An Analysis of the Distributional Impact of Excise Duty in Uganda Using a Tax-Benefit Microsimulation Model

UGAMOD Workshop

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An Analysis of the Distributional Impact of Excise Duty in Uganda Using Microsimulations

Structure of Presentation

- Motivation of study
- Literature review
- Excise duty in Uganda
- Methodology
- Research questions
- Results
- Next steps
Motivation


❖ Uganda’s tax-to-GDP ratio (15.1%) is still below that for countries in Africa (17.2%)

❖ Two-thirds (64.1%) of Uganda’s tax revenue comes from indirect taxes

❖ Microsimulation models have been widely used to analyse the redistributive impact of tax policy reforms (Decoster et al, 2011; Leahy et al, 2011 and Asiya et al, 2019)
Literature Review

❖ Excise duties are levied to correct social behavior (Levell et al, 2016; Junquera-Varela et al, 2017)

❖ Broadened mandate of excise duty to rising more revenue (Beegle et al, 2018).

❖ Excise duties could be regressive (if levied on essentials) or progressive (if levied on luxury commodities) – Junquera-Varela et al; Action Aid, 2018.

❖ Few studies have analyse the redistributive impact of indirect (excise duty)

❖ In Uganda’s case – 2 studies have focused on excise duty– Ssewanyana & Okidi, 2008; Jellema et al (2016)
Excise Duty in Uganda

- Uganda has 2 indirect taxes – VAT and excise duty (charged on selected commodities)
- Uganda has broadened motive of excise duties to raising more revenue e.g. tax on mobile money, airtime, social media etc.
- In FY 2018/19, excise duty accounted for 9% of total revenue
- Uganda has implemented several tax policy reforms such as: harmonizing excise duties, introducing new excise duties and compliance initiatives.
Figure 1: Excise Duty Revenues as a Percentage of GDP

Source: URA reports and Uganda Bureau of Statistics
Figure 2: Excise Revenue (FY 2009/10 – FY 2018/19)
Figure 3: Local Excise Duty Collections (By Product) 2009/10-2018/19
Methodology

❖ Used a Tax-Benefit Microsimulation model for Uganda (UGAMOD 1.4) to analyse the distributive impact of excise duty in Uganda for the period 2016-2019.

❖ Model is static, doesn’t account for behavioral changes and assumes full compliance.

❖ The underpinning data was obtained from UNHS 2016/17.

❖ UGAMOD simulates 15 excise duties (sugar, soda, other juices, foreign beers, cigarettes, engine oil, airtime, furniture, mineral water, fruit juices, domestic beers, gin, vehicle fuel, kerosene, mobile money)

❖ Excise duty is calculated on either an ad valorem or ad quantum basis, or as a combination of both

❖ Assumes constant budget share – household spends the same share of its budget on vatable/excisable commodities, regardless of changes in the overall budget.
Research Questions

❖ What is the excise duty incidence by decile?

❖ What excise duties are progressive (regressive)?

❖ How have tax policy reforms affected tax incidence by decile?

❖ What is the distributional impact of tax policy reforms for excise duty?
Results

Figure 4: Mean monthly per capita household consumption and mean monthly per capita household consumption after excise in 2016

![Graph showing mean monthly per capita household consumption and mean monthly per capita household consumption after excise in 2016 by decile of consumption. The graph illustrates the distribution of consumption across different deciles, with darker green bars representing mean consumption and orange bars representing mean consumption after excise. The x-axis represents deciles, while the y-axis shows thousands of Uganda shillings (UGX).]
Results Cont’d

Figure 5: Mean monthly per capita household consumption and mean monthly per capita household consumption after excise in 2019
Results Cont’d

Figure 6: Excise and consumption as percentage of total excise and total consumption 2016
Results Cont’d

Figure 7: Excise and consumption as percentage of total excise and total consumption 2019
Results Cont’d

Figure 8: Share of total excise duty items by consumption decile in 2016.
Results Cont’d

Figure 9: Share of total excise duty items by consumption decile in 2019.
# Post fiscal consumption-based poverty

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2019 with no excise duties payable</th>
<th>Difference to base</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Share of poor population, in %</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>22.13</td>
<td>21.05</td>
<td>-1.08</td>
</tr>
<tr>
<td>Poor households out of ...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... male headed households</td>
<td>22.20</td>
<td>21.02</td>
<td>-1.18</td>
</tr>
<tr>
<td>... female headed households</td>
<td>21.93</td>
<td>21.11</td>
<td>-0.82</td>
</tr>
<tr>
<td>... households with children</td>
<td>23.25</td>
<td>22.14</td>
<td>-1.12</td>
</tr>
<tr>
<td>... households with older persons</td>
<td>23.07</td>
<td>22.42</td>
<td>-0.65</td>
</tr>
<tr>
<td><strong>Average normalised poverty gap, FGT(1))</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>5.86</td>
<td>5.56</td>
<td>-0.31</td>
</tr>
<tr>
<td>Poor households out of ...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... male headed households</td>
<td>5.76</td>
<td>5.41</td>
<td>-0.35</td>
</tr>
<tr>
<td>... female headed households</td>
<td>6.15</td>
<td>5.97</td>
<td>-0.18</td>
</tr>
<tr>
<td>... households with children</td>
<td>6.15</td>
<td>5.83</td>
<td>-0.32</td>
</tr>
<tr>
<td>... households with older persons</td>
<td>6.14</td>
<td>5.87</td>
<td>-0.27</td>
</tr>
</tbody>
</table>
## Inequality after taxes and transfers

<table>
<thead>
<tr>
<th>Income</th>
<th>2019</th>
<th>2019 with no excise duties payable</th>
<th>Difference to base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gini (household income)</td>
<td>0.3902</td>
<td>0.3948</td>
<td>0.0046</td>
</tr>
<tr>
<td>P80/P20</td>
<td>2.95</td>
<td>2.99</td>
<td>0.04</td>
</tr>
</tbody>
</table>
Next Steps

- Further analysis of the redistributive impact of excise duty – on poverty and income inequality.
- Include policy reform e.g. change the rate of excise duty on Waragi.
- Tidy up the paper – insert graph on trend of excise duty revenues compared to other revenues over time.
- Address comments from peers and this workshop.
- Write the conclusion and recommendation section.
- Submit paper as a WIDER working paper.
- Present the paper in international conferences.
THANK YOU FOR YOUR ATTENTION!