Tax Policy Costing: a suggested approach and the case of Ghana

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Assessing Policy Impacts is Key

When formulating tax policy, governments need to understand the likely impact of proposed policy changes

- On revenues
- On different types of people and households
- On the economy

A systematic approach to assessing these impacts is useful

- This presentation will discuss revenue-impact (“policy costing”)
- Next presentation will discuss tools to assess impacts on people and households
- Partnering with Ghanaian Ministry of Finance (MoF) on each topic

Developing and deploying a systematic approach to policy costing

MoF requested support on policy costings

- Better understand and critique Ghana Revenue Authority’s (GRA’s) costings
- Incorporate, where possible, behavioural responses in costings
- Apply to tax cuts announced in March 2017 budget

We developed a methodology and series of ‘templates’ to use

- Based on the approach HMT / OBR use in UK
- Step-by-step from…
  - Initial statement of policy and policy objectives, to…
  - Final policy costing
- Clear statement of costs and calculations could aid decision making and transparency

Overview of approach

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For specific policies:

1. **Clearly define policy and state rationale**
2. **Static costing given unchanged taxpayer behaviour**
3. **Account for direct 'first round' behavioural effects**

   Responses by specific groups that are directly affected by the change

   Not large enough to be captured by general economic forecast

Some examples of behavioural responses

1. **Demand responses to changes in tax on goods and services**

   Measured by 'price elasticity of demand'

2. **Taxpayers change reported incomes in response to income tax change**

   Measured by 'taxable income elasticity'

3. **Companies shift profits in or out of country in response to CIT change**

   Measured by 'profit shifting elasticity'

Initially utilise elasticities from other countries, but over time ideally estimate and use country-specific elasticities

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For the package as a whole:

4. **Account for wider economic/behavioural effects**

   Compare before- and after- reforms general economic forecasts

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Analysing and costing tax policies: a practical guide

David Phillips

Accra, 23 Jan 2017

Policy costings: VAT and Duties Changes

David Phillips

Accra, 24 Jan 2017

A Policy Costing Template

Institute for Fiscal Studies

[Insert Title of Tax Policy Change]

Description of change [Precise description of policy change. Where possible, if multiple changes are being made to the same tax, separate policy change descriptions and costings should be made, taking care of ensuring the sum of the individual costings equals the overall costing (so, taking account of interactions between policies).]
Rationale for change [Set out the rationale for the policy change, paying particular attention to ensure the rationale is coherent and grounded in sound economic reasoning].
Static costing of the policy [Provide details of the cost/yield from a policy change holding relevant tax-bases fixed at pre-reform levels. If possible, costings should be set out by year for each year of the fiscal forecast period.] ***Data and methodology*** [A description of the data used for the costing, and the method for calculating the costing. This should include any approximations or assumptions required, and highlight when changes to revenues from other taxes have been taken into account – such as when the tax in question forms part of the tax base for another tax]. ***Key uncertainties*** [Set out key uncertainties related to data and methodology, giving an indication of their potential magnitude/significance. Consider whether illustrating using alternative low/high estimates is helpful in communicating this uncertainty].
Behavioural costing of the policy [Provide details of the cost/yield from a policy change allowing for first-round behavioural effects – such as changes in demand for a product when tax on it changes –, if possible for forecast period] ***Data and methodology*** [A description of the method for incorporating behavioural change. This should include the margins of change allowed for, the elasticities or other assumptions utilised, and sources for those elastictities.] ***Key uncertainties*** [Set out key uncertainties related to methodology, such as the type of behavioural responses, and the elasticities with giving an indication of their potential magnitude/significance. Consider whether illustrating using alternative high/low estimates is helpful in communicating this uncertainty].
Broader economic impacts [State whether you think policy is likely to have material and quantifiable effects on the macroeconomy – distinguishing between demand-side and supply-side effects. If so, set these out here, and set out final estimate of revenue effects of policy incorporating these effects. *Note, that in many circumstances, these broader effects will likely be small and therefore one may ignore.*] ***Data and methodology and Key uncertainties sections should also be provided here***
Final costing of the policy [Set out a final costing for the policy: either the "behavioural costing" or the "broader economic impacts" costing.] [Could have "low", "central" and "high" estimates if considered desirable].

Policy Scorecard

Policy	2017	2018	2019	2020	Long-term
Policy 1					
Policy 2					
"					
"					
"					
"					
"					
Total					

+ = net yield from policy

- = net cost of policy

Note that policy score-card should incorporate the final cost from the individual policy costings.

Note also that if one wants to produce high or low cost variants of the policy score card (to show, for instance, the maximum cost and minimum cost of the full package of reforms), it is important to realise that cannot always simply sum up high or low cost variants of the costs of individual measures. For instance, suppose both international and domestic airline tickets were subject to VAT, and while the total "airline ticket" taxbase was known, the proportions that were international and domestic was not. Suppose there was a proposal to cut taxes on both types of tickets but by different amounts. The high cost variant of the overall policy would not be the sum of the high cost variants of the two specific policies. This is because if a high proportion of the overall taxbase comes from international flights, raising the cost of that policy, by definition, a low proportion of the overall taxbase comes from domestic flights, lowering the cost of that policy.

Spreadsheet and 'Explainer'/Manual

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	A	C	D	E	G	H	I	K	L	M	N	O
40												
41												
42	**Behavioural Costings**											
43	**Price Changes**											
44	Consumer	-14.9%										
45	Businesses	0										
46												
47			**Pre-reform**			**Post Reform**				**Policy Costing**		
48		**2017**	**2018**	**2019**	**2017**	**2018**	**2019**		*2017*	*2018*	*2019*	
49	Tax base	1,391,800,589	1,600,570,678	1,840,656,279								
50	VAT reclaimed	0	0	0								
51	Tax base (when VAT unreclaimable)				1,588,725,566	1,827,034,401	2,101,089,561					
52												
53	Tax base consumer	1,322,210,560	1,520,542,144	1,748,623,465	1,519,135,537	1,747,005,867	2,009,056,747					
54	VAT rate	0.175	0.175	0.175	0	0	0					
55	VAT on sales to consumers	231,386,848	266,094,875	306,009,106	0	0	0	*J*	-231,386,848	-266,094,875	-306,009,106	
56	*Post-tax consumer cost*	1,553,597,408	1,786,637,019	2,054,632,572	1,519,135,537	1,747,005,867	2,009,056,747					
57	NB: consumer share of Bank VAT reclaim	0	0	0	0	0	0	*K*	0	0	0	
58	Net VAT paid by Bank on consumer sales	231,386,848	266,094,875	306,009,106	0	0	0	*L*	-231,386,848	-266,094,875	-306,009,106	Overall cost to GRA from VAT on bank transactions with consumers
59	NB: reclaim of VAT by consumers	0	0	0	0	0	0					
60												
61	Tax base business	69,590,029	80,028,534	92,032,814	69,590,029	80,028,534	92,032,814					
62	VAT rate	0.175	0.175	0.175	0	0	0					
63	VAT on sales to business	12,178,255	14,004,993	16,105,742	0	0	0	*M*	-12,178,255	-14,004,993	-16,105,742	
64	Post-tax business cost	81,768,285	94,033,527	108,138,556	69,590,029	80,028,534	92,032,814					
65	NB: business share of Bank VAT reclaim	0	0	0	0	0	0	*M*	0	0	0	
66	Net VAT paid by Bank on business sales	12,178,255	14,004,993	16,105,742	0	0	0					
67	NB: reclaim of VAT by businesses	12,178,255	14,004,993	16,105,742	0	0	0	*P*	-12,178,255	-14,004,993	-16,105,742	
68	*Actual "cost" to business given reclaim*	69,590,029	80,028,534	92,032,814	69,590,029	80,028,534	92,032,814	*Q*	0	0	0	Overall cost to GRA from VAT on bank sales to businesses
69												
70								*R*	2,527,171	2,906,247	3,342,184	Increase in (unreclaimable) input VAT paid by Banks
71												
72								***S***	**-228,859,676**	**-263,188,628**	**-302,666,922**	**Overall effect on VAT revenues**
73												
74												
75	**Ipact on Bank's corporate income tax**							***T***	**24,615,622**	**28,307,965**	**32,554,160**	**Potential additional corporate income tax receipts**
76												
77	Cash change in demand for fee-based services	196,924,977	226,463,724	260,433,282								

Notes / Summary Sheet / Airlines / **Financial Services** / Real Estate

Ghana’s 2017 Budget tax plans

1. Abolition of VAT on financial services
2. Abolition of VAT on domestic airline tickets
3. Abolition of VAT on real estate sales
4. Abolish various import levies and import VAT

Ghana's 2017 Budget tax plans

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Example: Abolition of VAT on financial services

Helped MoF develop initial costing by incorporating following:

1. Businesses buying financial services could reclaim the VAT they were paying, so no revenue to lose from this group from abolition

2. Potential change in demand for financial services when prices change after abolition of VAT

3. Potential knock-on effects for corporation tax if change in demand for financial services changes after abolition of VAT

Example: Abolition of VAT on financial services

Cost in 2017-18 ignoring these: 243m cedis (£43m)

Cost in 2017-18 taking these into account*: 204m cedis (£36m)

* Based on assuming 5% bank fees paid by businesses that can reclaim VAT; price elasticity of -1 for consumers; and a gross marginal profit margin on fee-based services of 50%.

Changing these assumptions has material impact on costings

- e.g. 182m cedis (£32.5m) if 15% of VAT initially reclaimable
- e.g. 217m cedis (£39m) if elasticity is -0.5 for consumers

Highlighted these assumptions as key uncertainties

Next steps

1. **Further work on methods and existing templates**
   - Data/info on market structures
2. **Apply method to policies in 2018 Budget**
   - May include manifesto commitment for 5% cut in corporate tax
3. **Embed method and approach at MoF and GRA**
   - Requires senior-level as well as operational buy-in
   - Designed template to be something that could be published