

Tax Policy Costings: refining approaches and incorporating behaviour

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Background

- Key functions of Tax Policy Units
 - develop and propose tax policies; and
 - review and analyse existing tax policy measures
- The former requires a robust process of costing and evaluating proposals
 - What is the rationale for the policy?
 - What is the forecast revenue gain/yield? How uncertain is this?
 - What are the likely behavioural and economic effects?
- Following a number of significant policy changes proposed by Ghana's new government in 2016, the Ghanaian MoF asked IFS to help refine policy costing method and incorporate behavioural responses
- IFS suggested approach based on UK practice but adapted to context

Costing a Policy: Overview

We proposed a four-step procedure.

For specific policies:

1. What is the policy 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 macro forecast

For the package as a whole:

4. Account for wider economic/behavioural effects

Compare before- and after- reforms macro forecasts

2. Static Costing

- Define, calculate and project forward tax base policy applies to and then calculate revenue change:

$$\text{Change in revenues} = \text{Tax base} \times \text{Change in statutory tax rate}$$

We focused on two particular issues:

- **Data on the tax bases**
 - Administrative data
 - Survey or other non-administrative data (e.g. Industry Report)
- **Accounting for any ‘mechanical’ changes in other taxes**
 - e.g. lower duties also reduces VAT revenues

3. Direct Behavioural Effects

- **Determine which behavioural responses are of relevance**
 - Demand responses (price elasticities)
 - Taxable income responses (taxable income elasticities)
 - Profit-shifting and investment responses (corporate tax elasticities)
- **Identify (range of) relevant elasticities**
 - Review of academic literature
 - Estimate using data from historic reforms
- **Use these to estimate post-behaviour tax base and policy cost/yield**
 - Importance of sensitivity testing

4. Wider Economic Effects

- **Demand-side effects**
 - Fiscal multipliers (tax cuts boost demand and growth)
- **Supply-side effects**
 - Impacts on labour supply, capital stock, total factor productivity
- **Need to avoid double counting behavioural effects in (3) and (4)**
 - e.g. effect of corporate tax cuts on investment
 - e.g. effect of indirect tax cuts on consumer demand
- **Decided would not estimate these impacts – yet**
 - Instead use scenarios and forecast judgement (OBR does this in UK)

A Policy Costing Template

[Insert Title of Tax Policy Change]

<p>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).]</p>
<p>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].</p>
<p>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.]</p> <p>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].</p> <p>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].</p>
<p>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]</p> <p>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 elasticities.]</p> <p>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].</p>
<p>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. <i>Note, that in many circumstances, these broader effects will likely be small and therefore one may ignore.</i>] Data and methodology and Key uncertainties sections should also be provided here</p>
<p>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].</p>

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.

Applications of approach

1. VAT policy changes announced in March 2017 Budget
 - Abolition of VAT on domestic airline tickets, fee-based financial services and real estate developments

 2. Proposed reduction in standard CIT rate from 25% to 20%
 - Manifesto pledge of the current government, but not yet enacted
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CIT: (1) Policy rationale

Aim of the tax cut is unlikely to be just to boost post-tax profits

- What other impacts might government be hoping for?
- Potential economic benefits
 - Higher domestic and foreign investment
 - Higher wages and employment
- Possibly reduce tax avoidance and evasion
- Will such effects mean policy pays for itself?
- Would alternative policies better achieve aims?

CIT: (2) Static costing (I)

- For a static costing, we hold the tax base fixed

$$\text{Change in revenues} = \text{Tax base} \times \text{Change in statutory tax rate}$$

- Data requirement: size of the relevant tax base (in future years)
 - If a single CIT rate, could back-out base from revenues:*

$$\text{Tax base} = \text{Revenues} / \text{Statutory tax rate}$$

* Bearing in mind accruals/cash receipts issues.

CIT: (2) Static costing (II)

- But in Ghana, main rate of 25% does not apply to all activities

Business	%
Rural bank in first 10 years	1
Free-zone enterprises:	
- in first 10 years	0
- income from exports after first 10 years	15
Venture capital financing company in first 10 years	1
Hotels	22
Financial institutions: income from loans to farms or leasing companies	20
Mining	35
Upstream petroleum	35
Export of non-traditional goods	8
Waste processing in first 10 years	1

Business	%
Real estate: income from construction for sale or letting of low-cost residential premises in first 5 years	1
Farming tree crops for first 10 years	1
Farming livestock or fish for first 5 years	1
Cattle farming for first 10 years	1
Cocoa farming	0
Agro-processing for first 5 years	1
Approved unit trust scheme, mutual fund or venture capital finance company in first 5 years	1
Manufacturing excl. Accra/Tema:	
-Regional capitals	18.75
- Elsewhere	12.5

- To know cost of reducing main rate, need to know what share of CIT tax base is subject to this rate; and what would happen to other rates

CIT: (2) Static costing (III)

- Detailed data on tax base subject to different tax rates is not available
 - Its on paper tax returns, but not digitized
 - We do have data on CIT revenues by industrial sector
 - And can make assumptions about share of revenues by sector that come from standard CIT rate
 - ❖ e.g. baseline assumption: 50% “Accommodation and food” is standard rated, 50% is from special hotel rate
 - ❖ e.g. baseline assumption: 20% of “Mining and quarrying” is standard rated, 80% from special mining rates
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CIT: (3) Behavioural costing

- Firms' responses to cut in CIT (and second-round responses to these by other actors) could affect size of CIT base and other tax bases
 - Domestic and foreign investment could increase
 - Report more profits in the country (less shifted-out, more shifted-in)
 - Could affect the organisation form of small businesses
 - Could affect the financing decisions of firms
 - A complex set of effects that would be impossible to capture in a model!
 - Focus on one or two key responses
 - A review of the literature found no consensus on scale of effects, especially in relation to investment and overall economic impacts
 - Test sensitivity of costing to behavioural parameters assumed
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CIT: (3) Behavioural costing

- We decided to model a profit-shifting response
 - If 50% of the tax base is mobile, and elasticity is -2 , profit-shifting would reduce cost of CIT cut by about one-fifth
 - 1.6 billion (~£260 million) instead of 2 billion cedis (~£325 million) in 2020
 - But significant uncertainty around this!
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CIT: (4) Wider economy

- Incorporate wider responses (e.g. investment, employment) by ad-hoc adjustment to the wider economic / tax revenue forecast
 - For CIT cut to pay for itself, **need policy to boost GDP by about 2.6%** (if that extra GDP were subject to average effective tax rate in Ghana)
 - To put that in context, HMRC's model predicted a 0.6%-0.8% boost from cutting corporation tax from 28% to 20% for the UK
 - A boost to GDP of 0.8% in Ghana would mean CIT cut costs about 1.1 billion cedis (~£180 million). How big is this?
 - ~1.8% of forecast tax revenues in 2020
 - Many multiples of spending on LEAP (main anti-poverty cash transfer)
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Summary

- Refine approach to policy costing, with a consistent series of steps
 - Statement of policy rationale
 - Static costing
 - Behavioural costing
 - Wider economic effects
 - ➔ Need to be aware of uncertainties and data limitations
 - Applied to recent and proposed VAT and CIT policies
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Next Steps

- Embed this approach in the MoF, and if demand could expand our work to other partner governments
 - Full potential requires time for assessing policy options and estimating costs
 - Could publish costing to aid transparency
 - Could produce a ‘ready reckoner’ of pre-estimated costings for key rate/threshold changes
 - Could undertake more detailed evaluation/analysis of major reforms
 - e.g. UK Govt. got HMRC to build CGE model for corporation tax cuts
 - Make better data available for policy costing, analysis and evaluation
 - IFS TAXDEV supporting a data digitization currently underway in Ghana’s LTO
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