UGANDA

Revenue Administration Gap Analysis Program—The Value-Added Tax Gap

Eric Hutton, Mick Thackray, and Philippe Wingender
INTERNATIONAL MONETARY FUND

Fiscal Affairs Department

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REVENUE ADMINISTRATION GAP ANALYSIS PROGRAM—THE VALUE-ADDED TAX GAP

Eric Hutton, Mick Thackray, and Philippe Wingender

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Mr. Hutton of The Fiscal Affairs Department (FAD) Revenue Administration Gap Analysis Program (RA-GAP) mission visited Uganda in May 2013 as part of a broader revenue administration mission. During this mission, Mr. Hutton presented the RA-GAP value-added tax (VAT) gap model to the Uganda Revenue Administration (URA) and worked with URA analysts and the Ugandan Bureau of Statistics (UBS) to identify the data required for the RA-GAP model and conduct some initial analysis.

Between May 2013 and January 2014, the RA-GAP team, including Messrs. Hutton and Wingender used data provided by the URA and the UBS to estimate the VAT gap in Uganda. Messrs. Wingender and Thackray visited the URA in February 2014. The purpose of the visit was to present the results of the VAT Gap analysis to the URA and Ministry of Finance, Planning, and Economic Development (MoFPED); provide advice on integrating tax gap analysis with strategic management and review next steps to improving VAT revenue performance.

The URA and MoFPED response to an early draft of this report is attached as an annex. It includes a number of suggested changes to the VAT gap model. Without determining whether or not these are correct, sensitivity analysis shows that they would not materially affect the results, so they have been left to the URA to investigate as part of their ongoing analysis.

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ABBREVIATIONS AND ACRONYMS

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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>FAD</td>
<td>Fiscal Affairs Department</td>
</tr>
<tr>
<td>IT</td>
<td>Information technology</td>
</tr>
<tr>
<td>MoFPED</td>
<td>Ministry of Finance, Planning, and Economic Development</td>
</tr>
<tr>
<td>RA-GAP</td>
<td>Revenue Administration Gap Analysis Program</td>
</tr>
<tr>
<td>SSA</td>
<td>Sub-Saharan Africa</td>
</tr>
<tr>
<td>TA</td>
<td>Technical assistance</td>
</tr>
<tr>
<td>UBS</td>
<td>Ugandan Bureau of Statistics</td>
</tr>
<tr>
<td>URA</td>
<td>Uganda Revenue Administration</td>
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<tr>
<td>VAT</td>
<td>Value-added tax</td>
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EXECUTIVE SUMMARY

This report estimates the VAT gap in Uganda for the period 2003/4–2012/13. The analysis was carried out by applying the RA-GAP VAT gap estimation methodology, which relies on statistical data on the value-added generated by each sector of activity. The methodology employs a top-down approach for estimating the potential VAT base, using statistical data on value-added generated in each sector. There are two main components to this methodology: (1) estimate the potential net VAT collections for a given period; and (2) determine the accrued net VAT collections for that period. The difference between the two values is the compliance gap. In addition, the RA-GAP model is used to estimate the potential VAT that would be due under a normative policy structure with a minimum of tax expenditures and reliefs. The difference between the potential VAT due under the current policy structure and that due under the normative structure is called the policy gap.

Main findings

Uganda has a large VAT compliance gap that has remained fairly steady over time as a percentage of potential VAT at around 60 percent (Figure 1). This result is in line with the Ugandan Revenue Authority’s assessment of the compliance risks in Uganda’s VAT. It is also consistent with Uganda’s low tax efficiency relative to its regional peers. As a percentage of GDP, the compliance gap has been rising, to around 6 percent of GDP in 2012/13. This increase reflects the rise in potential VAT as a percentage of GDP since 2003/04.
The sectoral decomposition of the VAT gap suggests that this may be an over-estimate, and the true gap is closer to 50 percent. The gap found for the construction sector is very high (Figure 2); it may be due to differences in the definitions and allocations used in national accounts and VAT. This could also affect the overall estimate of the compliance gap\(^1\), and should be investigated.

![Figure 1. Compliance Gap, 2003/04–2012/13](image)

Source: Staff estimates.

The VAT policy gap in Uganda is lower than the compliance gap, around 1 percent of GDP. While there are a number of exemptions and zero-rates in Uganda’s VAT, their effects on revenue are relatively low, around 20 percent of theoretical VAT due under a normative policy structure. The policy gap is also reduced by negative tax expenditures in agriculture due to the nonrecovery of input tax in supply chains leading to taxable outputs (also known as cascading).

\(^1\) The reasons for this are discussed in Section II.C. below.
There is scope for closing the VAT gap to contribute significantly to Uganda’s revenue mobilization target. If the policy gap remains unchanged, closing the compliance gap to about 40 percent of potential VAT would mean that Uganda achieves the regional average tax efficiency. This would increase VAT revenues by 2–2.5 percent of GDP and would be a significant contribution to achieving the government’s target of increasing tax revenues by 0.5 percent of GDP per year.

Policy measures could facilitate administration efforts to reduce the compliance gap. Though there is less scope in the policy gap to improve revenues, removing exemptions for supplies to final consumers could increase revenues. Furthermore, reducing complexity in the VAT law - in particular removing exemptions that apply to intermediate consumption - would reduce compliance and administration costs and help close the compliance gap.

There has been progress in implementing tax administration reforms, but the URA needs to identify tax gap closing measures for the current fiscal year. To achieve significant reductions in the compliance gap, there needs to be a transformation in tax morale in Uganda. To achieve this long term goal, the URA has been implementing enabling measures intended to improve tax morale and increase future revenues. However, there are immediate fiscal pressures,
so short term measures need to be identified to increase VAT revenues in 2013/14 without compromising the longer term reform program.

The current approach to handling excess credit returns and refund claims does not cover compliance risks adequately. There are endemic risks in the input tax credits that are an integral part of VAT. The current approach is to systematically check all refund payments that are claimed in respect of such credits (and cap the total amount paid each month), while allowing excess credits to offset subsequent tax liabilities without systematic checking. This approach does not cover the compliance risks in input tax credits adequately, and risks allowing unchecked input tax credits to be recovered by high risk taxpayers (as offsets). As well, the cap on refund payments could lead to an increasing stock of carried forward unpaid (and unchecked) excess credit claims, which can create a significant fiscal risk. A focused campaign to review accumulated excess credits and check high risk cases could close the compliance gap and increase revenues in the short term.

Using tax gap analysis in a systematic way throughout the URA can support their reform objective to increase their analytical capability and improve performance monitoring. The URA is currently reviewing its analytical capability. A unified approach to tax gap analysis throughout the organization would provide a common framework for analysis at all levels in the URA, allowing strategic direction to both inform and be informed by individual operational units’ compliance strategies, plans and operations. This should enable better compliance interventions, and provide more robust performance indicators to monitor progress in the reform program.

As part of its tax gap analysis, the URA should develop in-year monitoring processes and metrics for the tax gap. RA-GAP has handed over its VAT gap model to URA analysts, but the model has high data requirements and can only be updated periodically. The URA needs to develop ways of (a) interpreting in-year receipts from a tax gap perspective; and (b) systematically capturing administration and compliance changes and events that could affect receipts and the tax gap.

Suggested follow-up action for country authorities

Adopt the RA-GAP VAT gap model for Uganda. The RA-GAP model provides a robust indicator of the VAT gap, but necessarily contains a number of adjustments, assumptions and judgments. URA analysts should satisfy themselves that these are appropriate for Uganda. This
should include a review of the treatment of construction services\(^2\) in national accounts to ensure the model uses consistent definitions for tax and statistics.

**Develop in-year processes and metrics to monitor the tax gap and strategic compliance risks.** Tax gap analysis is more than a single estimate of the overall scale of compliance losses. The URA should monitor in-year revenues, economic and policy impacts, and compliance and administration changes so as to be able to take an informed position on the current level of the tax gap and contributory compliance behaviors.

**Identify and implement appropriate short-term tax gap closing measures.** Such measures are required to mitigate short-term fiscal risks emerging in the current fiscal year. These are described more fully in Appendix II, and could include:

- reviewing open audit cases in the LTO and major MTOs, identifying the key issues, and expediting the closure of cases and collection of taxes;
- implementing the large taxpayer compliance strategy, targeting, initially, only a few high risks;
- establishing arrears owed by government agencies and implement collections mechanisms;
- checking high risk carried forward excess credits;
- increasing arrears collection with a centralized exercise using staff temporarily relocated from other areas; and
- expanding tax marketing campaigns, including the naming and shaming of tax defaulters.

**Manage compliance risks in excess input tax claims on a tax gap basis, not on a cash basis.** The current approach of controlling refund payments, rather than input tax credits, does not fully cover the compliance risks in such credits. A focused campaign introducing compliance risk based reviews for input tax credits could yield short-term tax gap and fiscal benefits as well as improving risk management in the longer term.

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\(^2\) See Section II.C. below.
I. BACKGROUND

A. Measuring Value-Added Tax Performance

1. VAT efficiency is low in Uganda. The revenue productivity of the VAT, as measured by its “C-efficiency” value—the ratio of VAT revenue to the product of the standard rate and final consumption—is around 30 percent, which is lower than the average for Sub-Saharan African countries (Table 1).

Table 1. Value-Added Tax Revenue Performance

<table>
<thead>
<tr>
<th>VAT Standard Rate (In Percent)</th>
<th>VAT Yield (In Percent of GDP)</th>
<th>VAT Revenue Productivity (In Percent)</th>
<th>C-Efficiency (In Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uganda</td>
<td>18.0</td>
<td>3.8</td>
<td>21.4</td>
</tr>
<tr>
<td>Sub-Sahara Africa (SSA)</td>
<td>16.0</td>
<td>5.3</td>
<td>33.7</td>
</tr>
<tr>
<td>Burundi</td>
<td>18.0</td>
<td>8.9</td>
<td>49.4</td>
</tr>
<tr>
<td>Ghana</td>
<td>12.5</td>
<td>4.1</td>
<td>32.7</td>
</tr>
<tr>
<td>Kenya</td>
<td>16.0</td>
<td>5.6</td>
<td>34.8</td>
</tr>
<tr>
<td>Rwanda</td>
<td>18.0</td>
<td>6.1</td>
<td>33.9</td>
</tr>
<tr>
<td>Senegal</td>
<td>18.0</td>
<td>10.8</td>
<td>60.0</td>
</tr>
<tr>
<td>South Africa</td>
<td>14.0</td>
<td>6.9</td>
<td>49.2</td>
</tr>
<tr>
<td>Tanzania</td>
<td>18.0</td>
<td>5.4</td>
<td>30.0</td>
</tr>
</tbody>
</table>


2. To improve VAT performance, the underlying causes of the low efficiency need to be identified. C-efficiency by itself is a summary measure of the degree to which a country’s VAT system departs from a uniform VAT applied equally to all transactions with full compliance. To understand precisely where improvements in the VAT might be expected, C-efficiency would need to be decomposed into a “policy gap” and a “compliance gap.” The policy gap refers to the impact on the potential yield of the tax due to exemption, zero-

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ratings, and other reductions to the potential tax base, while the compliance gap is the impact on the potential yield (for a given policy structure) stemming from noncompliance.

II. **Estimation and Evaluation of the Compliance Gap**

A. **Definitions and Operationalization**

3. **Estimating the VAT compliance gap.** The VAT compliance gap for a particular year is the difference between revenues actually collected and the potential revenues that could have been collected given the policy framework that was in place during that year.\(^4\) It can in principle be split into the *collections gap*, the amount of declared and assessed tax not collected; and the *assessment gap*, the amount of tax due that was not declared or assessed. Estimates for potential collections were calculated for the years 2003/04 through 2012/13 by using the 2009 supply-use statistical tables and national accounts data.

4. **Two VAT compliance gaps can be estimated: (i) the VAT compliance gap measured at filing date;**\(^5\) and (ii) the VAT compliance gap measured at a specific date. For the most part in this analysis, the latter measure will be employed by using tax record data available at December 2013. Therefore, the value of the compliance gap includes the effects of filing for past periods, assessments and collections of arrears.

5. **This report uses cash receipts less refunds paid for actual collections by sector.** The RA-GAP’s preferred methodology generally uses accrued revenue to measure VAT receipts, which is accrued receipts less accrued net excess credits at individual taxpayer level.\(^6\) However, because of inaccuracies in the taxpayer account balances in Uganda’s e-Tax system, net cash receipts were allocated to accrued years by sector. In addition, in 2010, up to 10 percent of the value of VAT collections at Customs were being recorded using the old customs registration number, which makes it difficult to calculate individual payments based on the new universal taxpayer identification number. These limitations in the tax collection data increase the uncertainty in the precise level of the compliance gap estimates, especially for yearly changes. Whilst they are not enough to undermine the robustness of the

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\(^4\) The RA-GAP model and methodology used in assessing the VAT gap are detailed in Appendix I.

\(^5\) This metric could be used as a proxy for the level of voluntary compliance by taxpayers, i.e. amounts declared and paid by them without direct interventions by the revenue authority. However, the data required for this approach was not available in Uganda.

\(^6\) The RA-GAP methodology for assessing accrued collections is detailed in Appendix I.
estimated overall scale of noncompliance in Uganda, they should be addressed in order to improve on the current results and provide more precise estimates of the scale of yearly changes.

**B. The Compliance Gap**

6. The VAT compliance gap in Uganda is significant, and is larger than it was 10 years ago (Figure 3). Although the compliance gap as a percentage of potential VAT has remained relatively steady (given error margins) at just under 60 percent over the years from fiscal year 2003/04 to 2012/13, it has grown as a percentage of GDP, from just under 5 percent to around 6 percent. This is a reflection of the growth in potential VAT—i.e., the VAT tax base—relative to GDP.

![Figure 3. Value-Added Tax Gap Estimates for Uganda](image)

Source: Staff estimates.

7. The estimated VAT noncompliance levels for Uganda are significantly higher than those that have been estimated for countries at comparable income levels in recent years. For example, in the Latin American region, where several countries’ tax administrations now regularly estimate the VAT gap, the highest gaps (Nicaragua and Guatemala), averaged approximately thirty percent for the period 2006–10 (Figure 4). It was not possible to draw comparable data from the SSA region and compare it to the estimate for Uganda, given that tax administrations in the region do not yet regularly estimate and publish data on VAT gaps.
C. The Compliance Gap by Sector

8. The RAP-GAP analysis by sector shows that in Uganda construction, food and beverage manufacture, and hotels and restaurants are the sectors with the largest compliance gaps. These sectors appear to be the main contributors to the overall compliance gap in 2012/13 (Table 2). From the more significant results for individual sectors, the following inferences can be drawn:

- **Construction**: this sector is regarded as a high-risk sector in many countries and seems to be the largest contributor to overall compliance gap in Uganda, but the calculated result (3.3% of GDP) may overestimate the gap. In national accounts data, specific construction services, particularly public sector civil engineering, may have been included (as standard-rated supplies) in this sector, while tax data treat them separately (with public sector civil engineering being exempt), and that this has resulted in an over-estimate of potential VAT in this sector (and overall) by perhaps one to one and a half percent of GDP. Thus, if this is so, the compliance gap for both this sector and overall for Uganda will have been over-stated by the same amount. Even still, this sector is regarded as a high-risk sector in many countries so a residual compliance gap of around one and a half percent of GDP in this sector is credible. This suggests strongly that compliance risks in the construction sector should be investigated as a priority.
Table 2. Compliance Gap by Sector

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, fishery, forestry</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>-0.7</td>
<td>-0.6</td>
<td>-0.7</td>
</tr>
<tr>
<td>Food, beverage, tobacco manufacturing</td>
<td>1.4</td>
<td>1.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Other manufacturing</td>
<td>-0.5</td>
<td>-0.6</td>
<td>-0.7</td>
</tr>
<tr>
<td>Electricity, gas, and water supplies</td>
<td>0.5</td>
<td>0.1</td>
<td>0.5</td>
</tr>
<tr>
<td>Construction</td>
<td>3.3</td>
<td>3.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Wholesale and retail trade</td>
<td>0.9</td>
<td>0.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Hotels and restaurants</td>
<td>1.1</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Land and water transport</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Air transport and transport support</td>
<td>-0.3</td>
<td>-0.2</td>
<td>-0.2</td>
</tr>
<tr>
<td>Postal and courier service, telecommunications</td>
<td>0.3</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Financial services</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Real estate activities</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Other business services</td>
<td>0.0</td>
<td>0.0</td>
<td>-0.1</td>
</tr>
<tr>
<td>Public administration</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Education</td>
<td>0.1</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Health</td>
<td>-0.2</td>
<td>-0.2</td>
<td>-0.2</td>
</tr>
<tr>
<td>Other services</td>
<td>0.2</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Grand total</strong></td>
<td><strong>6.9</strong></td>
<td><strong>6.4</strong></td>
<td><strong>6.1</strong></td>
</tr>
</tbody>
</table>

Source: Staff estimates.

- **Food, beverage, tobacco manufacturing:** tobacco manufacturing is not believed to be a particularly high risk area in Uganda, but there are a number of exemptions that apply within the food and beverage manufacturing sectors—particularly for unprocessed foods. Where—as is sometimes the case in Uganda—such exemptions occur in the supply chains before the point at which sales are made to final consumers they effectively break the supply chain because businesses making exempt supplies incur VAT charges on their purchases that cannot be recovered as input tax credits. This creates incentives within the supply chains for business-to-business suppliers to suppress their declared VAT liabilities so as to reduce their tax inclusive prices. Furthermore, suppliers have opportunities to manipulate their declared VAT liabilities by misdescription of the supplies made. Given that these exemptions provide both opportunities and incentives for noncompliance for upstream suppliers (these are in addition to the usual incentives for downstream, retail
suppliers of taxable commodities); so this sector should be investigated. There is also the potential for definitions of food processing being applied differently in the national accounts from those used for VAT\(^7\) and this should also be reviewed. This review could also cover the (linked) agriculture sector as there may be similar definition issues there.\(^8\)

- **Hotels and Restaurants**: this is often a high risk sector for VAT compliance, both because of a high prevalence of cash sales and because many of its supplies will be to final consumers. This risk is increased by the exemption of unprocessed food, which will increase effective tax rates for downstream sectors such as this one. There could be similar risks in the more informal part of the wholesale and retail sector, which are also downstream of the agriculture sector. However, in the URA’s judgment, a very large proportion of informal traders in this sector have annual sales that are below the registration threshold for VAT, which will reduce the risk; and the estimated compliance gap for this sector is lower.

9. **The RAP-GAP analysis by sector also shows that in Uganda mining and quarrying, and ‘other’ manufacturing are sectors with negative compliance gaps.** The inference of this would be that these sectors are paying too much VAT, but this is likely an anomalous result caused by a measurement issue. National accounts treat firms within the manufacturing and mining sectors that produce goods for export as being exporters themselves even where those exports are made via separate wholesale export agents. In such cases the transactions that are actually declared for VAT will show firms in the wholesale sector as the exporters, leading to reduced liabilities in that sector and higher liabilities in the mining and manufacturing sector than indicated in national accounts. The negative gap in the other manufacturing sector is likely due to this issue, together with other differences in classification between national accounts and tax data as discussed above.

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\(^7\) Although in principle, the definitions should be much the same, there is anecdotal evidence that these definitions are being applied differently, for example the packaging of fresh food being treated as processing, i.e., food manufacture, in one but not the other.

\(^8\) In these sectors, the model assumes a proportion of inputs and outputs that relate to taxpayers trading below the VAT registration threshold. This assumption generally has only a marginal impact on the estimated VAT gap because the proportion is very small. However, there are a very large number of such micro businesses in these sectors in Uganda so their collective contribution to the sectors’ inputs and outputs should be reviewed carefully.
D. Changes in the Potential Value-Added Tax and the Actual Value-Added Tax

10. **Potential VAT revenues have risen faster than actual VAT revenues as a percent of GDP** (Figure 5). As a result of the growth of the VAT tax base relative to overall economic activity in Uganda, potential VAT revenues as a percentage of GDP have grown over the period 2003/04 to 2012/13 from around 8.5 percent of GDP to around 10.5 percent. However, actual VAT revenues have remained at around 4 percent. Collections at Customs of import VAT have remained somewhat higher than domestic collections. Refunds paid have remained relatively constant, at less than 0.5 percent of GDP, and this is because they are paid from a separate, capped budget (see below for a discussion of this risks this approach creates).

![Figure 5. Potential and Actual Value-Added Tax Collections for Uganda](image)

Sources: Staff estimates; and country authorities.
III. ESTIMATION AND EVALUATION OF THE POLICY GAP

A. Definitions and Operationalization

11. **Estimating the VAT policy gap.** The VAT policy gap for a particular year is the difference between the potential revenues due given the policy framework in place that year and the theoretical revenues due given a normative policy framework.\(^9\) *(NB: the model does not estimate the impact of behavioral changes as a result of policy changes, so the policy gap should be interpreted as a hypothetical, ‘static,’ estimate.)*

12. **In determining the policy gap, a normative VAT structure with a single standard rate and a bare minimum of exemptions is used.** Under this normative policy framework, it is assumed that VAT at the standard rate is applied to all supplies except for financial services, goods and services supplied and purchased by the government\(^{10}\) if currently exempt, and residential housing rent—these all retain the current treatment.\(^11\) Exports, including international transportation, also remain zero-rated.\(^12\) The policy gap found using such a normative framework can be thought of as the discretionary policy gap.\(^13\)

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\(^9\) This definition implicitly assumes full compliance, i.e., no compliance gap. The interaction between the policy gap and the compliance is discussed further in Appendix 1, and illustrated in Figure 8.

\(^10\) The exempt government sector in Uganda includes public sector civil engineering project - see Section II.C.

\(^11\) Exports, including international transportation, remain zero-rated.

\(^12\) Exemptions for financial services and residential housing are retained, as these are common to most VAT systems—in particular the exemption for financial services is almost universal given the technical difficulties of determining the potential tax base in that sector—and so including these in the policy gap would yield a value that would not be practicably achievable. The exemptions for supplies to and from government agencies is retained as any policy change here would be effectively revenue neutral, because there is no net gain or loss to government, and so (again) inclusion of any change in the revenue yield as part of the policy gap would overstate the value of the policy gap. Exports are universally zero-rated for VAT, in keeping with the principle that VAT should be a tax on domestic consumption.

\(^13\) For completeness, a policy gap should be calculated using a normative framework that applies the standard rate to all supplies. A policy gap measured this way could be thought of as the comprehensive policy gap.
Relationship of Policy Gap to C-Efficiency and Tax Expenditures

Although all three measures are similar, there are differences between the operationalization of the policy gap described in this report and the operationalization of C-efficiency and tax expenditures. The baseline for C-efficiency is a theoretical, comprehensive VAT in which all final consumption is taxed at the main rate; whereas the baseline for the policy gap is a VAT that retains an expedient minimum of zero-rating and exemption. Tax expenditure amounts are calculated for a particular year as the difference between the potential revenues at full compliance when specific exemptions or reduced rates are removed one at a time from the current policy structure (i.e., the difference in VAT due under the current treatment from that due in a baseline where they are standard-rated).

B. The Policy Gap and the Compliance Gap

13. The large overall VAT gap in Uganda is largely explained by compliance issues. Using the 2009 supply-use statistical tables and national accounts data by sector of economic activity, estimates for potential collections were calculated both under the current legislation and the normative legislation for the years 2003/04 through 2012/13. The results indicate that the values for the policy gap over the period were substantially smaller than the compliance gap (Figure 6).

Figure 6. Value-Added Tax Compliance and Policy Gap Estimates for Uganda

Source: Staff estimates.
14. **These results suggest that to achieve VAT revenue performance in line with average levels for SSA will require a focus on the compliance gap.** To achieve a C-efficiency level of 50 percent, which is the average C-efficiency ratio for the VAT in Sub-Saharan Africa, would require increasing VAT revenue collections by around two to two and a half percent of GDP, i.e., more than double the total policy gap. Focusing solely on the compliance gap to generate this additional revenue would require reducing the compliance gap from its current estimated level of around 60 percent to around 40 percent of the potential yield.

**C. Effects of Exemptions**

15. **Estimates of the size of tax expenditures are presented in Table 3 below.** These tax expenditures are calculated for a particular year as the difference between the potential revenues at full compliance when specific exemptions or reduced rates are removed one at a time from the current policy structure. This exercise differs from the measurement of the policy gap described above (where effectively all the tax expenditures are removed at once) to calculate the difference in potential revenue yields at full compliance between the current policy structure and a normative structure. It’s important to note that the sum of the individual tax expenditure estimates will not in general equal the policy gap. This is because of potentially important interactions among the various exemptions and zero rates across sectors and commodities.

16. **After consulting with staff from the URA and the MoFPED, it was determined that certain exemptions and zero rates were of particular interest for revenue mobilization and administrative efficiency.** There are three groups of exemptions:

   1. exemptions and zero-rating of basic agricultural goods;
   2. exemptions for domestic passenger transportation; and

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14 Tax expenditures are generally presented as positive amounts that represent the ‘cost’ of exemptions and other reliefs in terms of tax revenues foregone on the relevant transactions. However, there are two caveats to be borne in mind here. First, the estimates of the expenditure presented here do not take into account the potential behavioral impacts of the exemption; they simply show the amount of tax potentially due on the activity currently taking place. Second, tax expenditures, like the policy gap, can be negative when the exemption or relief creates a net revenue gain. (And this may or may not be an intended consequence in such cases.) In Uganda, this situation arises where exemptions exist for business-to-business supplies (for example in agriculture) that are subsequently used as inputs for taxable supplies to end consumers. There is no net loss of output tax, because VAT is due on the full price of the final supplies to end consumers; and some of the VAT charged earlier in the supply chain that would otherwise be recoverable as input tax is blocked (oftentimes known as cascading).
3. the exemption for computers and information technology (IT) services.\textsuperscript{15}

Table 3 displays estimates of the cost of these tax expenditures at full compliance over time.\textsuperscript{16}

\begin{table}[h]
\centering
\begin{tabular}{lccc}
\hline
Fiscal Year & Exemptions and Zero-Rating of Basic Agricultural Goods & Exemptions for Domestic Passenger Transportation & Exemptions for Computers and IT Services \\
\hline
2003/2004 & 0.3 & 0.3 & 0.0 \\
2004/2005 & 0.4 & 0.3 & 0.0 \\
2005/2006 & 0.3 & 0.3 & 0.0 \\
2006/2007 & 0.1 & 0.3 & 0.0 \\
2007/2008 & -0.4 & 0.4 & 0.0 \\
2008/2009 & -0.2 & 0.3 & 0.0 \\
2009/2010 & 0.0 & 0.3 & 0.0 \\
2010/2011 & -0.2 & 0.3 & 0.0 \\
2011/2012 & -0.3 & 0.3 & 0.0 \\
2012/2013 & -0.4 & 0.3 & 0.0 \\
\hline
\end{tabular}
\caption{Tax Expenditures for Selected Exemptions}
\end{table}

Source: Staff estimates.

17. The exemptions of basic agricultural goods are increasing the incidence of tax in that sector. This is shown in Table 3 as negative tax expenditures for these exemptions in recent years. Because these exemptions are applied to business to business transactions, input tax that would otherwise be recoverable by producers of the agricultural goods is blocked, and becomes net VAT receipts. This consequence of the exemption of business-to-business transactions is also referred to as creating ‘sticking’ tax (i.e., the tax burden is not passed on by the purchasing business as output tax on supplies made by them), or ‘cascading’ input tax (because the nonrecoverable input tax cascades down the supply chain.

\textsuperscript{15} For FY2012/13, the specific tax expenditure items for agricultural goods were items (a), (r), (s), (hh), and (ii) from Schedule 2 and items (e), (f), (g), and (h) of Schedule 3 of the VAT Act. Item (n) from Schedule 2 provided an exemption for domestic passenger transportation and finally computers and IT services were exempted from VAT under items (v) and (w) of Schedule 2.

\textsuperscript{16} For FY2012/13, the specific tax expenditure items for agricultural goods were items (a), (r), (s), (hh), and (ii) from Schedule 2 and items (e), (f), (g), and (h) of Schedule 3 of the VAT Act. Item (n) from Schedule 2 provided an exemption for domestic passenger transportation and finally computers and IT services were exempted from VAT under items (v) and (w) of Schedule 2.
in the price of downstream transactions—where the downstream supplies are taxed, this represents a tax on tax).

18. **Tax expenditures for basic agricultural goods are closely linked to the size of the agricultural sector as a percent of GDP** (Figure 7). The change in the sign of the tax expenditure over the period 2003/04 through 2012/13 will be a consequence of increasing investment, increasing exports, and/or declining direct sales to final consumers as shares of the sector’s outputs. In turn, this implies that the changes in the size of the agricultural sector have impacted disproportionately on one or more of these market shares.

![Figure 7. Tax Expenditures for Agriculture and Agriculture as a Share of GDP](image)

19. **Large compliance gaps in downstream sectors mean that the costs of exemptions in agriculture are likely under-stated.** The two largest purchasers of agricultural products in Uganda are likely food manufacturers and hotels and restaurants. The calculated tax expenditure assumes that VAT foregone in the agriculture sector would be recovered by such purchasers if the exemption were removed. However, both of these sectors were found to have large compliance gaps, well over 50 percent in 2012/13, so this is not the case in practice. This means that the uncharged VAT on the supply of agricultural goods is not recovered on the subsequent sale of processed food and restaurant meals to households. This therefore indicates that the revenue potential of removing the tax expenditure for the agricultural sector could be higher (or positive where it is now estimated
to be negative), especially considering that the compliance gap in percent of GDP for food manufacturing and restaurants was 2.5 percent of GDP.

20. **The exemptions on business-to-business transactions in agriculture reflect poor VAT design in a number of dimensions.** Such exemptions trap input tax on intermediate consumption and increase effective rates of tax downstream. In addition, they increase both the complexity of tax administration and compliance costs for both revenue authorities and taxpayers. This and the cascading effects of stuck input tax create opportunities and motivation for noncompliance. Large compliance gaps have been seen for both these two sectors in Uganda (see Section II.C.).

21. **Removal of the exemptions in domestic passenger transport will increase net VAT receipts.** The potential revenue gains from removing the current exemptions for domestic passenger transport are positive and fairly constant over time averaging 0.3 percent of GDP in recent years. While these revenue gains are nonnegligible, it’s also important to remember that the sector is typically composed of small businesses that can be difficult and costly to administer. Moreover, since fuel is exempt from VAT—it amounts to approximately 15 percent of the sector’s total intermediate demand—this decreases the incentive for transportation operators to register and report taxable supplies as there is less input tax to recover.\(^{17}\)

22. **Removing the exemption for computers and IT services would not materially increase net receipts.** The potential revenue gains are negligible because (a) the total value of such commodities is relatively small; and (b) the inputs\(^{18}\) of taxpayers in this area are high relative to their outputs—the net cost of the exemption is the output tax foregone on sales to final consumers less input tax blocked on the costs of such sales.

**IV. COMPLIANCE RISK ASSESSMENT IN UGANDA**

23. **Assessment of trends in tax records and revenue authorities’ performance indicators is critical in identifying changes in taxpayer compliance.** Any top-down tax

\(^{17}\) Fuel is exempt from Ugandan VAT in both the current law and the assumed policy option. It is treated as exempt in the assumed policy because the effect on prices of any removal of the exemption would be compensated for by a corresponding decrease in fuel excise duty rates; so the net revenue impact of removing the exemption would be neutral.

\(^{18}\) It should be remembered that in this context inputs include investments, so statement (b) does not necessarily imply a low level of value added in this sector.
gap estimates, even the most sophisticated ones, inevitably have margins of error, which stem not only from the quality of the data used but also from the number of assumptions that have to be made (Appendix I). Performance indicators, such as filing rates and payment compliance are useful to identify potential causes of changes in the compliance gap.

24. **Revenue authorities’ operational intelligence and risk assessment is also critical in identifying noncompliance.** In addition to tax records, operational intelligence can provide strong evidence of changes in taxpayers’ compliance behavior. This can be particularly valuable since such noncompliance is very often difficult to observe in the quantitative data sets. Operational intelligence is therefore useful to validate and complement VAT gap model results and to identify potential causes of changes in the compliance rates.

A. **Compliance Analysis and Risk Assessment by the Uganda Revenue Administration**

25. **The URA has been developing its analytical and risk management capability in recent years.** Analysts are embedded in both the operational departments of the URA and in the center, at the corporate level. The tax policy department of the MoFPED also has its own analytical capability. In addition to the continuing migration of returns and payment data into the e-Tax database, the URA is building a data warehouse that will make their data available to analysts at all levels of their organization. Every operational department has a designated risk champion, whose role it is to provide a conduit for risk assessments to and from their unit, to allow a strategic overview to be taken of compliance risks across the department and facilitate the transmission of strategic risk assessments to their operational units.

26. **URA analytical teams’ function is to support the individual organizational unit in which they are based.** Analysts in URA operational units are responsible for tactical risk assessments, creating risk profiles and identifying targets for audits and other interventions. Analysts at the corporate level are responsible for strategic risk assessments, performance and revenue analysis, as well as fiscal forecasts and costings, and core research. The organization of corporate analysis is currently under review.
27. **Corporate level analysis monitors tax receipts and progress in corporate strategies.** The corporate analytical team report monthly on tax receipts and progress against strategic plans to the URA Board (which includes a MoFPED representative). They assess and monitor corporate risks in policy and administrative processes. Analysts at this level also share data with the UBS, for example providing tax data for the UBS to compile monthly GDP assessments. Memorandums of Understanding are used to control potential legal and confidentiality risks in data sharing. The URA and the UBS are developing IT interfaces to facilitate data sharing and access to micro-data.

28. **Operational units’ analysis focuses on tactical compliance risks and annual compliance plans for their operational units.** Operational analysts identify and quantify compliance risks to inform annual compliance plans, which identify cases to take up for compliance interventions and prioritize them by size and type of risk. Plans can be amended in-year, and audit targets re-prioritized by taxpayer segment and tax type, to reflect new information and emerging results from completed interventions. Where compliance risks cover more than one operational unit, the risk assessment is coordinated by the corporate analysis teams, compiling inputs from local teams as required.

29. **Operational units and their analytical support teams are organized by taxpayer segment and function, while tax management by head of duty is a corporate function.** Service delivery and compliance work are separated in the organizational structure. Management of taxes and tax-specific risks is conducted as a back-office function at the corporate level. The corporate analytical unit sees tax gap analysis as a potentially important part of this back-office function and to the administration reform program generally.

30. **The URA has identified a number of compliance risks in Uganda and a low level of tax morale in the population generally.** Specific compliance risks identified in Ugandan VAT include the following:

- **Tax planning and avoidance by larger companies.** The URA has found that as taxpayer size increases effective VAT rates on their outputs tend to decrease. This could be a consequence of decreasing value added as a ratio of inputs (i.e., mark ups) in larger companies. However, there are concerns that this decrease could reflect increased aggressive tax planning and avoidance.

- **Diversion of declared exports to the domestic market, fraudulently avoiding output tax.** The value of exports declared on VAT returns is much higher than the value exports declared to Customs. Most of the discrepancy in 2013 is a result of one, very large input
error on a VAT return, however there is a residual discrepancy of around 500 billion shillings for that year, which should be investigated for potential diversion fraud.

- **Widespread failure to register by small taxpayers and/or evasion and fraud.** Overall, small taxpayers produce negative tax receipts in Uganda, presumed to be because small companies tend to register for VAT only when they are likely to be in a net repayment position, while those with net liabilities do not tend to register. However, there could be another explanation for negative receipts from this segment, that small, registered taxpayers are systematically under-declaring their sales and/or inflating their inputs.

- **Widespread input tax fraud.** URA has identified significant levels of input tax fraud. One common type of such fraud is the use of false invoices printed by taxpayers themselves. The other major type is missing trader fraud, in which purchasers and suppliers collude (or may even be the same entity) and purchasers claim input tax credits on purchases that may or not be real and the supplier goes missing before paying the output tax due.

- **Widespread smuggling of goods into Uganda.** Uganda has long land borders with neighboring countries that are difficult to police effectively. As a result, the URA believes that significant amounts of goods are smuggled into Uganda without payment of import VAT. Bottled beer is taking an increased share of its market in Uganda, and since such beer is reported to be generally produced abroad rather than domestically, this could be an indication of increasing smuggling.

- **VAT shortfalls in telecommunications and finance.** These could be the consequence of investment and fierce price competition in the telecommunications sector, but they are being investigated for potential compliance risks.

- **Widespread evasion in the cash economy.** Cash economies are generally associated with high compliance risks because of the relative ease with which peripatetic cash traders can evade detection by the authorities. Uganda has a large cash economy, especially in sales to final consumers, and it is believed that there is widespread evasion in that sector.

31. **The URA suspects there is large-scale abuse of provisions for the use of excess credits to offset subsequent tax liabilities.** Claims for cash refunds of excess input tax credits are individually audited by the URA before payment, and the monthly total of refunds paid is capped by the use of a separate, fixed, budget account for such payments. Excess credit returns are not themselves subject to such systematic checking and neither is the use
of accumulated excess credits to offset subsequent VAT liabilities. The URA has identified a large number of taxpayers who choose not to claim refunds but use large excess input tax credits declared on one return to offset subsequent VAT liabilities over a much extended period. This is counter intuitive behavior because it indicates extended periods of nonprofitability in the firms involved. The May 2013 FAD mission to Uganda found that the stock of unpaid input tax credits has been systematically increasing over recent years. The total stock reached 160 billion shillings in June 2013. The URA has evidence from previous compliance initiatives that much, perhaps the vast majority, of these excess credits have been inflated by fictitious transactions.

\section*{V. 
FURTHER WORK REQUIRED}

32. \textbf{The URA plans to use the RA-GAP VAT gap model to conduct tax gap analysis.}\ The URA appreciates the potential benefits of using tax gap estimates and analysis to inform the strategic management of its taxes. Robust estimates facilitate the optimal allocation of compliance resources, monitoring of performance outcomes (rather than inputs or outputs), and the prioritization of revenue mobilization options.

33. \textbf{The definition and classification of construction services and food manufacturing in national accounts and tax data needs to be reviewed.}\ If the national accounts treatments are different to the VAT treatment, this could explain at least part of the estimated compliance gaps for these sectors.

34. \textbf{Effective tax gap analysis requires open, collaborative working within a broad range of experts to integrate different sources of evidence.}\ RA-GAP’s tax gap analysis combines economic data with taxpayer data and tax policy analysis from both within and outside the revenue authority to estimate the level of tax losses. In addition, testing and interpreting the results requires a good understanding of tax administration, compliance risks and micro-economic trends in taxpayer segments and markets. This means that analysts and business experts from both within the URA and other agencies—principally the MoFPED and the UBS—need to come together to share their data and understanding. This can be done informally on an ad-hoc basis, but could also be formalized in working groups or other organizational arrangements.

35. \textbf{Tax gap analysis allows a coherent and consistent analytical framework for fiscal and compliance risks and performance across the URA and the MoFPED, which should be encouraged.}\ This opportunity to strengthen links between analysis in the various
parts of the URA and the MoFPED and be further reinforced and facilitated by the establishment of professional groupings within the URA, and the provision of cross-team training and peer-reviews. Tax and business experts could also be brought into such groups and training programs to increase shared understanding of tax and tax gaps in the URA and establish a common vision of priorities and objectives.

36. **The strengthening of links between analytical teams will allow the sharing of data and analytical techniques and models.** This will facilitate the flow of information between complementary top-down (i.e., strategic) and bottom-up (i.e., tactical) perspectives, bringing business intelligence to the strategic analysis and a strategic perspective of economic intelligence and policy measures to the tactical analysis. The URA might consider formalizing these links through organizational structures, working groups, professional groupings and the like, with the aim of achieving a critical mass of analytical knowledge and skills.

37. **There is a need for URA to develop its tax gap analysis beyond the RA-GAP VAT gap model.** The RA-GAP model should provide a robust estimate of the total VAT gap in Uganda, but it requires a large investment of analytical resources and good, detailed and up-to-date data from both national accounts and tax returns and collections. It is not realistic to expect such a model to monitor in-year performance and emerging compliance and fiscal risks. The URA therefore needs to establish an analytical and reporting process to monitor compliance and fiscal trends using data more readily available and simpler analysis. Similarly, evaluating the tax gap impact of individual administration and policy measures is rarely possible using top-down models of total tax gaps—the impacts may be too small or localized to pick up at the aggregate level. Such in-year analysis could include (but not be limited to) the following:

- Monthly receipts, disaggregated by taxpayer segment and industrial sector. Monitoring of detailed time series at this level can identify breaks or spikes in the series, anomalies and outliers that could be indicators of emerging or changing compliance risks. Interpreting the results requires input from operational units and business experts, who will have a good understanding of market conditions, major business events and compliance conditions.

- Information sharing between operational units and tax gap analysts. In addition to the monthly process, the URA should encourage operational staff to inform the corporate analysis team about significant ad-hoc events and emerging trends. This could be done
through the use of the existing risk champion network, a publicized ‘hot line’ for operational staff, or management groups for each major head of duty. Guidelines would be needed for when to contact the analysis team, for example when large refund claims are being authorized, changes of timing of large payments, expected large settlements following litigation and backlogs occurring in returns and payments processes.

- Monitoring filing and payment compliance rates.
- Monitoring receipts against quarterly GDP aggregates.
- Monitoring VAT micro-data to identify outliers and trends.
- Error margins for deviations of monthly receipts against forecasts. Essentially this means using historic time-series of monthly receipts to calculate confidence intervals so that if cumulative monthly receipts deviate by more than X percent against in-year forecasts, it is Y percent likely that the end-of-year outturn receipts will be +/- Z percent different from forecast. (This technique actually captures economic and policy impact changes from forecast as well as tax gap changes, but if the former are accounted for, the residual change can be assumed to be attributable to compliance changes).

38. **The URA might consider extending its tax gap analysis beyond VAT to other heads of duty.** The RA-GAP program is focusing primarily on VAT gap analysis for now, but the same principles behind the VAT gap model can be extended to other taxes. Generally, it is easier to model excise duty gaps on a top-down basis than the VAT gap, and more difficult for direct taxes. However, it is perhaps more appropriate for the URA to establish its tax gap analysis and the use of tax gaps in VAT first and then move on to other tax gaps when it has established robust processes and organization structures for such analysis and its use.

39. **URA could use tax gap analysis to evaluate the overall impact of its administrative reform program.** In general, top-down tax gap models are too imprecise to be appropriate ways of evaluating the outcome of individual administration measures, and rely too much on historic data to be immediate performance indicators. However, the (very necessary) scale of URA’s ambition to close the VAT compliance gap means that success of their reform program would mean the transformation of tax morale in Uganda. Such a change would mean a change in the VAT compliance gap that would be visible in top-down estimates. The program is likely to take some years to complete, so the timeliness of top-down VAT gap models should not be a critical shortcoming.
Appendix I. The RA-GAP Model and Methodology for Value-Added Tax Gap Estimation

A. Introduction

RA-GAP, conducted by FADR1 and FADR2, provides revenue administrations with a quantitative analysis of the gap between potential and current tax collections, referred to as the tax gap. The goal of RA-GAP is to provide a comprehensive evaluation of the tax gap, with a breakdown by economic sectors, to help revenue administrations monitor and identify what is contributing to this gap.

The difference between the potential revenue under the current tax rules with full compliance and the actual revenue is referred to as the compliance gap. This is distinguished from the component of the overall tax gap resulting from differences between a normative policy structure and the current policy structure, which is referred to as the policy gap (Figure 8).

Figure 8. Illustration of the Components of the Tax Gap

The RA-GAP methodology for estimating the size of the compliance gap for a VAT is on a top-down basis. That is, it sets out to estimate the total size of compliance losses by first estimating the potential VAT collections, and then the compliance gap is determined to be the difference between this estimate and actual collections (Box BCGF in Figure 8).

The alternative approach of estimating the compliance gap, the bottom-up approach, is to directly identify the potential losses due to compliance issues. The critical advantages of the top-
down approach are that (a) it should cover all compliance losses, whether or not they have been separately identified; and (b) the results can be compared to the costs of tax expenditures and reliefs (the policy gap) as barriers to revenue mobilization.

Estimating potential value-added tax revenue

Potential tax revenue can be generally calculated as the sum of the product of potential tax bases and corresponding statutory tax rates. For VAT, there are several approaches to estimate the tax bases from macroeconomic statistics, e.g., from simply taking final consumption or by capturing the ends of VAT chains by looking at demand data.

In the RA-GAP approach overall potential VAT revenue is determined based on the sum total of the potential revenue determined for each sector’s value added, i.e., output minus input. This approach has the advantage of modeling the VAT at a macro level in a manner consistent with how the VAT is actually applied at the micro (firm) level. In many VAT systems there are a large number of different treatments for specific commodities or sectors, such as exemptions or the application of different tax rates. This approach allows the model to closely reflect the intricate details of a VAT system in the estimation of overall potential tax revenues; calculating the potential VAT based on consumption statistics often requires determining separate estimates as to how these details might affect the effective rate on final consumption. Another advantage to this approach is that potential revenues are estimated at the sectoral level that, when matched to actual tax decomposed by sector, enables providing estimates of the compliance gap at a sectoral level; this cannot be done with models based on final consumption statistics.

A detailed description of the methodology employed is provided below.

Determining actual value-added tax revenue

In RA-GAP methodology accrual values are used to compare actual revenue to potential revenue. If accrual values are not available, for instance if the government typically reports revenue on a cash basis, accrual values will be determined. It is important to employ accrual values in comparing the potential revenue with actual revenues due to the fact that the potential revenues are themselves an accrual figure; they reflect the economic activity that actually occurred in a period, not when the economic activity is paid for. A detailed description of how the accrual value for actual revenues is determined is provided below.

Decomposing the compliance gap

In addition to the actual collections, RA-GAP also employs data on the tax due for the period, based on tax return and assessment data. This information is needed in order to decompose the compliance gap into the assessment gap and the collections gap. The collections gap is the difference the actual VAT and the amount of VAT due from taxpayers, while the assessment gap is the difference between the amount of VAT due from taxpayers and the potential VAT.
B. Measuring Potential Revenues for a Value-Added Tax

The RA-GAP model is designed to estimate the taxable value-added across all sectors of the economy. The approach is similar in structure to the method individual taxpayers use to determine their individual liabilities. The tax liability for an individual taxpayer is determined by the amount they pay customs on their imports, plus the VAT they must charge on their output sold domestically (exports being zero-rated), less the VAT they paid on their inputs. The RA-GAP model works with statistical data available through national accounts supply-use tables, or input-output tables, to estimate the potential amount of tax on imports by a sector, plus the tax applicable to the output of a sector, less the amount of input tax credit due the sector. 19

The potential revenues model

The RA-GAP model can be specified as:

\[
P V^s = \sum_c \left( M_c^s \times \tau_c \right) \times r^s + \left[ \sum_c \left( Y_c^s - X_c^s \right) \times \tau_c \right] \times r^s - \left[ \sum_c \left( N_c^s + I_c^s \right) \times \tau_c \right] \times r^s \times (1 - e^s) \times \eta_c^s
\]

where,

- \(PV^s\) = the potential net VAT for sector \(s\);
- \(M_c^s\) = imports by sector \(s\) of commodity \(c\);
- \(Y_c^s\) = output by sector \(s\) of commodity \(c\);
- \(X_c^s\) = exports by sector \(s\) of commodity \(c\);
- \(N_c^s\) = intermediate demand (consumption) by sector \(s\) of commodity \(c\);
- \(I_c^s\) = investment by sector \(s\) of commodity \(c\);
- \(\tau_c\) = the VAT rate that applies to commodity \(c\) (zero if zero-rated or exempt);
- \(\eta_c^s\) = the proportion of input tax credits for commodity \(c\) by sector \(s\) allowed to be claimed;
- \(r^s\) = the proportion of output for a sector produced by registered businesses; and
- \(e^s\) = the proportion of output for a sector that is exempt output.

Values for each of these variables are determined as follows:

19 An alternate model structure for estimating the potential revenues for a VAT is to use statistical data on final consumption to determine the VAT paid by the end consumer, and then add an estimate of the amount of final VAT borne by exempt businesses using statistics on intermediate demand. In theory both methods should yield similar results, as they are both theoretically identical definitions of the potential tax base. This equivalence is similar to the basic National Accounts identity:

\[
C \ [+G] = Y - I - X + M \ [-G]
\]

The consumption based approach to estimating the base would be represented by the left-hand side of the equation, with the value-added based approach represented on the right hand-side. “\(G\)” is appearing as potentially being on either side of the equation, as its location, for a VAT gap model, would depend on the precise treatment of government—whether they have to pay tax on their purchases, and so more closely relate to final consumption, or whether they are not subject to the VAT and so are excluded from the potential VAT base.
\(Y, X, M, N, \text{ and } I\): Data for these variables is obtained from their respective components in statistical supply-use (or input-output) tables. The data for the external trades, \(X\) and \(M\), require some adjustment before being input into the model; this adjustment is described below.

\(\tau_c\): This is the first of the two “policy variables” in the model. The values for \(\tau_c\) are obtained from the tax rate structure for each commodity, except for trade services. The explanation and method for the trade services are described below. For the calculation of revenues under reference tax structure, the standard rate is assigned to the full vector \(\tau_c\), apart from those supplies typically exempted internationally (margin-based financial services, life insurance, and residential rents).

\(\eta_c^\delta\): This is the second policy variable in the model. The values in estimating current potential revenues are determined by any specific statutory limitations on input tax credits, such as a general disallowance of input tax credits for restaurant meals; such a disallowance would be indicated by a value of 0 for the commodity of restaurant meals across all sectors; the default value is 1. All values in \(\eta_c^\delta\) are set to 1 for the calculation of revenues under reference tax structure.

\(r^s\): Estimates for the values for \(r^s\) are determined in conjunction with the authorities, possibly making use of business licensing data, or customs transactions data.\(^{20}\)

\(e^s\): The proportion of output for a sector that is taxable is a function of \(\tau_c\). The values for \(e^s\) are determined by comparing the value of exempt output in a sector to the total output of the sector. That is \(e^s = \frac{\sum_c (Y^s_c \times \tau'_c)}{\sum_c (Y^s_c)}\), where \(\tau'_c\) is a vector that distinguishes whether commodity \(c\) is exempt (\(\tau'_c = 1\)) or taxable (\(\tau'_c = 0\)).\(^{21}\)

\(^{20}\) There is an assumption here that the same value of \(r^s\) applies across \(Y, X, I, \text{ and } N\). It can be shown that this assumption is only of consequence if there are any significant difference between the level of \(r^s\) for \(Y\) and \(X\). As the level of \(r^s\) is generally fairly close to one, the results are not that sensitive to this assumption. As such, while it might be more technically correct to come up with separate values for \(Y\) and \(X\), this would likely greatly increase the time and effort required to construct the model with no discernible difference in the final results.

\(^{21}\) This assumes that the proportion of inputs to output used in producing the taxable supplies and nontaxable supplies is identical. While this is most likely not the case for any individual taxpayer, many jurisdictions use just such an apportionment rule to determine the allowable amount of input tax credits for businesses making split supplies (taxable and exempt supplies). In such cases, this model treatment would exactly coincide with the statutory requirement. In jurisdictions where taxpayers are allowed to apportion their supplies based on actual use, \(e^s\) could be determined by tax return data on the proportion of input tax being creditable to those sectors with exempt output—presuming the required information is being captured on the return.
Adjustments for variables X and M

Adjustments to the raw statistical data for exports and imports as supplied by the supply-use tables (or input-output table) are necessary. Specifically the values for exports needs to be adjusted to remove the value of domestic consumption by nonnationals, and the value of consumption abroad by nationals that is included in the values for imports needs to be removed.\(^\text{22}\)

Determining the weighted average statutory rate for the output of the trade sector

To determine the value for \(\tau_c\) applicable to the retail and wholesale trade services, a weighted average statutory rate is determined based on the trade margins by commodity type. This rate is determined as follows:

\[
\tau_T = \frac{\sum_{c'}(\tau_{c'} \times K_{c'})}{\sum_{c'}(K_{c'})},
\]

where,

- \(\tau_T\) = the weighted average statutory rate for the trade services commodities,
- \(\tau_{c'}\) = the statutory rate for commodity \(c'\), where \(c'\) includes all commodities but the trade services commodities, and
- \(K_{c'}\) = is the trade margins associated with commodity \(c'\).

Accommodating complexities in the policy structure

While the two policy variables \(\tau_c\) and \(\eta_c\) can be used to model most policy structures, there are some structures that they are able to accommodate. There are too not uncommon circumstances in particular that either requires adjustments to the inputs into the model, or adjustments to the structure of the model:

a) a tax structure that has provisions that relate to a sector as a whole, as opposed to a particular type of supply or commodity; for example an exemption that applies to the financial sector instead of particular financial services; and

b) a tax structure that has special provisions for particular types of transactions; for example the zero-rating of certain otherwise taxable business-to-business transactions.

Sector specific tax rates

Sector specific tax rates can be accommodated by using a sector by commodity matrix of tax rates, \(\tau_{c,s}^s\), instead of the simple vector in commodity space, \(\tau_c\), for the treatment of the tax to be applied.

\(^{22}\) In a best case scenario the supply and use tables will specifically include the data used for these out these special categories of imports and exports (domestic consumption by nonnationals, and consumption abroad by nationals) making it simple to adjust the tables to the definitions for VAT purposes. In cases where this specific data is not available, an approximation can be made by removing values for the import or export of services which are typically consumed at the place of supply—such as hotel and restaurant supplies, and local transportation supplies.
applied to output, and in the computation of input tax credits. The simple $\tau_c$ vector of rates would still apply against imports.

The calculation of $e^s$ also needs to be adjusted in such cases. Instead of using $\sum_c (Y^S_c \times \tau'_c)$, to determine $e^s$, as specified in the equation above, the calculation would include the term $\sum_c (Y^S_c \times \tau''_c)$, where $\tau''_c$ is a matrix of specific vector of ones and zeros, with one indicates an exempt commodity $c$ for sector $s$ – so $\tau''_c$ would have a vector of zeros for any exempt sectors.

C. Measuring Actual Collections

RA-GAP requires reallocation of cash collection data into the periods in which tax due actually accrued.\textsuperscript{23} Accrued actual revenue can be determined by the following formula:

$$AV^s = C^s + P^s - R^s (+ OP^s)$$

where,

$AV^s =$ accrued VAT collections for the period,
$C^s =$ collections at customs in the period,
$P^s =$ payments received for the period,
$R^s =$ excess credit accrued for the period, and
$OP^s =$ payments offset by excess credit (excess credit carried forward used to offset tax owing for the period, or excess credit accrued for the period used to offset tax owing for the past periods).

Values for each of these variables are determined as follows:

$C^s$: Collections at customs in the period, by sector, are obtained from the customs declaration database. Declaration data necessary to determine these amounts includes: the value of VAT payments on imports, the date of entry for the declaration the payment is associated with, and the sector of activity for the taxpayer making the declaration.

$P^s$: Payments received for a period is obtained from the payments transaction database. The data needed from the payment transactions database would include: the value of VAT payments made (exclusive of interest or penalties), the date of payment, the tax period for which the payment is for, and the sector of the taxpayer who made the payment.

$R^s$: To determine the amount of excess credit in a tax period, data from the tax returns database is required.\textsuperscript{24} The data to be extracted would include: the value of excess credit, the length of the tax period for which the excess credit is for, and the sector of activity for the taxpayer making the declaration.

\footnotesize{\textsuperscript{23} While in the long run cash collections and accrual cash collections should balance out, there can be wide variations between the two for a given period, as cash collections will include arrears collections from other periods and the stock of arrears changes.}

\footnotesize{\textsuperscript{24} While the transactions database may include data on actual refunds paid, data on the value of excess credits accrued in a period will be needed in order to properly measure the accrued collections. If the excess credit is used to offset other tax obligations, it should be recognized as a reduction in net VAT collections.}
the tax period the excess credit return was submitted for, the date of filing for the return, and the sector of activity of the taxpayer who filed the return.\textsuperscript{25}

\textbf{OP}: This variable only applies in jurisdictions where taxpayers are required, or allowed, to carry excess credit generated in one period forward for use against any obligations in the next period, in place of a refund request, or to offset past tax liabilities by excess credit. These data would again need to be obtained from the tax return database, in addition to the related tax period, and the sector of the taxpayer.\textsuperscript{26}

There are a few additional nuances to the tax return and payments data necessary to consider when completing gap estimates, which are discussed below.

\section*{D. Measuring and Reporting the Compliance Gap}

The compliance gap, as stated above, is measured by the current potential collections, as determined in step 1, minus the actual collections, as determined in step 2. As the value for accrued collections will change over time, the value for the gap will change over time. There are two general measures that RA-GAP uses in order to provide standardized static measures of the compliance gap that can be used comparatively over time, and across jurisdictions:

\begin{enumerate}
  \item the compliance gap at the time of filing; and
  \item the compliance gap at the time of estimation
\end{enumerate}

The methods for measuring these two indicators, specifically the data considerations, are provided below.

\subsection*{The compliance gap at the time of filing}

The compliance gap at the time of filing is measured at the original filing/payment deadline. In measuring the accrued collections, data for $P^S$, $R^S$, and $OP^S$ are filtered to only select payments and returns received before their appropriate deadlines. The tax return data selected for $R^S$ and $OP^S$ is the data as originally submitted by the taxpayer.\textsuperscript{27} This measure for the gap will not

\footnotesize{\textsuperscript{25} In order to properly measure excess credit for a given period, it may be necessary to compute it from some of the fundamental line items on the return, rather than using the reported value for net tax owing. The proper computation of net tax for the period should be: output tax on supplies made in the period, plus any self-assessed VAT on imports, minus VAT paid on inputs used in making taxable supplies. If this value does need to be recomputed, it will need to be computed on a taxpayer by taxpayer basis.}

\footnotesize{\textsuperscript{26} The amount of excess credit used to offset tax owing is generally not recorded explicitly on either the return or in the return database. The method for determining this value is: if the net tax owing (as determined above) is greater than zero, and the excess credit carried forward is greater than zero then the amount of excess credit used as a tax payment is either the net tax owing, if the excess credit carried forward is greater than the net tax owing, or the excess credit carried forward, if the net tax owing is greater than the excess credit carried forward.}

\footnotesize{\textsuperscript{27} Most tax administration information systems keep track of the original values on a tax return, plus all subsequent changes. As the notion with this compliance gap measure is to attempt to measure only voluntary compliance, then it is important that the return values used not reflect any subsequent assessment actions by the authorities.}
change over time, and provides a basis for comparison as to how the gap evolves over time as the administration collects on arrears and yields additional assessments.

**The compliance gap at the time of estimation**

The compliance gap at the time of estimation is measured using the latest available data for returns filed, assessment values, and collection and refund payment values. Ideally this measurement would occur annually using the annual anniversary of the last filing/payment deadline for a tax year. Data for the variable $P^5$ is filtered to select payments made by that date. The tax returns data for variables $R^5$ and $OP^5$ is the current assessed values for the data as of that date.  

This value will change from year to year, but the value as measured at a particular point in time will remain static. Comparing changes to this measure of the compliance gap over time can provide insight into the collection performance of the administration.

**Reporting the compliance gap**

While the measure for the compliance gap above was expressed as simply being the difference between the potential revenues and actual collections, RA-GAP more commonly expresses the compliance gap as:

$$\frac{CPV - AV}{CPV}$$

or the compliance gap as a percentage of current potential revenues. This provides a useful measure for comparing changes in the value over time, and across jurisdictions. The compliance gap can also be expressed as a percentage of GDP, to provide a common basis for comparison with economic activities and the magnitude of policy gaps.

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28 Some compromise might be needed in regards to the assessed values, as not all administration information systems record the date for all changes to a return. As such, the compliance gap calculation might have to specify that it is based on the assessed data as of the date of extraction. Managing a consistent timeframe between each annual measurement would then involve maintaining a fairly consistent data extraction anniversary date.

29 While an argument could be made that a value for the compliance gap measured purely as $CPV - AV$ is of more relevance, as it provides the authorities and policy makers a value for the potential yield to be gained in particular period from increased compliance efforts, this can be misleading—the value does not on its own give an indication of how much of that yield might be reasonably gained.
Appendix II. Factors Potentially Affecting the Estimated Compliance Gap in Uganda

1. There are four main possible factors that can affect estimates of the tax gap: (1) data issues; (2) timing issues; (3) taxpayer planning activity; and (4) taxpayer compliance issues. Findings under each of these categories are provided below.

A. Data Issues

2. There can be two major sources for data issues: issues with the statistical data, or issues with the tax records. Data issues stemming from methodologies being used to compile the statistical data are outside the scope of this report.

3. Data was not available to quantify separately the assessments and collections gap of audit cases not completed. Generally, the results of the RA-GAP Program’s preferred VAT gap model are able to split the overall compliance gap between the assessments gap—the difference between potential VAT collections and total liability declared or assessed—and the collections gap, which is the amounts assessed or declared but not actually collected. This analysis was not possible for Uganda.

4. A comparison between tax record data used to generate the VAT gap and official VAT revenue statistics published by the MoFPED revealed some discrepancies. Gross domestic VAT payments data compiled from the micro-level records that were made available to the mission account for around 95 percent on average of published gross VAT revenues. Micro-level records for VAT charged on imports are also underreported by around 5 percent. VAT refunds compiled from individual records for which it was possible to impute a unique tax identification number could only account for 45 percent of the published levels of VAT refunds.

B. Timing Factors

5. The availability of payments and refunds data limited the tax gap analysis to using collections on a hybrid cash/accruals basis. In principle, the payments database created by e-Tax allows the attribution of payments to the tax periods to which they relate, so payments can be reported on RA-GAP’s preferred accruals basis. However, the refunds data only capture the date of authorization—a pseudo cash basis. Furthermore, the use of carried forward excess credits to offset subsequent liabilities are not identified separately in the data, but are brought to
account by their reduction of payments. Effectively, this means they are accounted for on a cash basis, as are the liabilities that they offset.

6. **Given the scale of the VAT compliance gap in Uganda, data timing issues do not critically undermine the overall robustness of the tax gap analysis.** In addition to the system issues above, there are quality issues in the payments data that mean there is some additional uncertainty in the timing of net VAT collections. However, the scale of the compliance gap in Uganda is such that the analysis still provides a sufficiently robust estimate to be useful.

### C. Tax Planning Activity

7. **By its very nature, tax planning activity can be difficult to detect based on tax record data.** Most tax planning is designed to clarify the type of timing or activities and transactions to minimize taxpayers’ liabilities; more aggressive tax planning makes one type of activity meet the definition of another type of activity or changes the natural timing of transactions. In either case, good planning would not be apparent in returns. The latter type of planning is used to take advantage of rate differentials for the same activity. There is no quantitative evidence yet of the impact such tax planning impacting on Ugandan VAT revenues.

8. **The revenue impact of tax planning is likely caught in the estimated VAT gap.** Such changes in definitions for tax purposes are unlikely to be picked up in national accounts classifications, national accounts are more likely to use the pre-planning definitions. It is therefore likely that the tax gap includes the impact of tax planning even where it is not necessarily a compliance issue.

### D. Taxpayer Compliance Issues

9. **There are a wide range of VAT compliance issues in Uganda, and it is not possible to quantify their relative and total factors.** Section III. A. of the main report discusses compliance issues and risks identified by the URA. A quantitative assessment of their absolute and relative scale was not available, so it is not possible to disaggregate the total VAT compliance gap by particular types of compliance behavior. However, the reported range and extent of compliance issues is broadly consistent with the estimated compliance gap. In particular, the compliance issues appear to cover all taxpayer segments in Uganda; and can be grouped as follows:

- **Large taxpayers:** the main risks here are reported to be tax planning and avoidance, for example value shifting and transfer pricing.
- **Cash economy**: this will be dominated by micro-businesses. The forms of noncompliance in this sector will typically be failure to register and nonreporting or under-reporting of sales. Cross-border smuggling to evade VAT on imported goods is also likely to be concentrated in this sector.

- **Inflated and fraudulent input tax claims**: this could be taking place in any taxpayer segment but experience in other countries suggest that it is perhaps more likely to be in smaller- and medium-sized taxpayers. Methods to inflate the claims may be fictional transactions whether supported by false invoices or otherwise, and collusive missing trader frauds. There is a real likelihood that fraudulent taxpayers are avoiding detection of their input tax frauds by not claiming refunds, rather using the inflated credits to reduce their output tax liabilities instead.

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Although the prevalence of non- and under-reporting in the cash economy may well be very high, there are two mitigating factors from the context of the overall tax gap. First, in Uganda, a very large number of cash economy businesses are very small, trading below the VAT threshold and so not evading tax. Second, even in those businesses trading above the threshold, the turnover for the great majority of cash economy businesses is very small. Both of these factors will reduce such businesses’ share of the tax base for VAT and as a consequence, their relative contribution to the total tax gap.
Appendix III. Ugandan Revenue Authority Actions to Counter Value-Added Tax Evasion and Fraud

1. **VAT compliance initiatives were discussed from the perspective of tax gap analysis and its use in strategic management.** The purpose of the RA-GAP mission was not to review either tax administration in Uganda generally or progress made against recommendations made by the 2013 FAD revenue administration mission specifically. However, these topics were discussed as they provide the context for tax gap analysis in Uganda.

**Tax administration reform program progress**

2. **Overall, the URA reported that they had made some progress on FAD’s recommendations, but slower than planned, due to funding constraints.** On short-term (i.e., three–six months duration) measures, the URA reported the following progress:

- Risk management units have been established for each of the major taxpayer segments, and staff training is being tailored to fit each segment. Risk assessments and profiles are being used as the basis for annual compliance plans and strategies for each taxpayer segment. For large taxpayers, the major risks have been assessed as aggressive tax planning and avoidance schemes though other risks have also been identified. However, no short term revenue raising opportunities have been identified.

- The URA has established a data analytics unit to produce risk profile and identify threats pre-audit, to allow better targeting by auditors. The URA is also building a data warehouse to allow shared access to taxpayers’ micro data across the organization. The URA is attempting to get access to detailed bank account data, but is facing legal and broader policy issues. Recruitment is underway for analytical specialists for the unit. A centralized team for the unit is not yet in existence, but analytical resources for it are available in different parts of the URA. The organization and placement of centralized analysis in URA is currently under review.

- In November 2013, URA management has issued instructions to auditors to expedite the completion of audits, especially where investigations have been long-running. In addition, guidance has been circulated that where audit dispute have been partially agreed, tax should be collected in the agreed areas pending resolution of the remaining disputed areas. Auditors have been told not start new audit investigations in December and June (the end of the fiscal year), so that they can focus on completing existing cases. These measures were designed to increase revenues in the short term, and increase
revenue discipline in the audit process. The new rules appear to have substantively accelerated revenue collections in audit cases since November.

- To reinforce the above measure, the URA has imposed a new target for auditors to collect additional revenues in at least 50 percent of audits opened each year. *NB:* this target could have the unintended consequence of a perverse target for auditors to open only those cases in which they have a reasonable degree of collecting any additional assessments, and these may not represent the highest compliance risks.

- URA are continuing to review and clean taxpayers’ data in e-Tax, prioritizing taxpayers by segment and starting with larger personal income tax payers. The biggest problem encountered is system anomalies due to programming errors, for example interest miscalculations, missing and duplicated postings. The URA is working with the e-Tax software developers to correct these programming errors and believe personal income tax to be largely complete, with work underway on VAT and corporation income tax.

- The URA corporate analysts are reviewing performance indicators for coherency and consistency

- The URA is reviewing VAT cases where is there an exaggerated reluctance to claim refunds of excess credit balances and large credit balances have been used to offset subsequent tax liabilities for months or even years afterwards. The risk identified here is that taxpayers are inflating their input tax credits and avoiding the universal checks of refunds by deferring their claim for a cash refund.

- No decision yet has been made on the FAD recommendation that VAT refunds be paid out of gross VAT receipts rather than from a separate, capped account.

- New rules for manual and automated referrals for investigations have been agreed in principle. Some automation in e-Tax has already been introduced and the remainder of the rules are in the process of implementation

- The staffing of the central debt management unit has been increased, from five to nine, and recruitment is under way. This will still be insufficient to meet current demands, and management is seeking further expansion. The legal framework for tax administration is also being reviewed with the intention of allowing officials to write off uncollectable debts rather than the current requirement for ministerial sign off of such cases.
The URA piloted joint URA and Customs audits in eight cases by December. The results are being evaluated, but a need for clear over-arching governance of such cases has already been identified. Notwithstanding this, benefits of joint working and information sharing have been identified and the pilot is seen as having been generally successful.

Generally, the URA is focusing on changing taxpayer behavior so as to improve voluntary compliance, and is moving its operational focus from largely compliant taxpayers to more noncompliant taxpayers. It is also integrating compliance strategies across the organization, so as to address compliance risks on an appropriate cross-tax basis.

**Revenue mobilization measures: Revenue administration**

3. **Options for improving revenue performance in the current fiscal year were reviewed.** The URA and the MoFPED are under pressure to improve short-term revenue yield in VAT to mitigate the slowing growth in VAT receipts relative to growth in GDP. The MoFPED is considering policy measures (a) to reduce the policy gap (see below) by cutting tax reliefs and expenditures; and (b) to help the URA close the compliance gap by simplifying VAT law e.g., by removing exemptions or increasing the registration threshold.

4. **The URA needs to achieve an appropriate balance between enabling and revenue raising measures in the short term.** Broadly speaking the FAD recommendations, can be split between direct revenue raising measures and those that enable revenue raising benefits in the future. In particular, a large number of the short-term recommendations are enabling measures for the future rather than measures likely to raise revenues in the short term. While the URA faces the long-term challenge of transforming the level of tax morale and taxpayer compliance in Uganda, it also needs to raise VAT revenues in the short term. It is important to separately identify the revenue raising and enabling measures in the FAD recommendations, so that the reform program meets both objectives in a timely manner. This will mean that measures to achieve one objective do not critically undermine the other objective, and that, ideally, measures become mutually reinforcing so that the URA is increasingly perceived as both fair and effective by taxpayers. This is critical if the URA is to achieve the step increase in compliance levels required.

5. **Potential measures to increase short-term VAT collections and raise the URA’s public compliance profile were identified by mission staff and URA officials.** Most of the progress made, and strategic reform priorities identified, by the URA so far have been enabling measures. They need to be balanced with increased compliance yield in 2013/14, the current fiscal year,
both to mitigate current fiscal budget pressures and to start the process of increasing URA’s reputation for effective compliance and enforcement. The potential measures identified below for short-term revenue raising are not formal recommendations by the mission, but relatively quick options that could be considered to support both longer-term reforms and short-term closing of the VAT gap. They are as follows:

- Set up a small team comprising of senior auditors to review open audit cases in the large taxpayer office and the major medium-size taxpayer offices, identify the key issues, and assist with expediting closure of cases and collection of taxes. This would build on and reinforce recent instructions to LTO audit staff to expedite audit closure and the collection of agreed amounts (For example, in a single case 87 billion shillings is under dispute and final collections are expected to be perhaps half that figure).

- Implement the large taxpayer compliance strategy using integrated (cross functional) responses, targeting, initially, only a few high risks.

- Establish a tripartite committee under the direction of the Permanent Secretary of the MoFPED to assist with establishing arrears owed by government agencies and assist with the implementation of collections mechanisms. This would formalize the URA’s current targeting of persistent government agency defaulters—it is currently seeking a distraint order for outstanding remittances of 10 billion shillings against the Department for Water and Works.

- Review carried forward excess credits to assess trends, issues, and high risk cases. Check high risk cases. NB: the URA has carried such an exercise previously, with positive results—not only in those cases actually audited but in a reduction in offsetting arrangements generally. This suggests that a more systematic and comprehensive exercise could yield appreciable results, not only directly but by deterring inflated input tax credits more generally. Such action would also mitigate the significant fiscal risks currently contained in the accumulated stock of unpaid excess credits.

- The URA might consider a centralized exercise to increase arrears collection using staff temporarily relocated from other areas. Debt collection is unlike most audit and service delivery processes, and staff can be trained in the necessary skills quite quickly. To minimize the disruption and distraction of auditors and service delivery units, nominated staff could be redeployed to improve short-term debt collection.
• Expand tax marketing campaigns, including the naming and shaming of tax defaulters. Publicity for the measures listed above could also be used to deter future noncompliance, by showing URA’s serious intent to close the VAT gap. The URA should seek to start to involve the general public in the drive to improve tax compliance, which will be necessary to close the compliance gap by the required amounts. Other tax administrations have found that good, and quick, results can be achieved by marketing initiatives such as hotlines for the public to report suspected cases of evasion and fraud and using tax invoices as lottery tickets.

Revenue mobilization measures: Revenue policy

6. The MoFPED has two approaches to revenue mobilization from a policy perspective. While the VAT policy gap in Uganda is small relative to the compliance gap, there is scope to improve VAT revenue performance through policy measures. First, removal of discretionary exemptions and zero-rates would in general close the policy gap. In addition to the direct impacts of such measures, the simplification of the VAT could be expected to have the additional benefit of reducing the scope for noncompliance, and so help to close the compliance gap (though this effect would be difficult to quantify). The other approach would entail other ways to simplify the VAT law and reduce complexity for taxpayers, for example by increasing the registration threshold for VAT. This would again reduce the opportunities for noncompliance; and reduce compliance costs for both compliant taxpayers and the URA. This should help to close the compliance gap, though it is again difficult to quantify the effect.
Appendix IV. Ugandan Revenue Authority Response to Draft Report

1. Attached below is the joint response of the Ugandan Revenue Authority and Ministry of Finance, Development and Planning to a draft version of this report. This response was reviewed, and feedback given to the Authority direct. Overall, without determining whether or not the suggested refinements are correct, sensitivity analysis showed that they would not materially affect the results of the compliance gap estimate, so they were not incorporated into the estimation model used in this report, but rather were left to the URA to investigate as part of their ongoing analysis.

2. Detailed comments on the points raised in the response are set out below (in the order in which the points were raised).

- **Economic assumptions (nontaxable outputs in the agricultural sector):** it is suggested that 70% of outputs in this sector should be treated as not taxable, either because the businesses involved are below the registration threshold or because the outputs are exempt. The model treats these two categories separately. In its latest iteration, RA-GAP assumed that only 50% of outputs are by businesses trading above the registration threshold, and then applied the VAT exemptions to each commodity after this 50% discount for subsistence level farming. **NB:** the 50% figure evidence on the distribution by size of businesses in the agriculture sector taken from the 2010 Business Census published by the Ugandan Statistical Agency. The net effect of the respective assumptions is not very different.

- **Policy assumptions:**
  - **Liability of grain mill.** RA-GAP applied the standard rate because the information received was that this was almost always imported into Uganda, there being only a negligible amount of grain actually milled within the country. Notwithstanding this, this commodity is modeled as being principally consumed as an input by other businesses, so changing its VAT liability would not materially affect final amounts of VAT due.
- **Plastic and metal products for veterinary and medical purposes.** Agreed these should be exempt, and the RA-GAP model has treated them as such for 2011 and 2012.

- **Veterinary services.** Agreed these should be exempt, and the RA-GAP model has treated them as such for 2010-2012.

- **Combined tax rates:** as recommended by the URA, the RA-GAP model does use weighted average tax rates where combined rates need to be applied to the commodities identified in supply-use tables, for example trade margins.

- **Charcoal, hunting and firewood suppliers:** URA recommends that these be disregarded in the model. In the RA-GAP model, it is assumed that 80% of all forestry outputs are supplied by businesses trading below the VAT threshold (this includes timber and pole production, which will more often be carried out by larger firms). The assumption for hunting is 20%. Even before these discounts on taxable outputs, these sectors are very small – combined, the whole forestry sector is equivalent only to about 1½% of the agricultural sector, according to the Business Census - and a large proportion of their outputs will anyway be consumed as inputs by other businesses. So, without taking a hard position on best set of assumptions to take here, any changes can have only a marginal effect on the final estimate.

3. **RA-GAP continued to refine the VAT gap model since the visit to Kampala, and URA analysts are encouraged to do the same for the future.** This will maintain and improve the model’s reliability and usefulness. This report does cover areas of the model where it is felt that it could benefit most from further analytical review, principally in checking differences in the classification of activities between VAT and national accounts (whether those differences are between theoretical definitions or their application in practice).
**Background**

On February 11, 2014 the International Monetary Fund – FAD team presented the headline RA – GAP results and recapped the model therein to a team of URA staff, Ministry of Finance and Uganda Bureau of Statistics.

A VAT gap analysis seeks to identify the difference between potential VAT and the actual VAT collected as a result of compliance levels and tax policy structures.

**Assumptions used in the VAT Gap Model**

The report results applied the following assumptions to the model;

i. **Economic assumptions;**

   a. The model assumes that the portion of output under the agricultural sector (specifically the activity of growing) that is not taxable is 20%. This percentage is factored into the computation of potential VAT from registered businesses ($r^a$). However, the outputs from “growing” are unprocessed agricultural products which would fall under the exempt schedule. Secondly, in Uganda 60% of agricultural activity is subsistence and would therefore not qualify under the standard rate regime. It is our view that the assumption be reviewed upwards to 70% to reflect a more realistic position for Uganda.

ii. **Policy assumptions;**

   a. The model assumes that the commodity of grain mill is standard rated yet it is zero rated under the VAT Act. Also, Plastic & metal products under the medical and veterinary supplies have been assigned standard rates in the model yet these are exempt from VAT. Further, Veterinary services are exempt for VAT purposes but under the model, they have been considered standard rated. Our recommendation is that these rated should be adjusted in the model since they affect the final computations.

   b. The model introduces average tax rates ($T_1=9\%$ and $T_2=10\%$) as a result of combining taxable and exempt commodities. For example, electric equipment (standard rated) and diapers (exempt) are combined to obtain an effective rate of 10%. This would be appropriate if quantities involved were taken into consideration. It is therefore our request that this computation be reviewed accordingly.

   c. The model assumes a standard rate on agricultural items of charcoal, hunting and firewood which are low value activities whose operators are not consistent suppliers. However, their activities are captured in the supply and
Use tables. Our request therefore is to adjust the output from this activity from the model computations.

From the result of the engagement with the IMF mission we recommend that;

1. The assumptions used should be reviewed in order to determine the appropriate VAT gap
2. There is a potential tax gap that should be addressed. However, URA needs a breakdown of the gap by sector in order to effectively deploy its compliance efforts
3. The capacity of the risk analysis team be increased in order to use the tax gap model in determining specific areas for further treatment.

In the meantime, we are committed to reducing the tax gap by implementing the strategies below which shall be reviewed from time to time to ensure that they meet the desired outcome.
<table>
<thead>
<tr>
<th>SN</th>
<th>Recommendation</th>
<th>What is being done</th>
<th>Actions Required</th>
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| 1  | Uganda needs to reduce the compliance gap to around 50 percent of potential VAT. This would increase VAT revenues by 2-2.5 percent of GDP | • TREP Project – partnering with other government arms to bring taxpayers on board  
• Offsets management to reduce excess credit starting with the top 100 taxpayers per station  
• Data Analysis unit has been created in DT for assessing and cross matching  
• Data warehouse, to support analytical function in URA | • Continuous monitoring of offset claims |
| 2  | There has been progress in implementing tax administration reforms, but the URA needs to identify tax gap closing measures | | |
| 3  | Policy measures could facilitate administration efforts to reduce the compliance gap | • Policy improvements suggested for example, to reduce the list of exempt and zero rated supplies in the 2014/15 fiscal year | • Engage ministry of finance to ensure policy suggestions are adopted |
| 4  | A focused campaign to review accumulated excess credits and check high risk cases could close the compliance gap and increase revenues in the short term. Pay refunds out of actual collection | • Singled out the tax jurisdictions with the highest offset claims  
• Deregistration of recurrent offset declarant without  
• Other action as stated in 1 and 2 above | • Continuous monitoring of offset claims  
• Change policy to open the payment of VAT refunds out of gross VAT collections |
| 5  | Using tax gap analysis in a systematic way throughout the URA can support their reform objective to increase their analytical capability and improve performance monitoring | URA to build capacity to continuously monitor the tax gap | |
| 6  | As part of its tax gap analysis, the URA should develop in-year monitoring processes and metrics for the tax gap | URA needs to establish a tax gap monitoring unit with clear processes to track tax gaps on a tax type basis | |
| 7  | Compliance risks in offset claims need to be managed on a tax gap basis, not on a cash basis | • Establish a tax gap monitoring unit to incorporate offset claims as risk  
• Continuous monitoring performance of offset claims | |