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The collection efficiency of the Value Added Tax: Theory and international evidence

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Abstract

This paper evaluates the political economy and structural factors explaining the collection efficiency of the Value Added Tax (VAT), where the collection efficiency is determined by the probability of audit and by the penalty on underpaying, and implementation lags imply that the present policy maker determines the efficiency of the tax system next period. Theory suggests that the collection efficiency is affected by political economy considerations – greater polarization and political instability would reduce the efficiency of the tax collection, and collection is impacted by structural factors affecting the ease of tax evasion (such as urbanization, agriculture share, openness). We evaluate the VAT collection efficiency (VAT revenue over the aggregate consumption divided by the standard VAT rate) in a panel of 44 countries over 1970–99. A one standard deviation increase in durability of political regime, and in the ease and fluidity of political participation, increases the VAT collection efficiency by 3.1% and 3.6%, respectively. A one standard deviation increase in urbanization, trade openness and the share of agriculture, changes the VAT collection efficiency by 12.7%, 3.9% and −4.8%, respectively. Qualitatively identical results apply for the ratio of VAT revenue to GDP divided by the standard VAT.

Keywords:

VAT | tax collection costs | trade openness | political instability | urbanization

JEL Classification:

F15 | H21

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Notes

1. The greater de-facto financial integration may be either the outcome of policy choice (de-jure financial integration), or a by product of greater trade openness, forcing greater de-facto financial openness (see Prasad et al. 2003; Aizenman 2004; Aizenman and Noy 2005). See Gordon and Li (2005) and Jinjarak (2005) for tax collection challenges facing developing countries.

2. See Gordon and Nielsen (1997) for an assessment of the gains associated with the switch to the VAT.

3. See Ebrill et. al. (2001) for a detailed discussion of these two measures of VAT collection efficiency. They point out that the appropriate benchmark for the VAT should

be total consumption (being the ideal VAT base, exempting investment), and not GDP. In addition, GDP may be subject to greater measurement error than consumption.

4. It is easy to verify that . Hence, λ is negligible when is small. Note that audit risk is idiosyncratic, and may be diversified away by distributing it across agents. The risk adjustment would be zero in the presence of such insurance. Our analysis can be extended to the case where the risk adjustment factor is positive, without affecting the main results.

5. As in Cuikerman et al. (1992), since the tax capacity is set one period in advance, and is reset each period, the infinite horizon equilibrium is characterized by looking one period ahead. The symmetry of the specification implies that the policy maker at time t is setting the tax capacity for the next period, θ, by maximizing . The term , is the discounted expected utility of the policy maker next period, recognizing that the equilibrium private consumption does not depend on the identity of the regime, and that the policy maker is reappointed (losing power) with probability $1 - \pi$ (π), enjoying utility from fiscal consumption of $X(\theta)$, respectively. The second term, $-\theta$, is the present resource cost of the fiscal investment in future tax capacity, reducing the present fiscal consumption enjoyed by the decision maker.

6. France was the first to implement a VAT, in 1948. Cape Verde recently implemented a VAT in 2004. Due to data limitations, these two countries were excluded from the sample.

7. See Fisman and Wei (2004) for empirical evidence on the enforcement problem dealing with tax evasion and imports.

The Modern VAT
Source: Unknown Repository
Tax evasion in an open economy:
Source: Journal of Public Economics
Tax Rates and Tax Evasion: Evidence from “Missing Imports” in China
Source: Journal of Political Economy
Tax structures in developing countries: Many puzzles and a possible explanation