



# Tax Incidence and Tax Reforms in Latin America

By **JAMES E. MAHON, JR.\***

Who bears the burden of taxation today in Latin America? This question is important because the region now combines highly unequal societies with elected governments nearly everywhere. Some theories of taxation and politics would suggest that in these circumstances, tax reform would aim toward redistribution. Nonetheless, for the last several decades policymakers have paid relatively little attention to the region's inequality when formulating tax policy. This paper reviews recent literature on tax incidence—that is, the impact of taxes on the distribution of welfare across the society—for the major tax types undergirding Latin American tax systems, for these tax systems as a whole, and for social spending.<sup>1</sup> It also asks whether Latin American tax systems are performing satisfactorily—that is, against which standard or by which international comparisons should they be judged. Beyond this, the paper asks what the tax incidence in Latin America reveals about theories of taxation and politics, and what these, in turn, suggest about approaches to reform.

This paper describes various important features of the incidence of taxation and social spending in Latin America. Governments redistribute much more by means of spending than by taxation. As might be expected, the value-added tax (VAT), a major pillar of the revenue base, tends to be slightly regressive, while the individual income tax brings in less but is progressive. Most Latin American fiscal systems have become somewhat more redistributive since 2000. When compared to Europe, however, Latin American governments redistribute much less, mainly because they both tax and spend less. Latin American countries as a group also deviate significantly from the global norm in which higher gross domestic product (GDP) per capita corresponds to a greater weight of government in GDP. Remarkably, governments in Latin America collect less in revenue (as a proportion of GDP) from individual income taxes than do those from any other region of the world; this pattern extends even to the richer countries in the region. Moreover, tax reforms from the 1970s through the 1990s

\*James E. Mahon is the Woodrow Wilson professor of political science at Williams College, Williamstown, Massachusetts; james.e.mahon@williams.edu.



generally entailed additional reliance on indirect (consumption, e.g. VAT) taxes, even as inequality was rising. Finally, the region's inequality is so great that, although its tax revenues are lower than among OECD countries, the richest households already pay a greater share of all tax revenue in Latin America, complicating reform efforts.

The first section of this paper offers historical background and discusses why tax incidence matters more than ever. After a brief introduction to tax and spending incidence, the second part reviews major conclusions of recent empirical work on the primary incidence of spending and taxation, including the incidence of the major types of taxes. The next section considers how to judge Latin American governments' performance in this area, comparing their fiscal results in various ways to those of European countries, the

historical OECD, other regions, and the world at large. Following an empirical summary, the final section discusses two models of fiscal politics with divergent implications for tax reform.

#### **BACKGROUND: WHY TAX INCIDENCE MATTERS NOW**

As of around 1965, most Latin American revenue systems were neither efficient nor progressive. They commonly included a variety of excises and minor duties as well as a complicated set of restrictions and tariffs on international trade. Many countries had recently established individual and corporate income taxes, which though quite progressive on paper, proved much less so in practice. Personal income taxes tended to fall almost entirely on formal-sector employees subject to withholding, while taxes on capital income were widely evaded,

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**Woodrow Wilson International Center for Scholars**  
**One Woodrow Wilson Plaza, 1300 Pennsylvania Avenue, NW, Washington, DC 20004-3027**  
**tel. (202) 691-4000, fax (202) 691-4001**  
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even more so as financial globalization proceeded (Bird 1992; Zolt and Bird 2005, 31–35). On the corporate side, the largest firms (especially foreign-owned corporations) often paid disproportionately high taxes, as they combined a high profile with a relatively complete set of books. Tax authorities remained legally weak and often administratively divided according to the type of tax collected. Tax payment was enforced irregularly, and rarely on the powerful and well connected.

From the late 1960s to the late 1990s, a similar set of tax reforms swept across Latin America. Reformers simplified tax systems while cutting top rates for both corporate and individual income taxes. In a few countries, politicians also successfully reduced the number of special exemptions. The most important substantive changes involved major cuts to taxes on trade, and as a counterweight, the institution or expansion of the value-added tax (VAT) and the strengthening of tax administration (Bird 1992; Shome 1995; Mahon 2004). These trends could also be seen globally (Thirsk 1997; Keen and Simone 2004).

With these reforms, redistribution became a secondary rather than primary goal of tax design. Reformers aimed more squarely at “horizontal equity” (across sectors or among households of comparable income) than at “vertical equity” (progressivity). Redistribution would depend on raising more revenue (as a proportion of GDP) and spending it more intelligently on alleviating poverty (IDB 1998, 7). These expectations were borne out, in broad terms, although improvements in the targeting of social spending arrived only in the late 1990s, and even then, not in all countries. The new spending programs did contribute to an observed equalization of income distribution in several of the larger countries over the subsequent decade (López-Calva and Lustig 2011).

Most important in the present context, significant improvements in administration accompanying the VAT and other recent reforms could now be

turned toward redistribution. As Keen and Simone observe, “adoption of the VAT is often intended to spearhead a fundamental change in how taxes are collected, in particular by introducing methods of self-assessment—that is, self-declaration of liability by the taxpayer supplemented by risk-based audits—that can then be applied to other taxes” (2004, 319). For example, the 2007 reform in Uruguay slightly reduced VAT rates and re-imposed the personal income tax for the first time since its abolition in 1973, now with a much broader base and separate (lower) rate schedules for capital and non-resident income (Barreix and Roca 2007; PricewaterhouseCoopers International Ltd 2011).<sup>2</sup> In sum, although the reforms of the last generation did not aim to promote vertical equity, they left behind more capable administrations that could. Whereas in the past a consideration of tax incidence and distributional effects in Latin America might have been a purely exploratory exercise, it can now have direct relevance for policy. Reforms have made it administratively possible, if not politically feasible, to act upon this knowledge.

### **TAX INCIDENCE AND DISTRIBUTIONAL EFFECTS**

*General considerations.* The study of tax incidence begins from the premise that the statutory incidence of a tax does not usually correspond to its final incidence; that is, where the burden is intended to fall is not necessarily where it actually falls. In general, the latter depends on relative elasticities: most of the tax burden falls on the party with the least elastic response to the price or income changes accompanying the tax, at least in the short run. In measuring tax incidence or the incidence of public-sector social spending, however, there is a disjuncture between theoretical comprehensiveness and the reality of data limitations (Pechman and Okner 1974). In pursuit of the former, a study of tax incidence would ideally incorporate not only the immediate

or statutory burdens of a tax (its primary incidence) but also the second-order price, supply and behavioral effects that shift, disperse, or otherwise change where the levy ultimately falls. This can be tackled with a general-equilibrium framework, but even a partial-equilibrium analysis requires data—or model assumptions—about how and according to what parameters these changes occur. Since incidence is defined according to household or individual income or consumption, when analyzing a tax not assessed on households or individuals, these second-order effects constitute the entire object of empirical investigation. Hence the considerable literature on the incidence of corporation taxes (Harberger 1962, 2007; Auerbach 2006; Gravelle 2009). However, for studies of the distributional effects of taxation in Latin America, the problems are more elementary, and more serious. They affect even the estimates of primary incidence.

First, analysts lack good data on incomes, especially among the rich. At this writing, no Latin American tax authority grants researchers access to tax returns. Household surveys might be superior for detecting incomes anyway, since respondents have less incentive to underreport their income to a researcher than on a tax return. However, such underreporting is nevertheless likely, even in the United States, as can be inferred from data on the self-employed (Hurst, Li, and Pugsley 2010). Most importantly, if the rate of underreporting is not equal across incomes, the estimate of income distribution from the household survey will be biased. Moreover, unlike the US Federal Reserve Board's Survey of Consumer Finances, it is not common practice in Latin American surveys to oversample the top income households or tax units. Since income distributions are highly skewed, especially in Latin America, the sampling error at the top also rises (on the last two points see Davies 2008: 7).

Second, related problems appear when assessing the impact of tax systems on a country's distribution of income. Household surveys can ask explicitly about taxes paid (with all the problems of sampling error at the top), or they can impute the redistribution that would result from compliance with statutory obligations (marginal rates, exemptions, etc.) across the incomes revealed in the household survey, adjusted by the size of the actual tax revenue from these sources in the economy. They can also infer an overall level of evasion of direct taxes this way, by comparing the actual tax revenue to the revenue that would have accrued to the state if the projected obligations had been fully met. Both exercises depend on two strong assumptions: one, that the income estimates are not biased; and two, that the rates of compliance (as percentages of statutory obligation) do not vary with income. The limitations of the first assumption were noted above; as for the second, data from tax audits suggest that it does not hold either. Evasion of taxes on (personal) capital income, confined almost entirely to the top decile of households in Latin America, takes place at much higher rates than evasion of taxes on wages, which in the formal sector are generally withheld at the source (Jiménez *et al.* 2010: 63–65; Bergman 2009, Chap. 4). This is true even taking into account the legal exemptions and exclusions for particular types of investment income, which are common in the region.

In short, there are good reasons to believe that relatively rich respondents understate their self-employment and capital income to a greater degree than do the less well-off. It is also plausible that such respondents evade direct taxes at higher rates than do others. Hence, to assume equal rates of income underreporting or direct tax evasion across the range of household incomes would produce biased estimates of both (but note: the biases would have the same sign). As a result, a projection of actual tax payments based on a greater-than-

**Table 1. Fiscal Distributional Effects in Latin America, Recent Studies by Country and Date**

	Data years = years of surveys; tax law years listed if different			Studies by author and date (abbreviations explained below)
	Year	Spending	Taxation	
ARG	2001	.00	+.01	GLS
	2004		-.009	Cont et al.2009 in CGSM
	2006	+.091	+.019	Gomez Sabaini and Rossignolo 2008 in CGSM
BOL	2003	+.046	-.011	Cossio Muñoz 2006 in BRV
BRA	1998	+.03	.00	GLS
	2003	+.015	-.005	Resende and Afonso 2010
	2006	+.070	+.014	WC
CHI	1994	+.01	.00	Engel, Galetovic and Raddatz 1999
	2003	+.045	+.0027	Jorratt 2008
COL	2003	+.050	.000	Zapata and Ariza 2006 in BRV
	2003	.00	.00	GLS
	2004	+.006	-.001	CGSM, WC
CRA	2000	+.060	.000	Bolaños 2002 in CVH
	2004	+.068	+.012	CGSM
DMR	1989		progressive	Santana and Rathe 1993 in CVH
	2004		-.002	BBR
ECU	2003		+.007	Arteta 2005 in BRV
SAL	2000	+.036	-.014	Acevedo and González O. 2005 in CVH
	2006		-.0075	BBR
GUA	2000		-.0077	BBR
	2004	+.031	.000	Schenone and de la Torre 2005 in CVH; Auguste and Artana 2005
	2006	+.002	+.012	CGSM, WC
HON	2000		-.028	Gomez Sabaini 2006
	2004	+.032	-.011	Gillingham, Newhouse, and Yakovlev 2008 in CVH
MEX	2000	+.01	+.01	GLS
	2004	+.018	.000	WC
	2006	+.037	+.003	Álvarez 2009
NIC	1998	+.055	-.052	Gómez Sabaini 2005b in CVH
	2001		+.0017	BBR
PAN	2003	+.074	+.002	Rodríguez A. 2007 in CVH
PAR	2001	slightly progressive	slightly regressive (2004 law)	Alarcón 2010
PER	2000	+.035	-.008	Haughton 2005 in BRV
	2002	.00	-.01	GLS
	2004	+.005	.000	WC
URU	2004	+.114	+.010 (2006 law)	CGSM
	2006	+.079	+.002 (2007 law)	Roca 2010
	2006		+.012 (2007 law)	Amarante et al. 2007 in CGSM
VEN	1997		+.0076	Sejas et al. 2003 in CGSM

Abbreviations for multi-country studies and compilations in table

BBR = Barreix, Bes, and Roca 2009  
 BRV = Barreix, Roca and Villela 2007  
 CVH = Cubero and Vladkova Hollar 2010

CGSM = Cornia, Gómez-Sabaini, Martorano 2011  
 GLS = Goñi, López, and Servén 2011  
 WC = Wang and Caminada 2011

average rate of income underreporting could serve as an acceptable proxy for the greater-than-average rate of tax evasion at the top. However, this cannot be known with any degree of certainty, especially because current household surveys are also prone to sampling errors on the rich end of the distribution.

*Studies of developing countries.* Turning now to empirical work on broad samples of developing countries, recent studies of tax incidence generally show that income taxes have a progressive effect and VATs a regressive effect. However, the estimated magnitudes tend to be small, VAT exemptions matter, and all authors regard the conclusions as tentative (e.g., Chu, Davoodi, and Gupta 2000). Gemmell and Morrissey, looking at data mostly from African countries, argue that “general conclusions with respect to particular taxes are quite hard to find—progressivity or regressivity conclusions are often country-specific” (2003, 26). However, they do suggest that the VAT can be more progressive than import taxes or many excises and that it will be more progressive (or less regressive) if it exempts necessities (19–26).<sup>3</sup> Zolt and Bird also emphasize the shortcomings of tax incidence studies: “the available evidence on tax incidence in developing countries is neither conclusive nor persuasive” (2005, 18).

*Studies of Latin America.* With these caveats, estimates of the first-order distributive effects of taxation still have some value as a guide for policy. Table 1 summarizes recent empirical studies on the primary incidence and consequent distributive effects of social spending and taxation in Latin America. Net effects are given by Reynolds-Smolensky (RS) indices, which track the differences between the Gini coefficients for household income pre- and post-spending (in one column) and pre- and post-taxation (in the adjoining column). By convention, this index has a positive value for progressive or equalizing changes (in which the Gini coefficient falls) and a negative value for regressive changes. To take an example from the middle of the

table—a reduction of 0.007 in the (0 to 1) Gini due to taxation in Ecuador in 2003 shows up as a gain in the RS index. Results are listed alphabetically by country and, for each country, with earlier survey dates first. If the calculations are based on tax law from a later year than the base survey—say, after a major reform—that year is shown after the RS index figures in the tax column.

The data in Table 1 show clearly that spending accounts for much more redistribution than does taxation in Latin America. With few exceptions (Argentina in 2001, Guatemala in 2006), RS indices for spending exceed those for taxation—and most do so very significantly. Tax systems are sometimes regressive on balance (e.g., Brazil 2003, Honduras 2004); but in these studies at least, spending never is. The table also suggests a less uniform but welcome trend. For the seven countries with multiple surveys of the distributive effects of spending, in five it became more progressive; for the thirteen with multiple surveys relating to taxation, in ten it became more progressive. The former might be seen to reflect the spread of well-targeted conditional cash transfer programs and, in some countries, increases in primary education and basic health spending (López-Calva and Lustig 2010). The latter agrees with the observations of Cornia, *et al.* (2011: Table 11 and pp. 28–29).

Table 2 depicts homologous results for particular tax types or modes of incidence. Individual (personal) income taxes are abbreviated as “IIT” and the value-added tax as VAT. Where surveys did not distinguish personal income tax payments from social insurance contributions, these together are represented by “YT.” Where all consumption taxes (e.g., excises, sales taxes, VAT) were similarly lumped together, they take the abbreviation “GT.” In some cases, qualitative comments round out the picture. Again, for each country, calculations based on the oldest surveys are listed first, to provide a rough sense of how the measurements evolve through time for each country.

**Table 2. Tax Incidence in Latin America, Recent Studies by Country and Date**

	Tax types (VAT; GT = goods tax, all; YT = indiv. income tax plus SS tax; IIT= indiv. income tax)			Studies by author and date (abbreviations explained below)
	Year	Goods taxes	Income taxes	
ARG	1997	-.006	IIT +.004	Gomez Sabaini et al. 2002
	2001	GT .00	YT +.01	GLS
BOL	2003	VAT -.001	IIT is VAT on income	Cossio Muñoz 2006 in BRV
BRA	1998	GT .00	YT .00	GLS; Dedecca 2010
	1999	VAT -.012	IIT .008	Immervoll et al. in CGSM
CHI	2003	GT -.018	IIT +.013	Resende and Afonso 2010
	1994	GT -.01	YT +.01	Engel, Galetovic and Raddatz 1999
COL	2003	VAT -.0177	IIT +.0207	Jorratt 2008
	2003	VAT -.004	IIT +.008	Zapata and Ariza 2006 in BRV
CRA	2003	GT: -.01	YT +.01	GLS
	2000	VAT -.002	IIT +.003	Bolaños 2002 in CVH
DMR	2004	VAT -.0032	IIT +.0079	IICE 2011 in CGSM
	1998	VAT “progressive”		Jenkins Jenkins and Kuo 2006
ECU	2004	VAT -.005	IIT +.0347	BBR
	2003	VAT +.002		Arteta 2005 in BRV
SAL	2000	VAT -.013	IIT +.001	Acevedo and González O. 2005 in CVH
	2006	VAT -.0133	IIT +.0087	BBR
GUA	2000	VAT -.0077	IIT +.0011	BBR
	2004	VAT -.006	IIT +.002	Schenone and de la Torre 2005 in CVH
	2006		75% of redist from IIT	WC
HON	2004	VAT -.012	IIT +.007	Gillingham, Newhouse, and Yakovlev 2008 in CVH
MEX	2000	GT .00	YT +.01	GLS
NIC	1998	VAT -.029	IIT +.004	Gómez Sabaini 2005b in CVH
	2001	VAT -.0036	+.0058	BBR
PAN	2003	VAT -.001	IIT +.004	Rodríguez A. 2007 in CVH
PAR	2001	VAT -.005 (2004 law)	No IIT	Alarcón 2010
PER	2000	VAT -.012	+.0013	Haughton 2005 in BRV, CGSM
	2002	GT -.02	YT +.01	GLS
URU	2006	VAT -.010 (2007 law)	IIT +.012	Roca 2010
	2008	VAT -.002 (2007 law)	IIT +.014	Amarante et al. 2008 in CGSM
VEN	2003	VAT -.004		García and Salvato 2006 in BRV

Abbreviations for multi-country studies and compilations in table

BBR= Barreix, Bes, and Roca 2009  
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CGSM = Cornia, Gómez-Sabaini, Martorano 2011  
 GLS = Goñi, López, and Servén 2011  
 WC = Wang and Caminada 2011

Table 2 shows another clear pattern: individual income taxes are significantly more progressive in their incidence than are consumption taxes, including the VAT. Individual income taxes or income-plus-social-insurance payments are never regressive in their effect, while consumption taxes usually are. (Excises on items of popular consumption, not shown here, are particularly bad in this regard, while excises on cars or luxury items are often progressive.) The VAT, broken out in many studies, is more likely to be regressive than progressive in its effect, but some well-designed VATs (e.g., Guatemala, Panama) generate revenue effectively while also approximating distributional neutrality.<sup>4</sup>

However, these studies include important uncertainties that relate to the issues noted earlier. Where they impute direct tax liabilities based on the gross income of surveyed households plus a set of statutory obligations, they might overstate actual direct tax payments, particularly by upper-income households. Jorratt observes that his finding of a mild progressivity (rather than mild regressivity) in the Chilean tax system can be ascribed to this choice (2008: 158). However, to use only reported tax payments as the basis for tax incidence, as Luxembourg Income Study (LIS) surveys do, risks large sampling errors (yielding no data on direct taxation for Mexico or Peru and an anomalous estimate of progressivity for Guatemalan income taxes). Either way, imputed evasion of income taxes appears to be quite high among the rich. For example, Barreix *et al.* find dramatically low effective tax rates on top-decile incomes. In Colombia, the maximum marginal income tax rate is 35 percent and the effective rate on the top decile is 3 percent. In Peru, the marginal rate is 30 percent while the effective rate is 1.7 percent (2007: 31). Hence the importance of studies of tax evasion such as Jiménez *et al.* (2010) and tax politics such as Fairfield (2010): where real incidence differs most from imputed incidence

is exactly where the greatest administrative and political challenges lie.

In sum, VAT and other excises contribute a lot to government revenue, but tend to be slightly regressive in their primary incidence. Income taxes generally contribute much less to revenue but are progressive in their primary incidence, often enough so as to outweigh the estimated regressive effect of indirect taxes. Social spending appears to redistribute much more consistently than does taxation. Overall, most Latin American fiscal systems appear to have become somewhat more redistributive since 2000.

#### **JUDGING TAXATION IN LATIN AMERICA: COMPARED TO WHAT?**

There are three main dimensions on which analysts have judged Latin American fiscal systems in comparison with those of other countries. One is the incidence of taxes and benefits. The second has to do with the relationship of tax revenues, as well as revenues from different kinds of taxes, to national income. The third concerns the relative size of the tax burden borne by households across the income distribution. Each comparison highlights a different aspect of the issue.

*Incidence.* Several of the works noted above and in Table 1 juxtapose incidence statistics for taxes and spending by Latin American states with corresponding figures for European or other OECD countries. They all show that compared to Europe, Latin American governments engage in lower (in some cases miniscule) levels of redistribution. The main difference, it appears, lies not in the progressivity or regressivity of taxation, but in spending practices. In fact, OECD figures from the early 2000s show that some European countries had regressive tax systems. In their account of fiscal redistribution in Andean countries, Barreix, Roca, and Villela cite these to show that Sweden, Denmark, and (just barely) Finland have regressive tax systems. But of course,



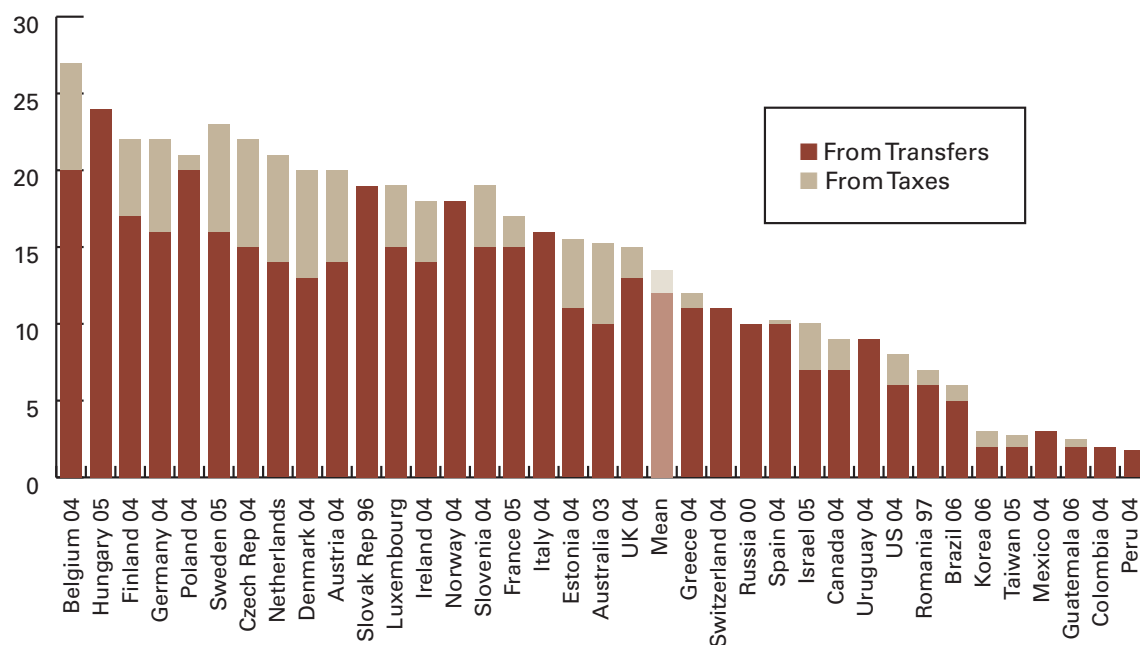
once spending is considered, these three are all highly redistributive, just like the rest of Europe (2007, 55–60; see also López and Perry 2008, 18). Wang and Caminada’s figures, drawn from the Luxembourg Income Study across 36 countries (and here reproduced as Figure 1), for these three countries are less dramatic (finding their taxation to be slightly progressive) but similar. Two Latin American countries, Uruguay and to lesser extent Brazil, redistribute to a similar degree (going by the height of the bar) as do the United States and Canada, but their mix of spending (red) and taxes (tan) favors the former—which is to say, their proportions of spending and taxation resemble those of European countries, although their levels of total redistribution are significantly lower. The other Latin American countries in the LIS sample

sit starkly below these two, redistributing less than Korea and Taiwan despite vastly greater pre-tax-and-transfer inequality. Cornia, *et al.* obtain similar results (2011).

Recent figures from the OECD (Table 3), which include Chile and Mexico, tell a similar story. These two Latin American countries are distinguished by their high inequality before taxes and transfers. Although the table does not break out the contributions of taxes and benefits to redistribution, it does clearly show the very low level of overall redistribution in Chile and Mexico, despite their high levels of inequality.

*Tax/GDP proportions.*<sup>5</sup> Compared to other regions of the world, Latin America stands out not only for its great reliance on indirect (consumption) taxation, but also for the fact that

**Figure 1. Redistributive effect of taxes and transfers across LIS countries, dates indicated (copied from Wang and Caminada 2011, Figure 2)**



Note: For Hungary, Italy, Mexico, Peru, Russia, Slovak Republic, Slovenia and Uruguay data for taxes are not available

**Table 3. Gini Coefficients Before and After Taxes and Transfers, OECD countries, 2000's**

Country	Before taxes and transfers			After taxes and transfers			Difference		
	c. 2000	c. 2000	c. 2000	c. 2000	mid-2000s	Late 2000s	c. 2000	mid-2000s	Late 2000s
Australia	0.476	0.465	0.468	0.317	0.315	0.336	0.159	0.15	0.132
Austria	..	0.433	0.472	0.252	0.265	0.261		0.168	0.211
Belgium	0.464	0.494	0.469	0.289	0.271	0.259	0.175	0.223	0.21
Canada	0.44	0.436	0.441	0.318	0.317	0.324	0.122	0.119	0.117
Chile	..	0.511	0.526	..	0.503	0.494		0.008	0.032
Czech Rep.	0.472	0.474	0.444	0.26	0.268	0.256	0.212	0.206	0.188
Denmark	0.415	0.417	0.416	0.226	0.232	0.248	0.189	0.185	0.168
Estonia	..	0.504	0.458	..	0.349	0.315		0.155	0.143
Finland	0.478	0.483	0.465	0.247	0.254	0.259	0.231	0.229	0.206
France	0.49	0.485	0.483	0.287	0.288	0.293	0.203	0.197	0.19
Germany	0.471	0.499	0.504	0.264	0.285	0.295	0.207	0.214	0.209
Greece	0.466	0.454	0.436	0.345	0.321	0.307	0.121	0.133	0.129
Hungary	0.463	0.497	0.466	0.293	0.291	0.272	0.17	0.206	0.194
Iceland	..	0.365	0.382	..	0.257	0.301		0.108	0.081
Ireland	..	..	..	0.304	0.314	0.293			
Israel	0.504	0.513	0.498	0.347	0.378	0.371	0.157	0.135	0.127
Italy	0.516	0.557	0.534	0.343	0.352	0.337	0.173	0.205	0.197
Japan	0.432	0.443	0.462	0.337	0.321	0.329	0.095	0.122	0.133
Korea	..	0.331	0.344	..	0.306	0.315		0.025	0.029
Luxembg	0.421	0.454	0.482	0.261	0.258	0.288	0.16	0.196	0.194
Mexico	0.517	0.491	0.494	0.507	0.474	0.476	0.01	0.017	0.018
Netherlnds	0.424	0.426	0.426	0.292	0.284	0.294	0.132	0.142	0.132
New Zealnd	0.484	0.473	0.455	0.339	0.335	0.33	0.145	0.138	0.125
Norway	0.426	0.447	0.41	0.261	0.276	0.25	0.165	0.171	0.16
Poland	..	0.542	0.47	0.316	0.349	0.305		0.193	0.165
Portugal	0.479	0.542	0.521	0.356	0.385	0.353	0.123	0.157	0.168
Slovak Rep	..	0.458	0.416	..	0.268	0.257		0.19	0.159
Slovenia	..	0.452	0.423	..	0.246	0.236		0.206	0.187
Spain	..	..	0.461	0.342	0.319	0.317			0.144
Sweden	0.446	0.432	0.426	0.243	0.234	0.259	0.203	0.198	0.167
Switzerland	..	..	0.409	0.279	0.276	0.303			0.106
Turkey	..	..	0.47	..	0.43	0.409			0.061
UK	0.458	0.445	0.456	0.351	0.331	0.345	0.107	0.114	0.111
USA	0.476	0.486	0.486	0.357	0.38	0.378	0.119	0.106	0.108
Averages	0.464	0.467	0.457	0.309	0.316	0.314	0.154	0.154	0.142

Source: OECD

**Table 4. Tax revenues by type as proportions of total central-government revenues: averages for periods 1971–80 and 1995–2006, plus changes between periods**

Group or region	1971–1980 averages (number of countries)			1995–2006 averages (number of countries)			Average percentage-point change between periods (number of countries)		
	Indirect Taxes	Direct taxes	Personal income taxes	Indirect taxes	Direct taxes	Personal income taxes	Indirect taxes	Direct taxes	Personal income taxes
OECD Europe	29.7 (17)	25.7 (17)	19.7 (16)	31.4 (17)	27.2 (17)	19.7 (16)	1.76 (17)	1.51 (17)	-0.03 (16)
OECD former Anglo colonies, Japan	16.6 (5)	61.0 (5)	41.7 (5)	17.6 (4)	58.2 (4)	43.9 (4)	2.32 (4)	-0.97 (4)	-1.24 (4)
Latin America and Caribbean	27.6 (16)	18.9 (16)	7.4 (15)	36.2 (17)	18.3 (17)	4.7 (12)	8.82 (15)	0.71 (15)	-1.62 (11)
Sub-Saharan Africa	20.07 (25)	22.6 (25)	8.6 (24)	26.3 (26)	23.4 (26)	12.2 (24)	6.33 (25)	0.38 (25)	2.99 (23)
Former communist countries	—	—	—	39.4 (11)	15.0 (11)	8.2 (10)	—	—	—
South and East Asia and Indies	28.4 (15)	21.9 (15)	11.3 (13)	31.1 (15)	24.9 (15)	11.9 (14)	2.69 (15)	2.97 (15)	0.09 (13)
Middle East and North Africa	19.0 (9)	18.1 (9)	8.9 (10)	22.9 (12)	19.6 (12)	10.4 (11)	8.25 (9)	4.17 (9)	2.14 (10)

Sources: World Bank (2004, 2007); IMF, Government Finance Statistics Yearbook and country reports; national data; author's corrections. Note: The figures for percentage-point changes in the third section of the table may differ from the differences between corresponding figures in the first two sections because they exclude countries lacking data for one of the time periods.

**Table 5. Regional averages of same-country central-government and general-government (gg) figures (number of countries in parentheses)**

Region	PYT, period 1	PYT <sub>gg</sub> , period 1	PYT, period 3	PYT <sub>gg</sub> , period 3	TGS, period 1	TGS <sub>gg</sub> , period 1	TGS, period 3	TGS <sub>gg</sub> , period 3
OECD Europe	6.47 (14)	9.13 (14)	7.52 (15)	9.74 (15)	8.67 (15)	9.17 (15)	10.96 (16)	11.43 (16)
OECD ex-Anglo colonies plus Ireland and Japan	<i>9.90</i> (5)	<i>10.28</i> (5)	<i>10.79</i> (5)	<i>11.47</i> (5)	<i>4.66</i> (5)	<i>5.40</i> (5)	<i>6.15</i> (5)	<i>7.54</i> (5)
Latin America	<b>1.76</b> (7)	<b>1.68</b> (7)	<b>0.70</b> (7)	<b>0.90</b> (7)	<b>4.17</b> (8)	<b>4.59</b> (8)	<b>7.19</b> (10)	<b>7.86</b> (10)
Africa	3.26 (9)	2.75 (9)	4.43 (5)	4.63 (5)	4.19 (10)	4.54 (10)	7.18 (8)	4.79 (8)
Ex-Communist countries	—	—	3.16 (9)	4.89 (9)	—	—	11.45 (10)	12.52 (10)
South and East Asia	2.99 (7)	2.48 (7)	2.01 (3)	1.84 (3)	4.14 (8)	5.03 (8)	6.65 (5)	7.33 (5)
Middle East and North Africa	1.78 (2)	1.18 (2)	6.60 (3)	5.65 (3)	8.87 (3)	9.82 (3)	8.88 (4)	9.68 (4)

Source: IMF, Government Finance Statistics Yearbook, various issues.

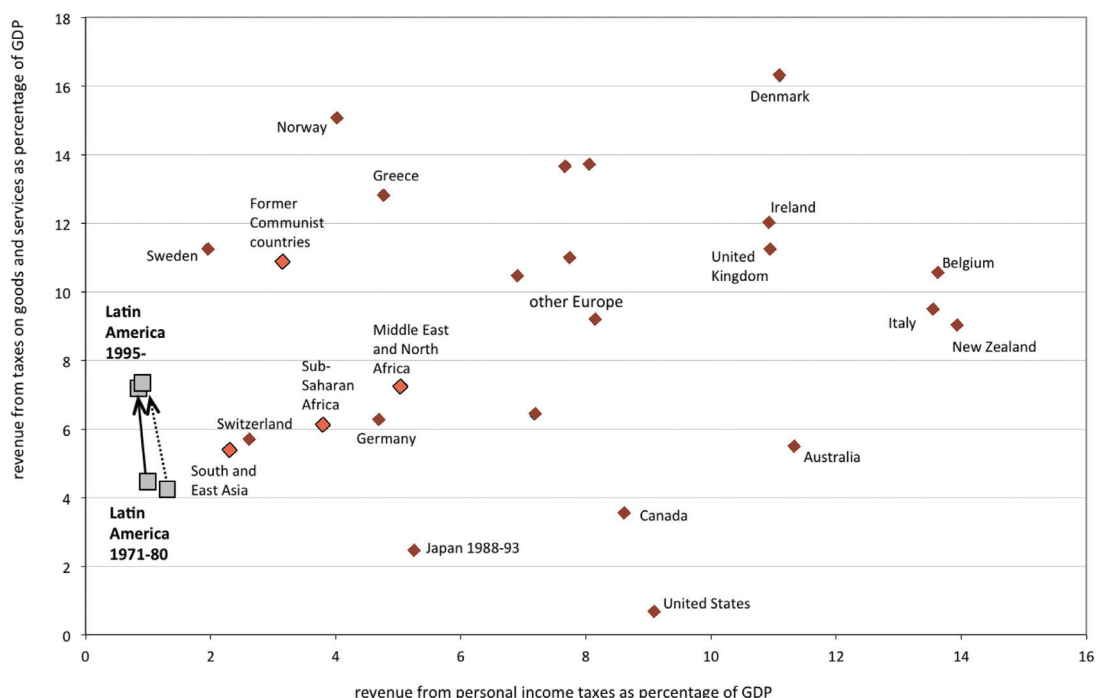
Notes: PYT = personal income tax; TGS = taxes on goods and services; period 1 = average from 1971 to 1980; period 3 = from 1995 to end of data (usually around 2002). In order to maximize sample sizes, averages comprise all observations with data for a time period and a given type of tax across both central- and general-government figures. Comparisons across periods can be made only where the same countries make up the average in both periods (figures in italics).

over the past generation this dependence has come to characterize the region even more strongly. Table 4 shows some recent trends in average central government tax revenue proportions for seven groups of countries across the globe.<sup>6</sup> Table 5 does the same for both central and general government revenues, and for two kinds of taxes: those on goods and services; and those on personal income.<sup>7</sup> As the second table shows, these tax revenue proportions look similar whether computed on a general-government or central government base.

Turning again to central government figures, Latin America's distinctiveness appears more

clearly in a graphical format. Figure 2 shows personal income (horizontal axis) and indirect (vertical axis) tax revenue proportions for these OECD countries between 1995 and 2000 (and Japan for an earlier period), with the average of thirteen Latin American countries over the same period represented by larger grey squares. Here, among the historic OECD countries, former British settler colonies and Japan diverge from the rest, having a relatively larger proportion of direct tax revenues over indirect taxes (see also Messere, deKam, and Heady 2003).<sup>8</sup> Note that the figure shows personal income taxes rather than all income taxes, because personal income

**Figure 2. Personal Income and Indirect Tax Revenues as a Percentage of GDP, Historical OECD Countries (1995– except Japan) Compared to Latin American Averages (1971–80 and 1995– , Two Estimates) and Other Regional Averages (1995– )**



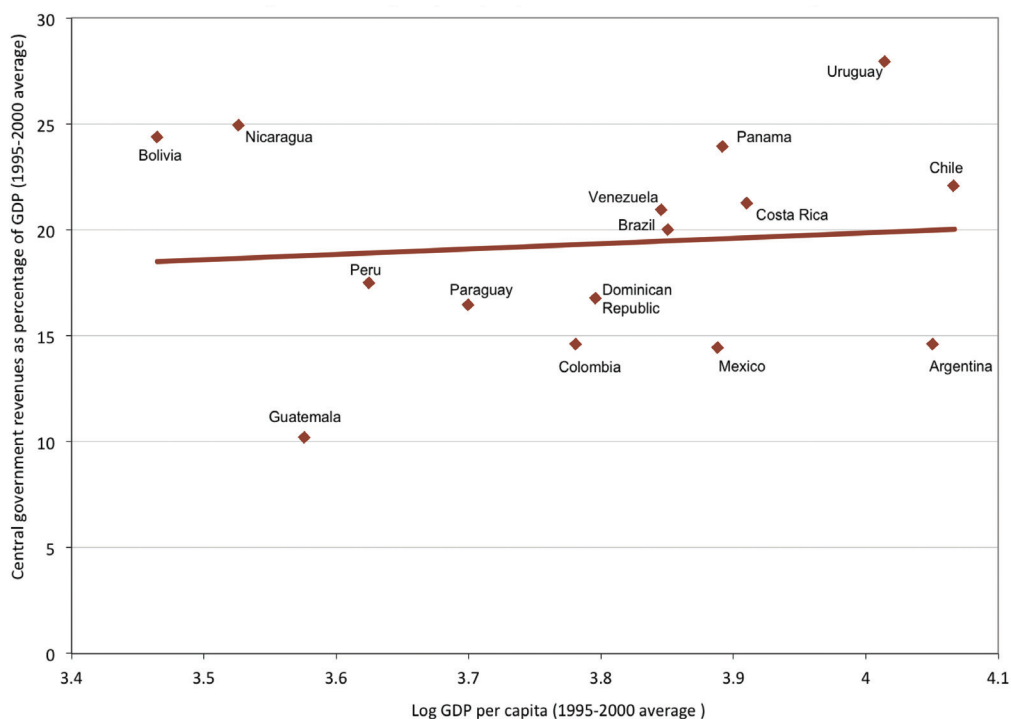
Sources: World Development Indicators, 2004, 2007; IMF, *Government Finance Statistics Yearbook*, various issues.

taxes are more likely than corporate ones to have redistributive effect.<sup>9</sup> Not only do Latin American governments collect less in personal income taxes than those of any world region or group (relative to economic size), they have also marginally reduced that collection over the past generation. As Gómez Sabaini observes, whereas the rich countries reduced tax rates while closing loopholes and expanding the income tax base, Latin America reduced rates while expanding loopholes and shrinking the base (2005c: 87). The chart shows two estimates for the change in tax revenue proportions, one based on compared averages of all data and the other (dotted line)

restricted to the six countries with data for all four observations.<sup>10</sup> (Data for general government in both periods can only be obtained for three of the seven countries in Latin America noted in Table 5, but they tell the same story).

With these patterns in mind, regional variation can be compared to global variation, looking at key variables one by one while breaking out individual countries on the charts. Figures 3 and 4 show consolidated central government revenues for Latin America (15 countries) and the world (93 countries), as averages from all years with usable data from 1995 to about 2002. Globally, the data points display a moderately well-defined “Wagner’s

**Figure 3. Total Revenue versus GDP per Capita, 15 Latin American Countries**



Sources: World Development Indicators, 2004, 2007; IMF, *Government Finance Statistics Yearbook*, various issues.

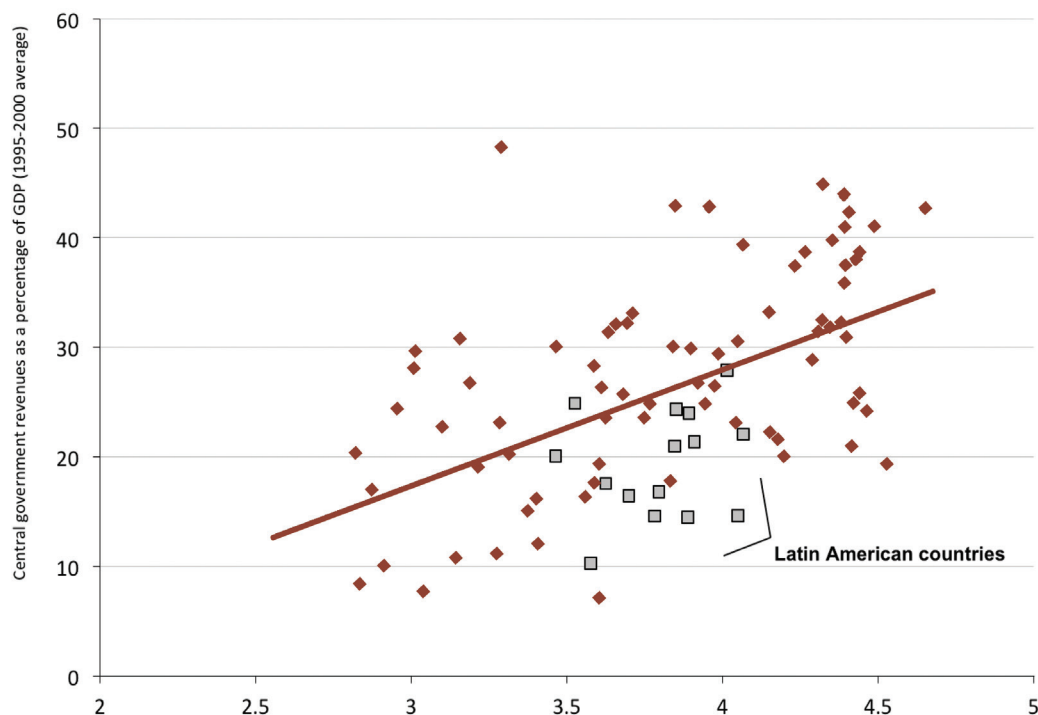
Law” trend, in which a higher revenue/GDP ratio corresponds with higher per capita income across countries.<sup>11</sup> But in Figure 4 all but one of the Latin American countries (larger open squares) lies below the trend line. For Latin America taken alone (Figure 3), Wagner’s Law does not apply: across countries, the correlation of revenue/GDP with per capita income is basically absent.

Comparing GDP per capita to the revenue/GDP ratios for different types of taxes, recent regional and global data show interesting differences between indirect taxes and personal income taxes. Figures 5 and 6 plot central government revenue from indirect taxes against GDP for 15 Latin American and 91 other countries. In this comparison, Latin American countries show more dispersion across the world trend line. Across the region, indirect tax revenue/

GDP and GDP per capita show no real trend (if any, a weak negative one strongly influenced by Nicaragua, upper left), while the world as a whole shows a visible but fairly weak positive trend line (here Tunisia is the greatest positive and United States the greatest negative outliers).

Personal income taxes show a very different pattern. In Figures 7 and 8, Latin American idiosyncrasy is on full display, with all countries well below the global norm.<sup>12</sup> This time the regional dispersion has a similar upward trend to the global one, although it is less well defined.<sup>13</sup> Yet the Latin American linear trend slope (1.52) is only one-third that of the global line (4.56), suggesting that if the region followed current trends as it got richer, it would deviate even further from the norm. The message is this: relative to income or

**Figure 4. Total Revenues versus GDP per Capita, 93 Countries**



Sources: World Development Indicators, 2004, 2007; IMF, *Government Finance Statistics Yearbook*, various issues.

in absolute terms, Latin America’s aversion to personal income taxation is dramatic, regionally consistent, and (without major reforms) likely to continue.

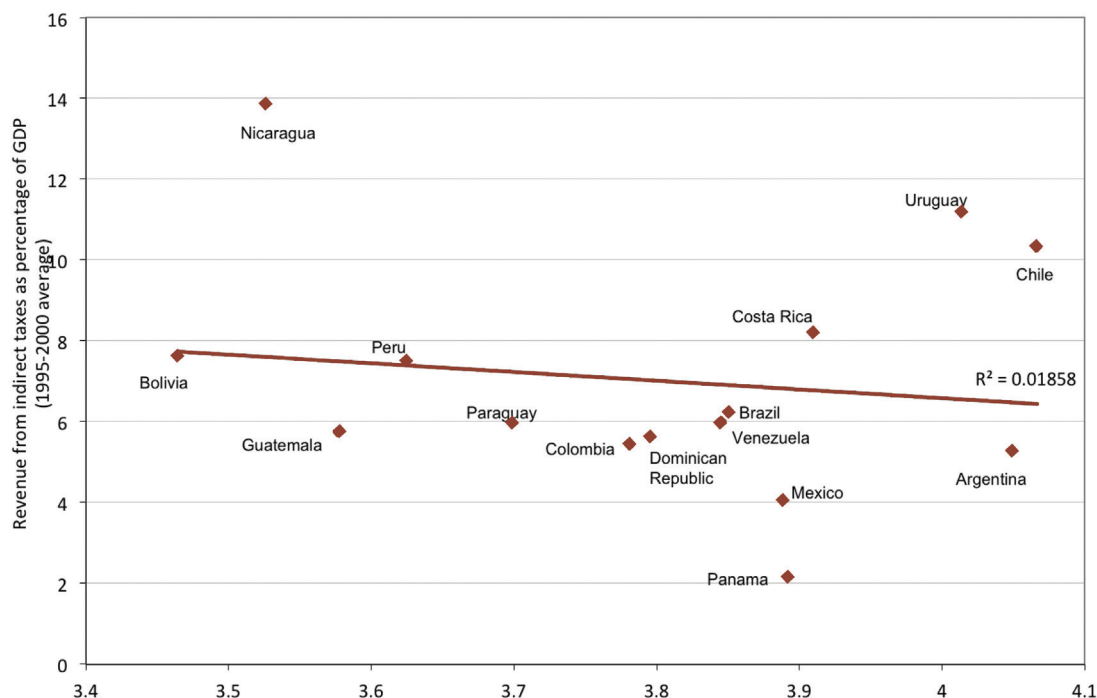
This message is made even more significant when juxtaposed with the fact that Latin American societies are already among the most unequal in the world.<sup>14</sup> It might be presumed that highly unequal societies with elected governments would use tax policy to redistribute wealth. In Latin America, however, income inequality appears to have risen just as many governments completed “neoliberal” tax reforms that further increased their reliance on indirect taxation.

Turning now to tax revenue by type and income distribution, Figure 9 shows two lines and two data points. The lines represent thirteen-

country averages for the proportions of total revenues coming from indirect or consumption taxes (solid) and direct taxes (dashed). The data points represent simple averages, for the same countries, of the ratio of top-quintile incomes to bottom-quintile incomes. These are calculated from two bundles of income distribution surveys, the first from 1989–91 and the second from 2001–03. Here, a significant rise in the ratio of top- to bottom-quintile incomes coincides with a substantial increase in the proportion of revenue from indirect taxation.

In this light, some have asked whether, despite the recent improvement in income distribution registered in several countries (López-Calva and Lustig 2010), fiscal policy should now be called upon to do more to achieve redistribution.

**Figure 5. Revenue from Indirect Taxes versus GDP per Capita, 15 Latin American Countries**



Sources: World Development Indicators, 2004, 2007; IMF, *Government Finance Statistics Yearbook*, various issues.

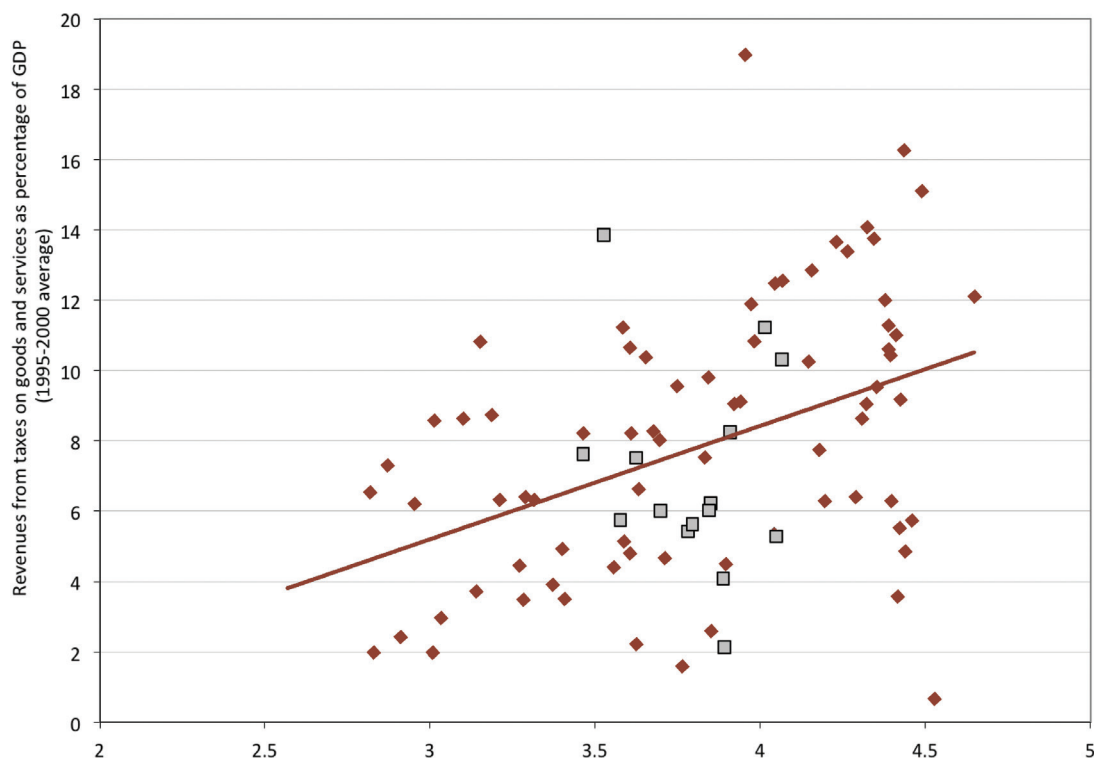
*Tax burden across the income distribution.* This context helps illuminate the strong contentions of Brededa *et al.* about the tax burden on the rich in Latin America. According to the authors:

On the one hand, tax revenues in Latin America are substantially lower than in OECD countries or in the EU; on the other hand, the richest income quintile already contributes a much larger share of taxation than in the OECD and EU. The roots of this apparent incongruity lie largely in the high levels of income inequality throughout Latin America. Because Latin American countries have much higher income inequality than OECD and EU countries,

to support similar levels of spending the richest income quintile must be taxed more heavily, at least in absolute terms. To be sure, in relative terms (i.e., as a percentage of its income) the richest quintile does not necessarily contribute more than it does in OECD or EU countries, and therefore it should be possible to increase taxation. Nonetheless, because the rich in Latin America contribute a substantial share of government revenue, raising their contribution even further may impose a strain on the social contract. The rich may resent contributing excessively to a welfare state that gives little back to them (2009: 734–35).



**Figure 6. Revenues from Indirect Taxes versus GDP per Capita, 91 Countries**



Sources: World Development Indicators, 2004, 2007; IMF, *Government Finance Statistics Yearbook*, various issues.

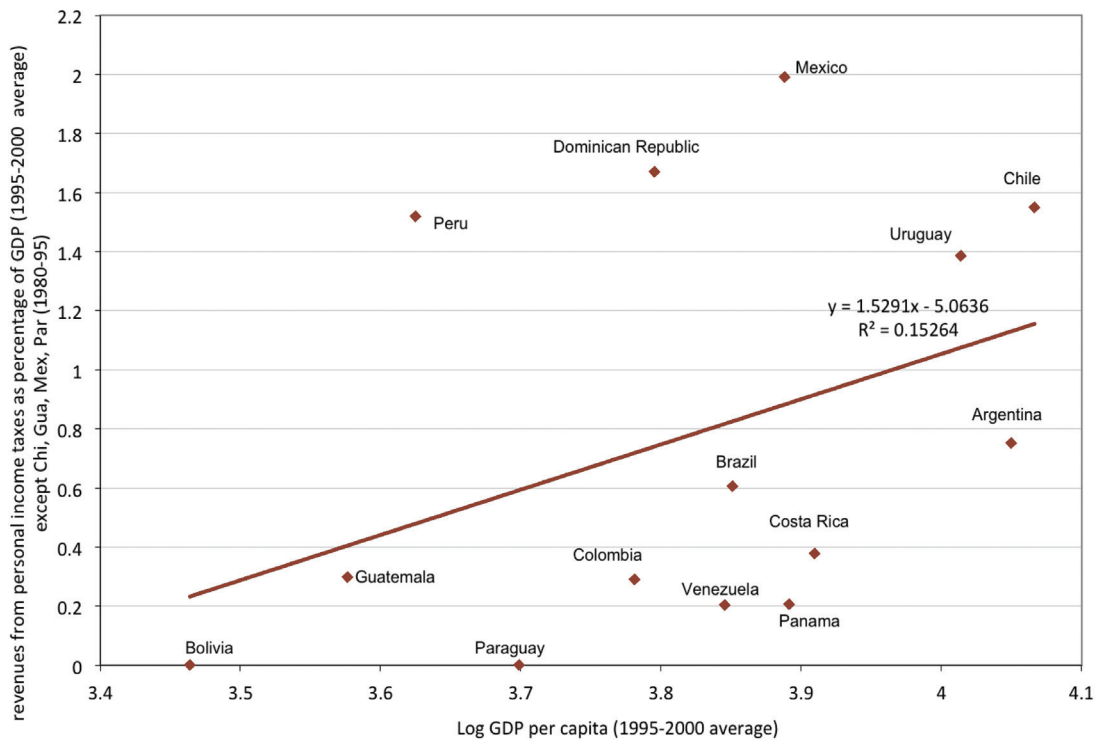
Here, instead of decrying the relative lack of redistribution in Latin America, or the region's generally low tax effort, the authors direct attention to the relatively great burden carried by the richest fifth of households there. In effect, they predict political resistance to any reforms that take their cue from either the relative lack of redistribution or the relatively low tax participation.

Policy implications, it seems, flow directly from which approach one chooses. The relevant standard for judging tax reform in Latin America might its redistributive effects, or its capacity to mobilize revenue, or the share carried by the top quintile.

How to adjudicate among these perspectives? To begin, given that the *relative* weights of taxes and benefits in Latin American redistribution

generally resemble those of European welfare states, the main issue would seem to be the amount of tax revenue, not how it is raised. Second, it seems reasonable to take Brededa *et al.* to suggest that the rich households in Latin America would resist not only a rise in personal income taxes but also an across-the-board increase in VAT rates. After all, since the primary incidence of taxation is a result the region's extraordinary inequality, a rise in consumption taxation rates would still fall mainly on the top quintile or two (who purchase more products subject to VAT). While it is true that at the top, the marginal propensity to consume is lower, if we assume a VAT with exemptions for many staples (such as the VATs that perform most equitably in Table 2), the

**Figure 7. Revenues from Personal Income Taxes versus GDP Capita, 14 Latin American Countries**



Sources: World Development Indicators, 2004, 2007; IMF, *Government Finance Statistics Yearbook*, various issues.

tax's primary incidence burden might be only slightly more broadly shared than would that of a personal income tax. In short, Brededa *et al.* present a challenge to reformers who would seek to raise revenues for Latin American states in anything but the most regressive ways.

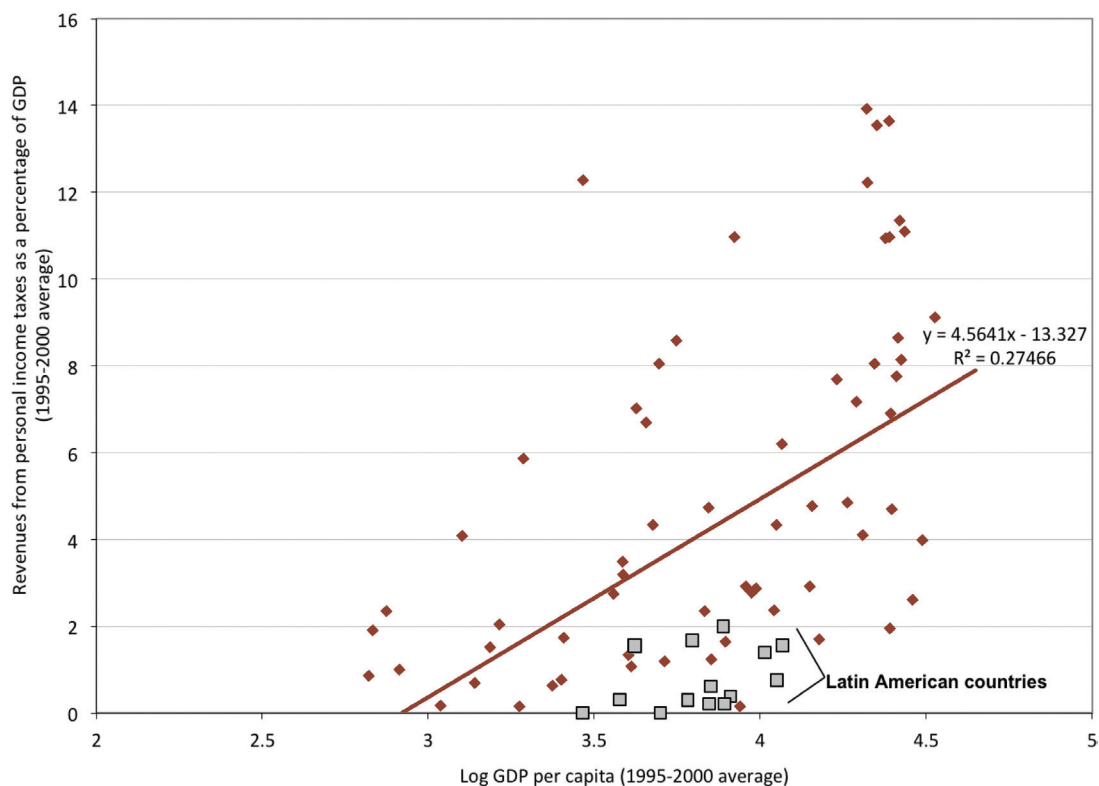
### SUMMARY OF EMPIRICAL RESULTS

The main empirical results presented above can be summarized as follows.

- In Latin America, social spending redistributes consistently much more than does taxation.

- The VAT and other excises contribute a lot to revenue, but tend to be slightly regressive in their primary incidence.
- Individual income taxes contribute much less than the VAT to revenue but are progressive in their primary incidence, often outweighing the regressive effect of indirect taxes.
- Most Latin American fiscal systems have become somewhat more redistributive since 2000.
- Compared to Europe, Latin American governments redistribute much less, but like Europe they do so mainly via spending.

**Figure 8. Revenues from Personal Income Taxes versus GDP per Capita, 78 Countries**

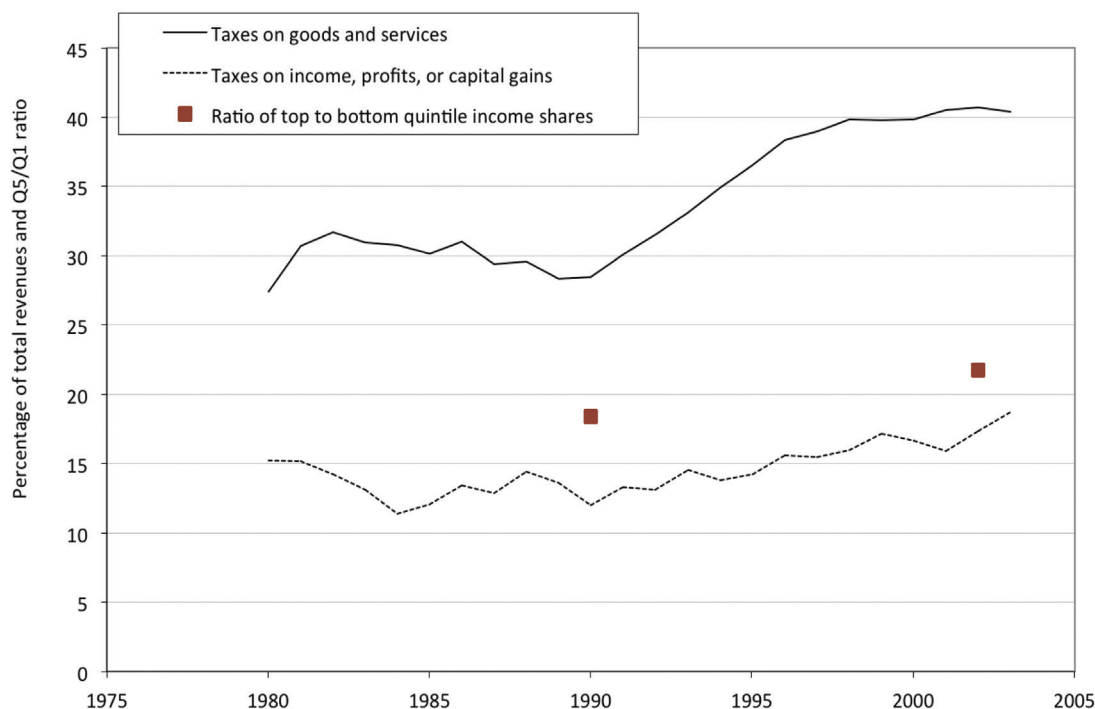


Sources: World Development Indicators, 2004, 2007; IMF, *Government Finance Statistics Yearbook*, various issues.

(Uruguay redistributes to a similar degree as do the United States and Canada, but is more reliant on spending to do so.)

- Wagner's Law, in which higher GDP per capita corresponds to a greater weight of government in GDP, does not apply across Latin America, at least according to data from 1995–2000.
- As a proportion of GDP, Latin American governments collect less in revenue from individual income taxes than do those from any region of the world.
- Across Latin American countries, the weight of revenues from individual income taxes rises with income much less than it does across the rest of the world, suggesting that the region's deviation from world trends could increase as economic growth continues.
- Income inequality in Latin America rose during the 1990's, just as many governments completed the tax reforms that brought even greater reliance on indirect taxation.
- While tax revenues in Latin America are lower than in OECD countries, the region's

**Figure 9. Tax Revenues by Type (as Proportion of Total Revenue) and Income Distribution, in 13 Latin American Countries**



Sources: UN-ECLAC

great inequality means that, on average, the richest income quintile in Latin American countries contributes a much larger share of taxation than in richer countries.

- For this reason, Latin American tax reformers might expect political resistance to increases in individual income taxes and also, due to the same inequality, to rises in rates of the currently VATs in place in most countries.

### APPLYING THEORIES OF TAXATION AND POLITICS

What do these empirical findings suggest for tax reform and inequality in Latin America? Two important contemporary theories of the political

economy of taxation support contrary predictions. One, deriving from median-voter models, says that democracy creates or allows redistributionist politics (Alesina and Rodrik 1994). Elected governments do not coexist for long with high inequality without trying to do something about it, usually by taxing the rich to benefit the poor. From this standpoint, the recent puzzle about Latin America has been why this has not happened (see, for example, the essays in Blofield 2011). In particular, why, in a region that was already so unequal, did so many governments opt for tax reforms that gave secondary importance to redistribution?

The second theory focuses on what taxpayers want or expect in return for their payments. To

paraphrase Timmons, whereas median-voter models describe a world in which the state taxes A to benefit B, a “fiscal contract” view describes what the state has to give A in order to get resources from A (2005). This view informs important new work on tax compliance (Torgler *et al.* 2010: 145–53, 160–67). This theory can be detected in the reasoning of Breceda *et al.*, cited just above: rich Latin American households cannot be expected to pay more to support public spending from which they do not (directly) benefit.<sup>15</sup>

Which of these views is more plausible? Regarding the median-voter model, Boix (2003) provides a plausible story about why redistribution does not always follow democracy: capital mobility allows the rich to avoid redistributive taxation, so governments barely attempt it.<sup>16</sup> Campello (2011) argues that mobile capital provokes “policy switches” under poorly consolidated democracies, in which candidates elected as redistributionists find themselves compelled to govern as neoliberals.<sup>17</sup> It was hard not to see such logic at work in the famous “pirouettes” in 1989–90 by Alberto Fujimori, Carlos Andrés Pérez, and Carlos Saúl Menem (Mahon 1994). From this perspective, democratic electorates in Latin America were trying to redistribute but the governments they elected could not overcome structural constraints—at least until after 2000, when new conditional cash transfer programs found fiscal space, electoral rewards, and (based on recent data) policy success. By the same token, abundant resource rents would also relax the mobile-capital veto, obviating difficult taxes and

facilitating foreign borrowing even by the likes of Hugo Chávez (at least while global bond markets remain permissive). Finally, the democrat’s urge to combat inequality and poverty clearly motivates some of the scholarship reviewed earlier in this paper. It is worth noting that many academics’ preoccupation with inequality and the relative lack of redistributive effort by governments in Latin America may be premised on a tacit acceptance of the median voter model.

What about the “fiscal contract” theory, the idea that taxpayers pay, or pay more readily, when they get something in return? As implied above, this theory offers the best response to the median-voter model’s blithe assumption that states transparently and effectively act on the redistributionist wishes of the poor majority. As the experiences of Latin American and many other developing countries show, rich households are much more successful at non-compliance than the median-voter model assumes. Returning to the archetypical case for fiscal-contract theory, Britain of the Glorious Revolution, for the Whig landed interest and the emerging bourgeoisie, the nature and level of government spending was only part of the issue. Rather, spending formed part of a general institutional bargain, one that involved security of property rights, the rule of law, and political representation. Applied to Latin America, the idea suggests that the elite’s tax compliance might be bought, not with spending directed exclusively at them, but rather through a set of institutional guarantees for the security of its theretofore hidden capital.<sup>18</sup>

## ENDNOTES

1. Tax incidence is the analysis of who bears the burden of a tax. The person with the statutory obligation to make a tax payment to the government may not be the person whose welfare is most affected by the imposition of the tax. For example, although employers make a payroll tax payment, the burden of that tax may be entirely borne by the employees.
2. Employer-withheld contributions to duties during that lapse have been counted as personal income tax in international compilations of Uruguayan taxes (Tuneu and Ghislandi 2006).
3. Gómez Sabaini notes that their conclusions about direct taxation may be unduly pessimistic regarding personal income taxes because of the predominance of corporate taxation in the total of direct taxes in developing countries (2005c, 100).
4. Looking at seven countries, Lora finds income taxes to be progressive, while in five of the seven, VAT is regressive (2007, Table 6.8, 204). However, he reports Reynolds-Smolensky indices one or two orders of magnitude smaller than his sources. Income taxes dropped Gini coefficients by an estimated range from 0.00001 (Guatemala in 1993, Bahl, Martínez-Vásquez, and Wallace 1996) to .00197 (Peru in 2000, Haughton 2005). Value-added taxes changed the Gini slightly in a negative (progressive) direction in Colombia and Guatemala, while the largest estimate of regressive effect (a Gini increase of 0.00088) derived also from Haughton's study (Lora 2007: 204).
5. This subsection draws heavily upon a similar discussion in "Tax Reforms and Income Distribution in Latin America," Chapter 10 in Merike Blofield, ed., *The Great Gap: Inequality and the Politics of Redistribution in Latin America* (University Park, PA: Penn State Press, 2011).
6. Data on direct and indirect tax revenues come from World Development Indicators, 2004 and 2007, and for personal income taxes from IMF, *Government Finance Statistics Yearbook*, various issues. Figures for direct tax revenues exclude those from state-owned resource companies. Apart from direct and indirect tax revenues, the denominator (total revenue) includes social security taxes, trade taxes, other taxes, fines, fees, rent, and income from state-owned properties.
7. These are compiled from IMF, *Government Finance Statistics*, either taken directly from the data for general government or, where these figures were absent, derived by summing figures for subnational (where available) and central governments. Note: temporal comparisons can be made only for figures in italics. For others, different countries constitute the average—for example, of the seven Latin American countries in the average personal income tax figure for pre-1980, only three are part of the average post-1995.
8. Note that IMF figures for Denmark differ significantly from those given by the OECD. Part of the difference seems to be due to the treatment of social security contributions, which register about 2 percent of taxation for the OECD and about 4 percent of all revenue for the IMF, but most of it may be due to the exclusion of subnational governments in the IMF data. The "Anglo" pattern can be found also in South Africa and Zimbabwe. As shown in the figure, before 1991 Japan regularly obtained over 60 percent of total revenue from direct taxes and less than 20 percent from indirect ones. This also had an Anglo connection, in the reforms under the Occupation after the Shoup Mission (Kaizuka 1992).
9. On the latter point, see Bird 2003, citing Harberger 1962 and 1985.
10. These include Colombia, Costa Rica, Dominican Republic, Peru, Uruguay, and Venezuela. Importantly, they exclude Argentina and Brazil, for which the proportion from personal income taxes rose during the interval, but were missing data on indirect taxes from one of the periods. The personal income tax figures for these two countries are included in the other regional average.
11. The "law" is named for the German economist Adolph Wagner (1835–1917), who posited that

- industrialization would activate new, effective demands for state spending so that the state would increase in size relative to the economy. This relates to evolution within a country, but as noted above the pattern generally holds across countries in the global sample.
12. Here, for want of data after 1994 for four countries—Chile, Guatemala, Mexico, and Paraguay—I have instead used their 1980–94 averages.
  13. This supports the observation of Barreix, Roca, and Villela (2007, 62), that higher-income countries in the region gather somewhat more in such taxes than poorer ones.
  14. Deininger and Squire (1996, 584–85) ranked Latin America as the most unequal region in the world. However, using data from the UNU-WIDER (2007) compilation, looking only at similar survey parameters and quality levels across regions, Africa wins that dubious distinction, with Latin America in second place.
  15. Of course, the two impulses might coexist and react. For example, Chile’s democratization after 1989 released long-repressed desires for redistribution through higher taxes and social spending. In negotiating these changes with representatives of business, however, the *Concertación* governments had to offer stability and continuity in macroeconomic management. Sanchez observes: “in large part, entrepreneurs acquiesced to pay more taxes because the new government went to great lengths (in rhetoric and actions) to reassure them that it would maintain a vocation for free markets and an open economy” (2011: 36). In a similar way, the Socialist government of Ricardo Lagos publicly committed itself to a fiscal surplus rule (73). Not spending but reliable neoliberalism was the price of revenue.
  16. In what might be considered a corollary to Boix’s extension of the median-voter model, Gordon and Li posit that weak governments have to fear financial disintermediation as a reaction to their efforts to tax, and so they act to avoid this outcome (Gordon and Li 2009).
  17. Richard Bird suggests that Latin American countries do not have more egalitarian tax systems because the politically relevant population is small and rich, and it likes things the way they are (2003, 2, 13, 42–43). Gómez Sabaini observes that fears of lost investment and capital flight made Latin American governments reluctant to modernize their income tax systems up to developed-country standards, despite the recommendations of the OECD (2005c, 111–12). Fairfield describes vividly the political difficulties of the Argentine authorities in imposing a tax on interest income (2010). Elsewhere I have also argued that inflation and payments crises facilitated autonomous action by the executive in carrying out tax reform, with IMF advice and conditions, when inflation-fighting through efficient revenue collection could be seen as a pro-poor policy (in Blofield, ed., 2011, Chap. 10).
  18. See the discussion of Chile under the *Concertación*, above at note 14.

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