Is Value Added Tax Progressive?

Evidence From Egypt Using A CGE Model
Motivation

• 40% of population below poverty line, gov faces enormous challenges to raise revenue to finance programs to eradicate poverty

• Substantial amount of funds needed to improve deteriorating infrastructure

• Must reduce budget deficit - which stood at 12.4% of GDP in 2013/2014 - in order to reduce gov debt and maintain macroeconomic stablization to stimulate investment
• Current sources of revenue: direct taxes, indirect production taxes, sales taxes and tariffs
• Gov announced it intention to levy VAT
• Advantages of VAT:
  - does not distort input choice in production since it eliminates the cascading effect of taxes on intermediate inputs (Go et al, 2005)
  - facilitates trade since there no VAT levied on exports
  - Discourages consumption and thus stimulates savings and hence economic growth
- The cost of administering the VAT is low and reduces rent seeking activities especially if uniformly applied
- VAT was successfully implemented in EU, Canada, New Zealand as well many countries in the MENA region like Lebanon
• Disadvantages of the VAT: Can be regressive and inflationary

• Go et al 2005 find the VAT to be mildly regressive in the case of South Africa

• Salti and Shaaban find VAT to be slightly progressive for Lebanon as several articles important for the poor were exempt from the tax

• Ikpe and Nteegah 2013 find VAT to be inflationary as intermediate inputs were not exempt from it
Gap in the Literature

Apart from these few studies, in general there is little empirical work on the subject of the VAT in developing countries (Ikpe and Nteegah, 2013) especially in relation to income distribution. Research in this latter area has been particularly scarce and inconclusive. (Salti and Shaaban, 2009)
The Fundamental Question

• Utilizing a static CGE model for the Egyptian Economy, this paper aims to assess the impact of imposing a VAT tax on income distribution, inflation and gov revenue

• The fundamental question this paper seeks to answer is “who bears the burden of the tax
Why a CGE model?

- Because it captures the effect of each type of tax on prices, a CGE model is useful in analyzing issues related to the distributional impact of taxes. When the removal of the VAT tax is simulated, the model solves for market clearing prices and quantities that arise from optimizing behavior of consumers and producers given world prices and policy environment. Because the model has data on consumption expenditure by each household, the impact of tax changes on real purchasing power of each household group can be assessed. (Go et al, 2005)
The Tax Structure of the Egyptian Economy:% of Total Revenue

- Direct Taxes 50.48
- Import Duties 9.07
- Indirect Taxes 40.45
Simulations

- SIMU1 = uniform 15% VAT
- SIMU2 = 15% VAT levied on all sectors except agriculture and food
- SIMU3 = uniform 15% VAT in addition to setting tariffs equal to zero
- SIMU4 = uniform 15% increase in indirect taxes
- SIMU5 = uniform 15% increase in direct taxes (the results are not reported because they are negligible)
Simulation Results

<table>
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<th>Welfare.H1</th>
<th>SIMU1</th>
<th>SIMU2</th>
<th>SIMU3</th>
<th>SIMU4</th>
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Conclusion

• SIMU1 shows that VAT is marginally progressive as capital intensive activities contract and the income of capital accrues to rich households. Government revenue increases by 6% and prices fall by 1%

• SIMU2 shows that exempting agriculture and food from VAT reduces burden on poor compared to SIMU1
Conclusion

• SIMU3 shows that trade liberalization reduces burden of VAT on the poor. Gov revenue increased by 3% showing that fiscal and trade reform are complementary

• SIMU4 shows that VAT is more effective in raising government revenue compared to indirect taxes on production as gov revenue under the latter increased by just 2% compared to 6% under VAT