refundable withholding taxes, especially for online transactions, could be introduced to secure revenues.

68. Promoting electronic payments and encouraging consumers to demand receipts are critical strategies to for improving VAT collections in Ghana. Electronic payments could provide simple and easy trails of information for the Ghana Revenue Authority to monitor firms. Letting consumers become 'enforcement officials' by demanding appropriate receipts and invoices will ensure that firms are duly registered and comply with tax regulations.

69. With regards to personal income taxes, especially taxing the affluent and High Net Wealth individuals (HNWI), designating an office with appropriately trained and resourced staff and establishing clear strategies is recommended, as taxing on HNWIs is a politically sensitive issue.

70. The majority of businesses in Ghana are informal. Monitoring and enforcing rules governing registration of informal firms, especially on large and profitable ones, can be one of the most important instruments employed to increase domestic revenue mobilization. Studies suggest that firms would only become formal when the benefits to doing so exceed the benefits of staying informal. Monetary incentives for both firms and consumers can be used as a mechanism to motivate informal firms to formalize.

## References

- Ahmed, N., R. Chetty, M. Mobarak, A. Rahman and M. Singhal (2012). "Improving Tax Compliance in Developing Economies." *International Growth Center Working Paper*.
- Ali, M., A. B. Shifa, A. Shimeles and F. Woldeyes (2015). "Building fiscal capacity in developing countries: Evidence on the role of information technology." *CMI Working Paper*.
- Alvaredo, F. and J. Londoño (2013). High incomes and personal taxation in a developing economy: Colombia 1993-2010, CEQ Working Paper.
- Aparicio, G., P. E. Carrillo and M. Shahe Emran (2011). "Taxes, prisons, and CFOs: The effects of increased punishment on corporate tax compliance in Ecuador." Available at SSRN 1808945.
- Bank of Ghana (2017). Payments Systems Oversight Annual Report, 2017
- Bank of Ghana (2019). Mobile Payment Statistics, Quarterly Report, April 2019
- Bérgolo, M., R. Ceni, G. Cruces, M. Giacobasso and R. Perez-Truglia (2018). *Misperceptions about tax audits*. AEA Papers and Proceedings.
- Besley, T. and T. Persson (2014). "Why do developing countries tax so little?" *The Journal of Economic Perspectives* **28**(4): 99-120.
- Brockmeyer, A. and M. Hernandez (2016). *Taxation, information, and withholding: evidence from Costa Rica*, The World Bank.
- Brockmeyer, A., M. Hernandez, S. Kettle and S. Smith (2019). "Casting a wider tax net: Experimental evidence from costa rica." *American Economic Journal: Economic Policy* **11**(3).
- Bruhn, M. (2011). "License to sell: the effect of business registration reform on entrepreneurial activity in Mexico." *Review of Economics and Statistics* **93** (1):382-6.
- Bruhn, M. and D. McKenzie (2014). "Entry regulation and the formalization of microenterprises in developing countries." *The World Bank Research Observer* **29**(2): 186-201.
- Carrillo, P., D. Pomeranz and M. Singhal (2017). "Dodging the taxman: Firm misreporting and limits to tax enforcement." *American Economic Journal: Applied Economics* **9**(2): 144-164.
- Chen, J., S. Grimshaw and G. D. Myles (2017). "Testing and Implementing Digital Tax Administration." *Digital Revolutions in Public Finance*.
- De Andrade, G. H., M. Bruhn and D. McKenzie (2013). *A helping hand or the long arm of the law? Experimental evidence on what governments can do to formalize firms*, The World Bank.
- De Mel, S., D. McKenzie and C. Woodruff (2013). "The demand for, and consequences of, formalization among informal firms in Sri Lanka." *American Economic Journal: Applied Economics* **5**(2): 122-150.

Harju, J., T. Kosonen and O. Ropponen (2013). "Do honest hairdressers get a haircut? On tax rate and tax evasion." *Oxford Review of Economic Policy* **30**(4): 658–679.

Jensen, L (unpublished). *Taxation of Informal Economy in Tanzania – Profile, Drivers And Options*. Chapter in the TZ Public Expenditure Review FY20\_Final consolidated draft, World Bank.

Kaplan, D. S., E. Piedra, and E. Seira (2011). "Entry regulation and business start-ups: Evidence from Mexico." *Journal of Public Economics* **95** (11-12): 1501–15.

Keene, V., H. Gaperi, R. Tait, A. Komso, and Mike Smith (2019). *Ghana – GRA Transformation to Sustainable Outcomes*, IMF Technical Report. Kleven, H. J., M. B. Knudsen, C. T. Kreiner, S. Pedersen and E. Saez (2011). "Unwilling or unable to cheat? Evidence from a tax audit experiment in Denmark." *Econometrica* **79**(3): 651-692.

Levy, S. (2008). "Good intentions." *Bad Outcomes* (Washington, DC: Brookings Institution, 2008).

Mahajan, A. and S. Mittal (2017). "Enforcement in Value Added Tax: Is Third Party Verification Effective?".

Ministry of Finance (2020). Office of the Hon Minister Speaking Note: Launch of Tax Audit and Quality Assurance Unit at GRA. <https://www.mofep.gov.gh/sites/default/files/speeches/Launch-of-tax-Audit-%26-Quality-Assurance-Unit-at-GRA.pdf>

Ministry of Finance (various series). Fiscal Data. <https://www.mofep.gov.gh/fiscal-data>

Naritomi, J. (2019). "Consumers as tax auditors." *American Economic Review* **109**(9): 3031-3072.

Okunogbe, O. M. and V. Pouliquen (2018). "Technology, taxation, and corruption: evidence from the introduction of electronic tax filing." *World Bank Policy Research Working Paper*(8452).

Parliament of Ghana (2018). *Taxation (Use of Fiscal Electronic Device) Act 2018 (Act 966)*.

Perry, G. E., O. Arias, P. Fajnzylber, W. F. Maloney, A. Mason and J. Saavedra-Chanduvi (2007). *Informality: Exit and exclusion*, The World Bank.

Slemrod, J. (2018). "Is This Tax Reform, or Just Confusion?" *Journal of Economic Perspectives* **32**(4): 73-96.

Slemrod, J., M. Blumenthal and C. Christian (2001). "Taxpayer response to an increased probability of audit: evidence from a controlled experiment in Minnesota." *Journal of Public Economics* **79**(3): 455-483.

Slemrod, J., B. Collins, J. L. Hoopes, D. Reck and M. Sebastiani (2017). "Does credit-card information reporting improve small-business tax compliance?" *Journal of Public Economics* **149**: 1-19.

Sparkman, A. R. et al. (2017). *The Republic of Ghana: TADAT Performance Assessment Report*. Technical Assistance Report, Fiscal Affairs Department, International Monetary Fund

Wan, J. (2010). "The incentive to declare taxes and tax revenue: the lottery receipt experiment in China." *Review of Development Economics* **14**(3): 611-624.

