

“Tax Systems in Developing Countries”

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Why have me deliver the keynote at a taxation in developing countries (DC) conference? I am not a development economist, having worked on tax issues only in Mexico, Colombia, and Egypt.

But for the past 25 years I have been working on aspects of tax systems that are particularly important in developing countries: tax evasion, enforcement, and administration.

Be that as it may, I am very pleased to be able to address this conference, and am very disappointed I could not *attend* this conference. I am especially pleased because this conference is evidence that taxation in DCs has attracted the attention of some of the brightest minds among young economists studying public finance. You represent a *new wave*.

For decades many economists have studied the fiscal challenges faced by DCs, bringing sound economics reasoning and a wealth of global experience to bear. I have in mind people like Richard Bird of the University of Toronto, who devoted his career to finding sensible tax structures and procedures that can be implemented with the administrative capabilities found in DCs. Economists such as Richard recommended that tax policy be adopted to the realities of the environment, including severely limited administrative resources. Forget what the textbooks tell you, he might say, a VAT as it really works in a DC is not a uniform consumption tax given rampant evasion, chains of untaxed firms, collection most effective at the border, and so on. What then, *is it*? Consider seriously, he might say, implementing a *presumptive* income tax, where tax liability for small businesses depends not on a difficult-to-verify calculation of profit but instead on more easily measured quantities such as, for restaurants, the number of tables, the seating area, and the neighborhood. And, let's not be condescending about DC tax systems. Tax systems in rich countries have many presumptive elements, such as arbitrary standard depreciation schedules, standard deductions, and taxation of realized capital gains. All of these are compromises from a theoretically ideal income tax base done largely for practical reasons.

But for all his many insights and contributions, economists like Richard did not apply modern public finance techniques, neither optimal taxation reasoning nor state-of-the-art empirical methods. And so we could not rigorously ask, for example, when it makes sense to exempt small firms from taxation, sacrificing production efficiency to save administrative costs—and what data would inform this policy choice. We could not rigorously investigate what is the

optimal size of a tax gap—it's surely not zero—and what measurable parameters the answer depends on.

The new wave represented at this conference is not the first new wave, rather it is the second.

The first new wave dates back to a World Bank project that culminated in a 1987 collection of articles edited by David Newbery and Sir Nicholas Stern, entitled *The Theory of Taxation for Developing Countries*, and a 1993 survey in the *Journal of Economic Literature* by Robin Burgess and Stern.

Newbery and Stern (1987, p. xi-xii) nicely summarized the objective of the first new wave as follows: to rigorously (i.e., mathematically) identify the government's objectives and how they can best be achieved with the available resources, institutional arrangements, data, and tax instruments. It "extends and adapts theory so that it can contribute directly to the problems that face policymakers in developing countries." It is well worth reading.

The first new wave notwithstanding, the great majority of modern tax analysis has been addressed, explicitly or implicitly, to rich countries.

Let me begin by discussing some important context.

1. Are DCs the same as rich countries? How are they different?
2. Can/should we use the same theory and empirical methods to study taxation in DCs, or not?

1. Are DCs the Same as Rich Countries?

No. Obviously, they are poorer. They are also distinct both in the economic, social, and demographic context, and in the type of tax systems they have.

Distinctive Context

Here's a long but incomplete list of distinctive, if not completely pervasive, features of DCs:

- Importance of primary sectors
- Extreme inequality
- High return to government investments in education and health
- Prevalence of trade distortions
- Major role for planning, including government control of the prices of many goods and services, either directly through state enterprises and marketing boards, or indirectly via quotas, regulation, and licensing
- Extensive foreign ownership of business
- Weak administrative capabilities
- Weak legal institutions
- Pervasive corruption

- Large informal economy and substantial evasion

These features are interrelated. E.g., weak administrative capabilities contribute to widespread evasion, weak legal institutions contribute to pervasive corruption.

2. Basic Facts about the Tax Differences between Rich Countries and DCs

(Sources: World Bank and IMF data for 2014, central government only, lowest quintile of real GDP per capita vs highest quintile)

DCs collect less taxes as % of GDP: 16.2 versus 27.1

What taxes used (DCs versus rich countries, as a % of total taxes):

- More corporate (16.5 vs 12.7)
- More taxes on trade (22.5 vs 6.6)
- More general consumption (29.2 vs 16.6)
- Less social security (0.3 vs 23.1)

Who remits? Firms, everywhere. (85% in the US and the UK and, according to recent work by myself and Tejaswi Velayudhan, India as well). So, 85% is looking like a universal constant.

Progressivity (hard to compare, but probably lower in DCs)

Broadness of bases (hard to compare, but probably narrower in DCs)

Resources spent on tax administration. An average of 0.9% of revenue collected in both OECD and non-OECD countries as of 2013. (OECD, 2015, Table 5.4) But this could reflect many things: efficiency of collection, collection “effort,” the scope of taxes covered, and tax rates (due to economies of scale).

What has changed for DCs from 1984 to 2014?

- Not total tax take as a % of GDP; it’s about the same.
- Big move from trade taxes (41 to 23% of revenue) to general consumption taxes (12 to 29%) and income taxes (24 to 34%).

In contrast, in rich countries neither the average tax take nor the mix of taxes has changed a lot since 1984.

What’s the Same between DCs and Rich Countries?

The need for rigorous analysis. Policies should be evaluated based on how they affect the population, not based on how they stack up on imprecise criteria such as fairness or comprehensiveness.

Banish soft thinking, like “more revenue is always good.” As Newbery and Stern (1987, p. 5) said, “Revenue...may be low because the only taxes it is feasible to raise impose a high social cost, one not warranted by the productivity of government revenue.” Yes, there are often vital needs for government funds, but taxes are costly to a country in many ways.

At the same time, we cannot avoid that social welfare weights may vary widely between the rich and the poor, and this is especially important in an environment of extreme poverty and inequality.

This evening I will touch on 5 issues:

1. Tax systems
2. Agriculture, food and land
3. Informal and family firms
4. Corruption
5. Why a new wave *now*?

Tax Systems

In 1993, Burgess and Stern (p. 785) could correctly assert that the economic theory of taxation has generally left out many of the problems of administration, the limited availability of tax tools and their restricted coverage, lack of resources and poor administration. I lament, however, the loose language about the 2nd and 3rd-best. I agree with Christopher Bliss, who in Newbery and Stern (1987, p. 153), says the theory of the second best...“is really the theory of the first best based on realistic assumptions.”

Our profession has recently turned its attention to these problems. There is widespread acceptance of the need for what I call a *tax-systems* approach (Slemrod and Gillitzer, 2013). A tax-systems approach has 3 rungs: (1) *tax rates and bases* (the usual, and certainly important, focus); (2) *remittance rules* (dismissed as irrelevant in PF textbooks, but actually often critical); and (3) *enforcement rules* (who must remit, and the consequences of failure to remit). It may be that in studying DCs we should add a fourth rung to the definition of a tax system--*bureaucratic organization*—in part to focus attention on the issue of corruption.

Certainly one should apply the tax-systems framework of (1) multiple costs (including excess burden but also administrative and compliance costs), (2) multiple behavioral responses (real responses plus evasion and avoidance), and (3) multiple instruments (bases and rates plus audits, information reporting, public disclosure, and so on).

My recent paper with Mick Keen, entitled “Optimal Tax Administration,” formalizes the normative theory of tax administration, allowing one to formally pose key tax policy questions such as: if revenue must be raised, is it better to raise rates or strengthen enforcement? What is the optimal size of the tax gap? We argue that there is a sufficient statistic, the *enforcement elasticity*--the analogue to the elasticity of taxable income to tax rate changes--that the answers

to such questions depend on. We encourage empirical tax-systems researchers to calculate this statistic to inform normative evaluation of policies.

Agriculture, Food, and Land

Food, and therefore agriculture, matters a lot, because:

- Agriculture is a big % of GDP and exports in most DCs.
- Food—its availability, distribution, and price—is of such importance that all governments take some responsibility for its price, quality, and security.
- There are strong limits on the policy instruments available to tax agriculture. E.g., it is often impossible to tax transactions between producers and consumers, which has implications for the whole tax system.
- Government is often the main or only supplier of vital inputs such as water, fertilizer, and electricity, so its pricing policy must be integrated into the taxation of production.
- Role of land taxes. Land is the one productive asset that many rural people seem to own, although there is enormous country-to-country variation (Banerjee and Duflo, 2007, p. 148). It is also, in principle, an efficient tax base, being in inelastic supply.

A practical barrier to further study of these issues is that, to many (urbane and urban) economists, “agriculture” sounds as deadly boring as “administration.” But it cannot be ignored in most DCs.

Thinking about land taxation suggests to me a political economy question: Is it just a coincidence that “despite its theoretical attractiveness...resistance to land taxation is fierce and effective”? (Burgess and Stern, p. 802) Or is the reason why it is theoretically attractive—that land is in fixed supply, and therefore the tax burden is unlikely to be shifted—precisely why the resistance is so fierce?

Informal and Family Firms

As Banerjee and Duflo have stressed (2007, pp. 151, 162), all over the world a substantial fraction of the poor act as entrepreneurs, in the sense of raising capital, carrying out investment, and being the full residual claimant for the resulting earnings. They write: “You buy some fruits and vegetables or some plastic toys from the wholesalers and start selling them on the street...you collect cow dung and dry it to sell it as a fuel.”

Many of these enterprises stay out of the regulatory and tax net. We call them informal, unofficial, hidden, underground, etc.

So what? Well, if they remit no taxes, they contribute nothing to the pressing need for infrastructure investment and other government programs.

But, the informal firms (IFs) provide a livelihood to billions of very poor people. LaPorta and Shleifer (2008, p. 40), write, without understatement, that “Beefing up enforcement against the unofficial firms would devastate the livelihood of millions of people living near subsistence.”

One view is that IFs are extremely productive, but are held back by taxes and regulations.

Another view is that the cost advantage conferred by avoiding taxes and regulations allows IFs to undercut official firms in prices, stifling the development of more efficient, larger, businesses.

A third view, maintained by La Porta and Shleifer (2008), holds that IFs and formal firms operate largely in different markets and have different customers, and going from IF to formal is not a common life cycle of firms. In their view, there is sorting on entrepreneurs: high quality managers are willing to remit taxes and bear the cost of government regulation in exchange for being able to advertise their products, raise outside capital, and access public goods. In contrast, low quality managers avoid taxes and regulations since the benefits of operating in the formal economy are less valuable for small firms.

But, *here’s a fact*: it has been proven very difficult to identify policies that successfully move firms to the formal economy. Careful field experiments by David McKenzie and colleagues at the World Bank have found zero or even negative impacts of information and free cost treatments, and a small increase in formalization from inspections. They conclude that most informal firms will not formalize unless forced to do so, suggesting that formality offers little private benefit to these firms. This evidence is consistent with, but not dispositive about, the third view of segmented markets.

The role of family firms. Although outright theft is very prevalent, small firms in DCs do not make much use of police and the courts, and instead spend heavily on security and make protection payments to gangsters. This makes family firms more attractive, as the value of being in a family network can help reduce theft. But there is a tradeoff—your brother might not steal from you, but he might be useless at the job.

And, there’s a tax policy issue here: family firms are also likely to be more opaque to the tax authority. The same family network ensures against ratting out tax evasion. The role of family firms in tax policy deserves more attention, and Wojtek Kopczuk and I have been making small strides toward some understanding their role.

Corruption

On average DCs fare poorly in international rankings of corruption. In addition, several are “failed”, or “fragile”, states.

Can tax policy, and tax research, ignore corruption?

As argued by Murphy, Shleifer, and Vishny (1993), corruption is likely to be particularly harmful in DCs, as innovative firms are especially vulnerable to public corruption because they have a

high (and inelastic) demand for government-supplied goods such as permits and licenses. While PF has focused on businesses' role as *perpetrators* (proxied by the percentage of income that they hide from tax authorities), the fact of public corruption reminds us of their role as *victims* (proxied by the money they pay as gifts or informal payments to public officials to "get things done").

The pervasiveness of corruption in DCs is a source of discomfort to me on several levels. For one thing, as researchers and perhaps consultants to DC governments, we must consider whether our best advice will make the intended beneficiaries—often desperately poor people—better off, or will it make corrupt bureaucrats and politicians better off? Pondering the fourth rung of a tax system—the tax bureaucracy, can help to design more corruption-proof organizations, but this does not erase my discomfort in the meantime.

A second, and more mundane, source of discomfort is the sense that corruption and government inefficiency generally may undermine the canonical model of tax evasion. Due to Allingham and Sandmo (1972), this model holds that people and businesses evade when they think they can get away with it, and so what matters are the probability that an act of evasion will be caught and punished, what the punishment is, and how risk-averse taxpayers are. What doesn't matter is what tax revenues fund (as my taxes are just a drop in the bucket), how fair the process is, and so on.

There is very compelling evidence that this model explains a lot of the variation in tax compliance rates in rich countries—just compare the 1% noncompliance rate of for wages and salaries in the U.S. to the 56% noncompliance rate for small business—evasion of the former is almost certain to be caught, due to employer information reporting. But, say that pervasive bribes provide a signal that the government is dishonest, and that there is a lower probability that the taxes will be used for valued taxpayer services. Does that matter in DCs? If so, how can the vicious circle of low compliance, poorly funded government service provision, and so on, be broken? My prior is that, even in this environment, increasing the probability of detection and punishment is the best way to reduce tax evasion, but I am not so sure.

Finally, the information in the Panama Papers has exposed the fact that some corrupt officials in DCs (and rich countries) amass large fortunes and keep them out of the public eye and, perhaps incidentally, out of the tax net. This is a first-order issue in poor countries marked by extreme inequality. Perhaps the agreements on Automatic Exchange of Information coming on board in 2017 and 2018 will help address this issue.

Why (a New Wave) Now?

Why is the second new wave cresting now—today and tomorrow—in Zurich? I believe there are two reasons. The first is a confidence that the normative and positive models and tools of modern economic analysis we've developed can be applied to DCs—we do not have to reinvent the wheel. This confidence must, though, be tested against the issues I've just been discussing: how must the sufficient statistics approach based on the enforcement elasticity formulated by

Mick Keen and myself be amended to address the realities of a highly distorted agriculture sector, informal and family firms, and corruption?

The second, and more important, reason for the timing of the new wave is the increased availability to researchers of administrative data from DC tax records and the willingness of DC governments to work with researchers to conduct randomized controlled trials (RCTs).

Most of you are aware that an even bigger wave has swept over the field of development economics. This is the belief that the best way to learn about the impact of policy is to conduct a randomized controlled trial. For example, if you want to know if monitoring attendance and providing financial incentives will reduce teacher absenteeism in India, implement such a program in 60 of 120 randomly chosen school districts, and see what difference it makes, on average. The Poverty Action Lab at MIT has completed or is working on 796 (!) such RCTs in 72 countries, and much has been learned about what works, and what does not work, in education, health care, community governance, microfinance, and other areas. Compared to traditional econometric analysis of data, that often require unverifiable assumptions and opaque statistical techniques, RCTs are in principle simple and the results easy to interpret. For these reasons, they are sometimes referred to these days as the “gold standard” for policy evaluation.

This brings me to a personal sob story. When the wave of RCTs first dawned on me, I got depressed. I study the consequences of taxation. But what country is ever going to randomize its *tax rates*, or its *tax bases*? This is probably unconstitutional in every country with a constitution, and unwise in all countries. So, I despaired, tax researchers would be left behind in the calm waters behind the wave.

But I was wrong. It is true that governments have not been willing to randomize tax rates or bases, the first rung of the tax-system “three-rung circus”. But many governments have been remarkably willing to do so when it comes to the wide range of tax enforcement policy instruments. Due to the outstanding work of people in this room and elsewhere, we have learned from RCTS about whether letters from the tax authority will induce low-income people in the U.S. to claim tax credits for which they are eligible (yes, but the effect soon fades), what kind of letter induces Detroit city residents to file a city income tax return, the relative effectiveness of letters, telephone calls, and revenue officer visits for tax compliance in Argentina, and how firms in Chile and Ecuador subject to VAT react when information-rich letters are sent to apparently non-compliant firms (they report more receipts, but also increase their claimed expenses). I am confident that the papers presented at this conference have taught us much more.

But, it turns out, RCTs are not without their own problems. The Nobel-laureate Angus Deaton of Princeton University has stressed that we need to know when we can use the results from RCTs in contexts other than those in which they were obtained. To what extent does the response of firms to a policy intervention in Detroit or Chile inform us about its effect in, say, Zambia?

Professor Deaton argues, and I am sympathetic to his view, that RCT analyses of “what works,” even when done without error, are unlikely to be very helpful for policy elsewhere, *unless they tell us something about why the program worked*, and he urges that RCT analysis move beyond studying projects to studying the mechanisms that determine whether a policy works or not.

Those in the new wave of taxation in DCs have the luxury of learning from the 800+ RCTs on non-tax policies, and should ponder carefully how the Deaton critique applies to tax-policy RCTs, and whether other concerns arise. For example, will (sometimes corrupt) tax authorities non-randomly constrain the kind of findings that are publicly released, making it seem that the authorities’ pet projects always “work” as promised?

Finally, some crucial tax-systems questions are not susceptible to RCT (or, perhaps, any) analysis. For example, will tax compliance rise if people increase their trust in government to be incorruptible, efficient and responsive to their needs? Trust cannot easily be experimentally manipulated, alas.

Nor can RCTs be dispositive for the big-picture tax-policy issues, such as the appropriate mix of income versus consumption taxes, or the optimal progressivity of the tax system. As we embrace the promise of RCTs, we should not ignore these central policy issues, which require good, old-fashioned (i.e., old-wave) economic theory and the estimation of good, old-fashioned parameters such as supply and demand elasticities that RCTs might help with, but are not sufficient for.

Conclusion

I welcome, and indeed am thrilled by, the new wave of scholarship on taxes in DCs. The potential contribution to world well-being of improving the tax systems in DCs seems immensely larger than doing so in rich countries. I am intrigued and fascinated by what can be learned from government-academia collaboration to study administrative data and do RCTs.

Thank you to Dina Pomeranz and the other conference organizers for the invitation to address this audience, thank you for your attention, and special thanks to my long-time friend and colleague Jim Hines for delivering my remarks in his inimitable fashion on very short notice. Thank you, Jim. I invite anyone who wishes to do so to follow up with me directly, via email or telephone. I’m disappointed I couldn’t join you all this week in Zurich, but hope I can be part of the intellectual conversations this conference will undoubtedly stimulate.

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