

Institute for
Fiscal Studies

Analysing reforms to tax and transfers
policies in developing countries:

VAT reform in Mexico and its distributional
and efficiency implications

Laura Abramovsky

Social protection, taxation and inequality

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Taxes and transfers in developing countries

- Many developing countries need to increase their tax revenues
 - Ensure fiscal sustainability
 - Increase spending on social protection (cash transfers, subsidies, health, education) or infrastructure
 - Reduce reliance on donor funding
- Such systems need to be well targeted to make efficient use of limited resources and achieve distributional objectives as well
 - Understanding the efficiency and distributional effects of tax and transfers policies as a whole is hence of growing importance in developing countries
- Applied empirical research is key to this
 - Analysis of the design of tax and transfers systems is an empirical exercise

Analysing tax and transfers systems: what kinds of quantitative analysis are possible?

- Basic model: static non-behavioural microsimulation model
 - Assume individuals and firms do not react to changes in the tax & transfers system and look at revenue and distributional effects of reforms
 - Look at one period – simulate reform at a single moment
 - Household most common (firm is also feasible)
 - E.g., Short-run effect of a higher rate of VAT) under the assumption that consumers don't change their consumption/working patterns given changes in prices
- Extensions to the basic model
 - Dynamic models simulate the impact of a reform over time
 - E.g., long-run effect of pension rule changes on receipts and payments
 - Behavioural models: include particular behavioural responses
 - E.g. Effect of change in income tax on how much people work)
 - Integrate the microsimulation model to “General Equilibrium” models that aim to capture overall effect of a reform on the economy

What are the challenges in this type of analysis?

- Measurement issues
 - Lack of micro data or poor quality, though improving
 - Researchers' access to administrative data is limited, also improving
 - Income and spending often under-reported in household surveys
 - Some phenomena are intrinsically difficult to measure (e.g. informality)
- Little is known about behavioural response to changes in taxes in middle income countries
 - Labour supply (hours, participation, formality)
 - Consumption responses to changes in relative prices
 - Do firms pass through changes in taxes to prices and wages?
 - How does saving respond to tax treatment?

How do we assess distributional impacts? (I)

- Ranking: should income or expenditure be used to rank households as rich or poor?
 - Measured income: not always good indicator of living standards at one point in time - measurement error, borrowing and saving temporarily or to smooth spending over lifetime, e.g. students or retired
 - Measured spending: picks up effect of borrowing and saving, it gets closer to long run living standards - but measurement error and lumpiness (durable good) here too
 - No clear winner (worthwhile looking at both)
- Proportionality: use income or expenditure to assess the proportional gains/losses?
 - When looking at direct taxes, divide gains/losses by income
 - When looking at indirect taxes, divide gains/losses by expenditure
 - Doing otherwise can lead to misleading conclusions
 - Do both if assessing changes to direct & indirect tax together

How do we assess distributional impacts? (II)

- We use the simple *relative measures* (proportional losses/gains by decile) and *absolute measures* (cash losses/gains by decile) to assess if a reform is progressive or regressive
 - IFS guideline to make it accessible to a wider non-technical audience
 - More sophisticated measures can be used as well (e.g. Reynolds Smolensky - change in Gini coefficients)
- Order in which reforms are considered if more than one instrument is considered can matter (see Nora Lustig's work)
- Importance of considering the system as a whole
 - Consider not the distributive and efficiency properties of a specific tax, but of the tax-and-transfer system as a whole
 - But look at the impact of a reform to one tax - if that is the entire reform being considered

Mexico's 2010 Indirect Tax Reforms



Abramovsky, Attanasio and Phillips (2015)

Mexico's 2010 commodity tax reform

- Proposed reform
 - Substantial expansion in indirect (VAT) base: new 2% uniform expenditure tax named Contribution to Fight Against Poverty (CCP), on top of existing VAT, on all goods and services to be used to finance expansion in social protection and poverty alleviation
 - Increases in various income tax and duties rates
- Approved reform
 - Was a much reduced version of this, in particular replacing new 2% uniform VAT with increase in standard rate of VAT from 15% to 16% instead and food exemptions were kept
 - Part of reason proposals rejected is seen as “regressive”
 - Proper quantitative analysis can help assess whether this was the case

Focus on 2010 VAT reform in Mexico

- We analyse this tax reform by building a static household micro-simulation model (MEXTAX)
 - Allows simulation of distributional, revenue and some behavioural effect of policies at level of *individual household*.
 - Income tax, indirect taxes, social security contributions & cash transfers
 - Uses household level data ENIGH (Income and Expenditure survey)
- Can use this to simulate these and other reforms to the tax & (cash) transfer system
 - Estimate changes in revenues from tax & cash transfer changes
 - Estimate the distributional impact
 - Model the impact on work, consumption
 - Allow for less-than-full pass through of VAT to consumer prices
 - Take into account informality, i.e. much activity is not taxed

Figure 1. Distributional effects of the CCP, measured as a percentage of household net income and expenditure

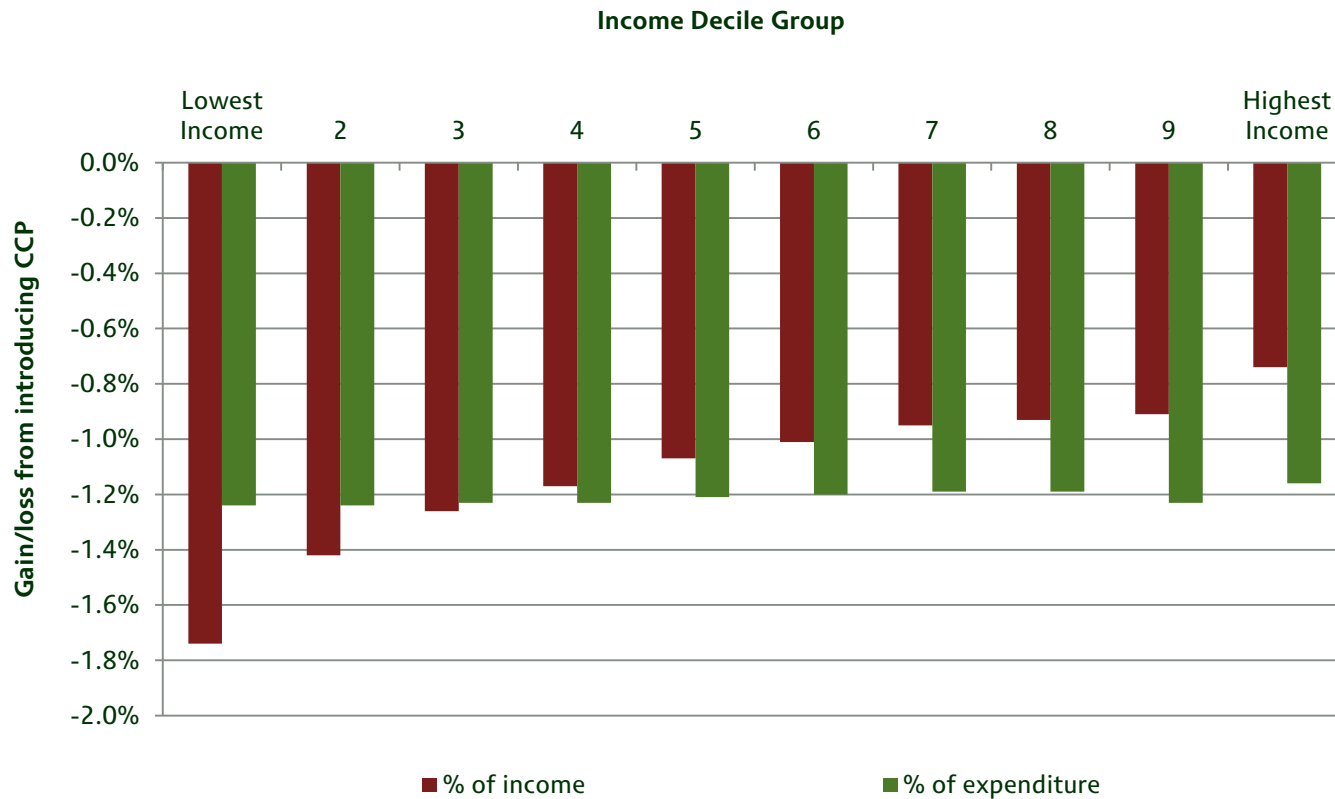


Figure 2. Gains from the replacement of the CCP with a VAT measured as a percentage of household expenditure and in cash terms (Pesos per annum)

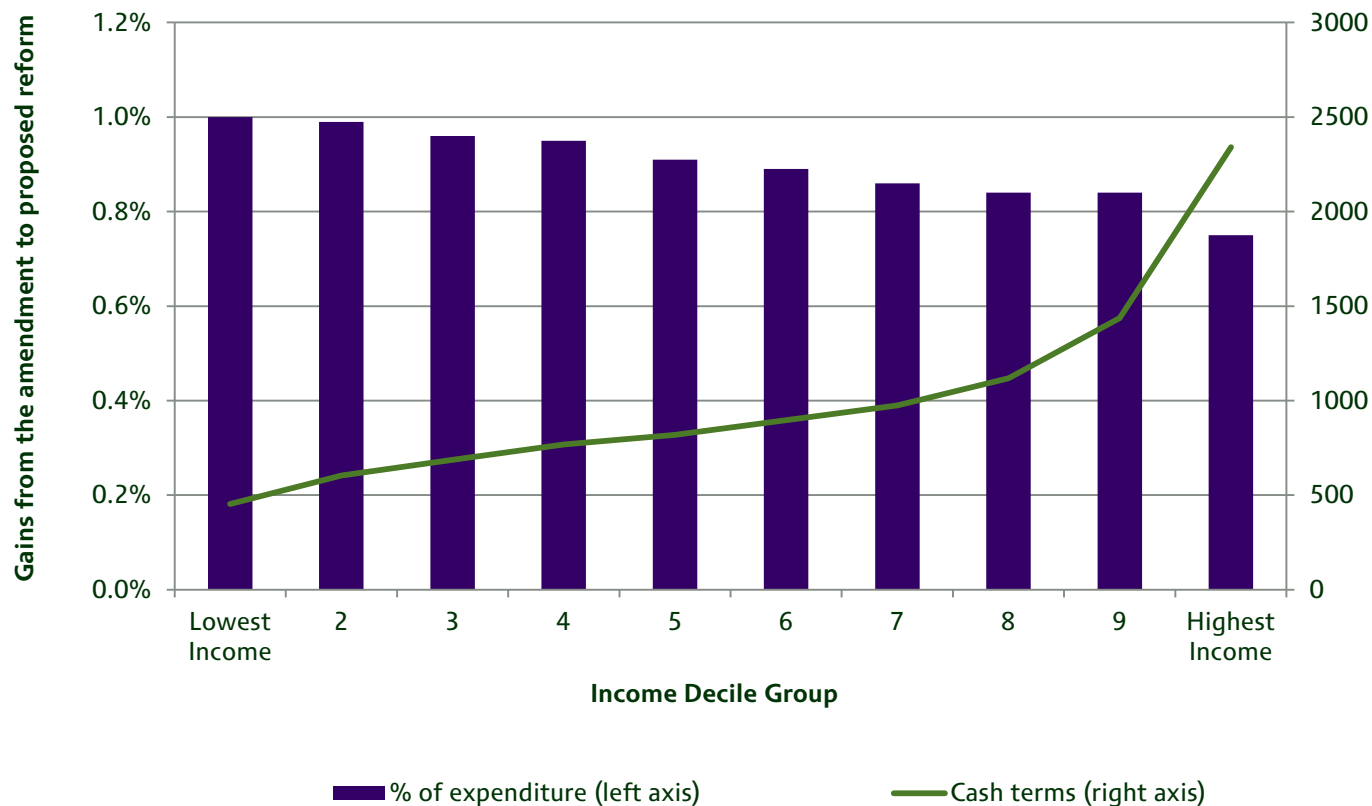
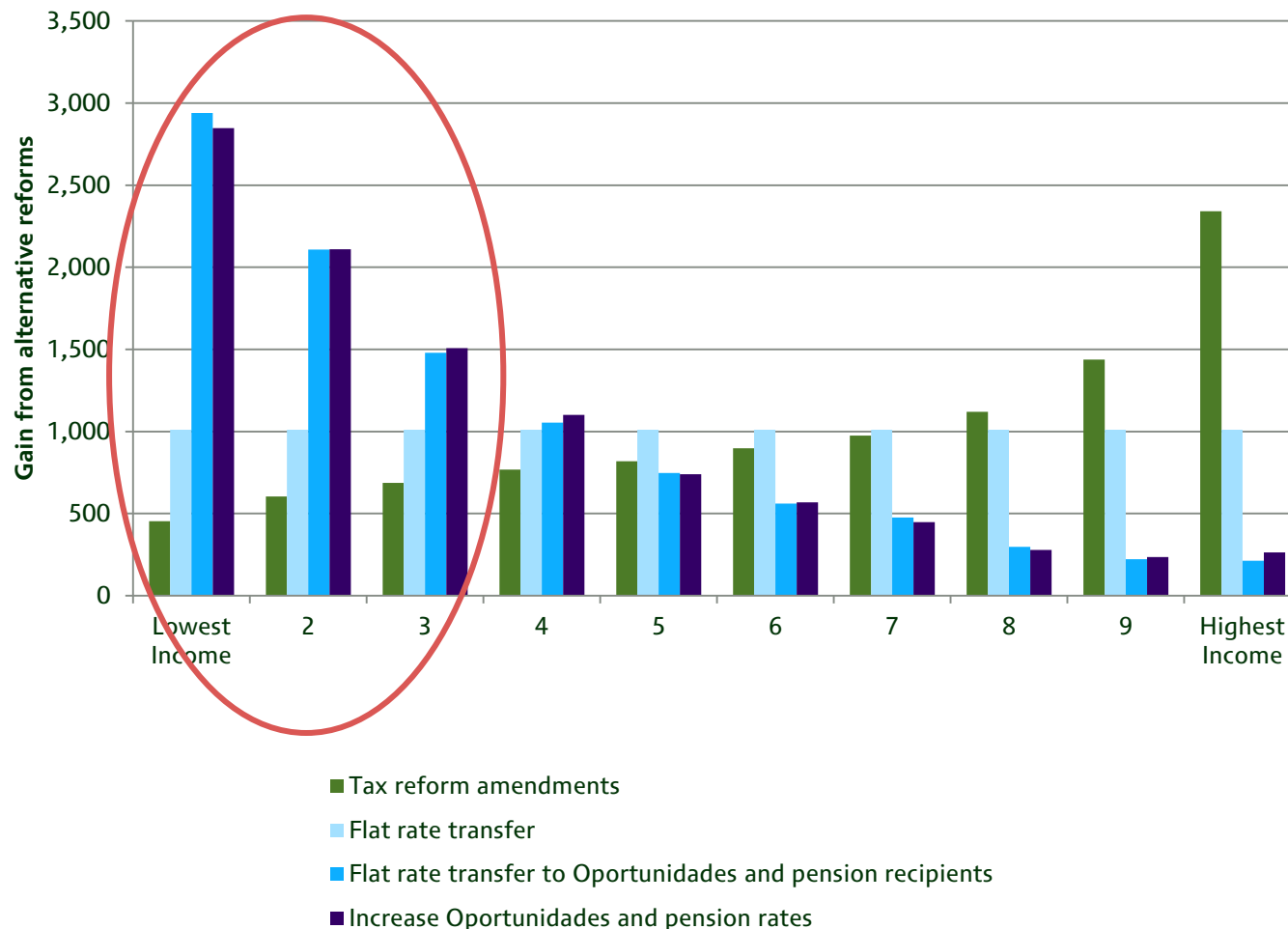


Figure 3. Cash gains from alternative ways of spending the revenue foregone due to replacing the CCP with the VAT rise, across the income distribution



Lessons from this analysis

- Introduction of uniform VAT
 - Regressive in relative terms as a proportion of income
 - Neutral as a proportion of expenditure over income distribution
 - Progressive in absolute terms over income distribution
- Replacement of uniform VAT by increase in standard VAT rate (keeping food exemptions)
 - Poorly targeted at the poor, in the presence of more direct tax/transfer system (cash transfers in this case)
 - So more discussion of this argument with key stakeholders and dissemination to the wider public is key to be able to implement reforms that serve better government's and society's targets.

Incorporating behavioural effects

- Microsimulation models can also incorporate behavioural effects
 - e.g. higher taxes reduce formal labour supply and/or consumption, reducing yield
- One area to explore – is this a reason to impose lower rates of VAT on goods like food?
 - If tax them, shift to home production and informal sector
 - Undermine revenues, and hold back formal economy
 - An area of ongoing research at IFS
- Flips usual arguments on their head
 - Exempt some goods (like food) for efficiency *not* equity reasons

Applicable elsewhere?

- Many countries levy a lower or zero rate of VAT on basic goods
 - Examine whether this policy is sensible given context (e.g. ability to redistribute using other means; informality)
 - Data availability is improving in many developing (low income) countries
- India is considering a comprehensive reform of indirect tax
 - Can look at distributional and behavioural effects
- Analysis of costly energy, food or water subsidies
 - What is the distributional effect? Designing packages to compensate poor if removed (on-going work in Jordan)
- Increasing revenues to fund, e.g. increased spending on social protection, healthcare and schools
 - Analyse distributional and efficiency effect of different funding
- Results may differ significantly across countries

Summary

- Tax and transfers policies are important and links to admin and broader political economy of tax
- Theoretical and empirical analysis can generate powerful results with strong policy relevance
- Results likely to be context specific
 - Dependent on economic structure (e.g. extent of informality, proportion of self-employed, share of rural economy)
 - The range of instruments available (e.g. targeted benefits)
 - Administrative and enforcement capacity
- Implies analysis needs to be done in a range of countries
 - Rolling out underutilised simpler tools like microsimulation
 - Undertaking cutting edge research
- IFS is scaling up this type of work in developing countries

THANK YOU!

Laura Abramovsky

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laura_a@ifs.org.uk