Taking it as axiomatic that most developing countries need more tax revenue, focus on:

• Two aspects of globalization that may make this even harder:
  – Tax competition
  – Trade liberalization

• And
  – Controversies in tax administration
Data—A big problem

Here use two new datasets compiled from IMF staff reports:

– Both have extensive coverage have VAT on imports recorded as VAT revenue (not trade tax), and predate the crisis

– One is for 37 countries in SSA (1980-2005), and identifies upstream resource tax revenue

– The other covers all countries (1975-2006), but with less fine breakdown of taxes

Outline

• Some trends—setting the scene

• Tax competition—with special resource issues

• Trade liberalization—is there a problem?

• Tax administration—issues and controversies

• Conclusions
SOME TRENDS

Tax ratios have picked up...

For SSA:

![Graph showing trends in tax revenue to GDP ratio for LICs, LMICs, and UMICs over the years from 1980 to 2004.](image)
...but mainly because of resources

From 1976-80 to 2001-5, for full sample:

- Average tax ratio unchanged at 15 percent

- Proportion of LICs with ratios less than 15 percent rose, from 42 to 60 percent

SSA did better in that:

- Number of countries with ratios less than 15 percent fell (though only from 16 to 12)

Not a stellar record—so any additional pressures a worry
Composition though has changed substantially:

TAX COMPETITION
• Much studied for high income countries
  —Experience having been of a large reduction in statutory rates but buoyant revenues

• And much ignored for developing..
  —Even though CIT a more important source of revenue for them: 17 percent of total tax (less in SSA), not 10

• So: What has happened?

Statutory rates have fallen—but are still ‘high’:
By region:

- In SSA, (non-resource) CIT revenue has broadly held up:
  - Only in resource countries has ratio increased since early 1990s
  - Developing countries elsewhere may not have fared so well

- In SSA, cuts biggest in LICs, smallest in resource countries
What explains this relative robustness?

• Factors identified for high income countries...
  —profitable financial sector; increases in volatility, profit share, and incorporation; base-broadening

• Doubtless had some role
  —maybe also reduced incentive to t-p out?

• But one notable by its absence:

A proliferation of incentives has narrowed base:

Proportion of LICs in SSA with:

<table>
<thead>
<tr>
<th></th>
<th>1980</th>
<th>2005</th>
</tr>
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<tbody>
<tr>
<td>Tax holidays</td>
<td>38</td>
<td>82</td>
</tr>
<tr>
<td>Reduced CIT rate</td>
<td>14</td>
<td>50</td>
</tr>
<tr>
<td>Investment code</td>
<td>29</td>
<td>86</td>
</tr>
<tr>
<td>Free Zones</td>
<td>0</td>
<td>50</td>
</tr>
</tbody>
</table>
• Effectiveness of such incentives has long been doubted—with tax holidays seen as the worst—certainly other things (including governance) seen as more important for FDI

• Firm evidence of this now emerging

• Moreover, they increase the vulnerability of CIT revenues, because hard to remove

• Suggests—given primacy of revenue mobilization—a case for tax coordination
  —perhaps limit/scale back preferential treatment and set minimum rate
  —have indeed been efforts: EAC, SADC

• Difficulties of this well-known, so simply note:
  – Preferential regimes can make tax competition less bad...
    ...but profit shifting and ‘slippery slope’ may outweigh this

  – Forming custom unions strengthens case for coordination...
    ...learn from EU: Address CIT competition sooner rather than later
But one aspect deserves more thought:

Is there a case for coordinating resource taxes?—and if so, how?

• Some movement in this direction
  – E.g. WAEMU mining code and proposals in SADC

• At first sight puzzling—Resource rents often cited as the classic instance of location-specific rents that can be taxed at up to 100 percent

• But: Resources require huge sunk costs and so—evident recently—a potentially huge time consistency problem

To see the implications, suppose......
- Firm invests $K$ for revenue of $s_L p(K)$ or $s_H p(K)$

- Govt. deploys royalty $r$ and investment subsidy $\phi$ to maximize welfare $E[W(R) + \Pi]$ subject to a participation constraint (p.c.)

Optimal policy then:

- At second stage, set: (i) $r(s_L, K) = 1$; (ii) $r(s_H, K)$ such that $\Pi = \lambda$ (where $W'(\lambda) = 1$)

- At first, use $\phi$ to manipulate $K$ and meet p.c.

Can then show:

*If* (a) $\phi > 0$, and (b) an increase in $K$ is welfare-improving at the initial tax system, then welfare would be increased by:

- Committing to a lower tax rate in the good outcome, and (consistent with any p.c.)
- Setting a lower investment subsidy
• May be ways to achieve this other than by international agreement...
  —e.g. fiscal stability agreements
...and less of an issue if expect more discoveries

• Nevertheless, there may be a case for international agreements involving both:
  – Upper limit to exploration and other up-front subsidies and
  – Upper bounds on royalties and other ex post tax rates

TRADE LIBERALIZATION
In early stages, trade liberalization (TL) may increase revenue from trade taxes—Tariffication, cutting prohibitive tariffs, removal of exemptions...

But at some point further TL must reduce trade tax revenue

And in practice:

Tariff rates and revenues have fallen markedly...

...but are still more than 30 percent of non-resource tax revenue in SSA
• TL may be blocked/less beneficial, unless revenue can be recovered from domestic sources

• Conventional view has been that this is easy: match tariff cuts with increases in indirect taxes

• Many caveats, including Emran-Stiglitz argument: tariffs better than VAT at taxing informal sector …but VAT is imposed at border, and if not credited then equivalent to a tariff

• May also be that loss of trade tax revenue illusory, with depreciation increasing real value of aid/resource revenues

But concern here is not with principle but fact:

Have countries recovered lost trade tax revenue in practice?
For full sample:

...suggesting that recovery was a problem but may have improved more recently

For individual SSA, tabulations fairly reassuring:
But this does not control for other factors affecting revenue—to think about which, some theory helps:

Suppose government’s maximand is

\[ \begin{align*}
V(R, X) &= \left( \frac{1}{2} \right) \delta^T(X)(R^T)^2 - \left( \frac{1}{2} \right) \delta^D(X)(R^D)^2 \\
\end{align*} \]

where \( R = R^D + R^T \). At unconstrained optimum:

\[ \frac{R^T}{R} = \frac{\delta^D(X)}{\delta^T(X) + \delta^D(X)} \]

And optimal change in total revenue in response to a forced change in trade tax revenue is…

\[ \frac{dR}{dR^T} = \left( \frac{\delta^D(X)}{\delta^D(X) - V_{RR}(R, X)} \right) \in [0, 1] \]

…so that:

- Less than full recovery is optimal
- Extent of recovery greater:
  - The less costly it is to raise domestic revenue
  - The more rapidly the marginal value of public expenditure decreases with its level
This also suggests estimating equation:

\[ R_{it}^D = \alpha_i + \beta_0 R_{it-1}^D + \beta_1 R_{it}^T + \beta_2 X_{it} + \beta_3 X_{it} R_{it}^T + \mu_t + \varepsilon_{it} \]

where \( X \) includes GDP per capita, openness, aid, inflation, share of agriculture and a VAT dummy.

Interest focuses on short-run replacement \(-\beta_1\) and long run replacement

\[
\theta \equiv \frac{-\beta_1}{(1 - \beta_0)}
\]

with \( \theta = 1 \) meaning full replacement, and \( \theta = 0 \) none.

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Results for middle income countries...

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<thead>
<tr>
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<th>Difference GMM</th>
<th>System GMM</th>
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<tbody>
<tr>
<td>(-\beta_1)</td>
<td>-0.525**</td>
<td>-0.333**</td>
</tr>
<tr>
<td></td>
<td>(0.263)</td>
<td>(0.171)</td>
</tr>
<tr>
<td>(\theta)</td>
<td>1.337***</td>
<td>1.114**</td>
</tr>
<tr>
<td></td>
<td>(0.495)</td>
<td>(0.464)</td>
</tr>
</tbody>
</table>

...look like pretty full replacement
Results for low income countries, however...

<table>
<thead>
<tr>
<th></th>
<th>Difference GMM</th>
<th>System GMM</th>
</tr>
</thead>
<tbody>
<tr>
<td>$-\beta$</td>
<td>-0.307</td>
<td>-0.171</td>
</tr>
<tr>
<td></td>
<td>(0.193)</td>
<td>(0.216)</td>
</tr>
<tr>
<td>$\theta$</td>
<td>1.233*</td>
<td>0.987</td>
</tr>
<tr>
<td></td>
<td>(0.646)</td>
<td>(1.552)</td>
</tr>
</tbody>
</table>

...are less reassuring

Also find:

• Distinguishing episodes in which trade tax revenue fell/increased, recovery significant and close to one for MICs—but not for LICs

• No sign that presence of a VAT associated with stronger recovery
  —perhaps not too surprising, as VATs differ
• Some signs LIC recovery has increased over time

• Running country-specific regressions:
  – Immediate (resp., ultimate) replacement significantly positive in 6 (9) of 37 LICs
  – Of which 4 (7) are in SSA...

...tending to confirm that in this area SSA has done better than others

TAX ADMINISTRATION
Everyone agrees—need to “strengthen tax administration”

• But what does that actually mean?

• And what do we know about it?

Some issues:

Structural reforms

• Large taxpayer unit
  – Largest 1 percent may pay 90 percent of taxes

• Organizational reform
  – Revenue authorities
  – Tax-type versus functional/segmented?

  These are not such trivial exercises as may seem

• IT

• Audit capacity
Dealing with informality

• Strong case for a fairly high threshold for VAT and ‘real’ income tax

• But below that:
  – Why bother?
  – Externalities/paternalistic/political benefits from tax compliance?
  – Or should they be taxed more?
  – Is simplicity really possible?
    • Are we replacing income tax and/or VAT? Turnover or cash flow? What about employees’ social security?

What role for (non-final, non-standard) withholding?

• An incentive to become compliant...

• ...but a very weak one unless audit probability very high

• So is it just a revenue grab?

• If so, is it a Class A drug?
CONCLUSIONS

• Data
  – Be systematic about what there is, look for what there isn’t

• Tax competition
  – May be more important for developing countries
  – Incentives: A losing battle for decades
  – Resource tax coordination: Is it different?

• Trade liberalization
  – A genuine issue for many countries

• Administration
  – Too important to be left to administrators