TAX REFORMS IN LATIN AMERICA IN AN ERA OF DEMOCRACY

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Abstract: When studying the politics of taxation it is important to evaluate changes to the tax code in terms of rates, bases, and exemptions instead of just revenues. With that objective in mind, we have compiled a more comprehensive database of tax reforms for Latin America. In this article, we present a description of the database as well as the stylized facts. We also explore the economic and political determinants of reform such as the role of the economic and politico-institutional variables, and compare the results to the consensus. We find two interesting results. First, determinants of reforms seem to have changed over the years as democracies have solidified. Second, disaggregating reforms in various ways is a better strategy for understanding the mechanisms behind tax reforms than looking at the overall number of reforms. Having developed an exhaustive database that allows such disaggregation we provide motivation for future research on this topic.

The empirical literature on taxes focuses generally on revenues, an easily observable and generally available variable, as the observable measure of tax policy. Nonetheless, tax revenues depend on a plethora of determinants: tax rates, tax bases, implementation and enforcement of laws, and the evolution of economic activity.[1] While some of these determinants are decided by policy, others are not. Therefore, to understand the political mechanisms behind tax reforms it would be better to examine policy changes rather than outcomes.

Studies that look at the cross-country micro evidence of tax reforms instead of revenues are rather scarce (exceptions include Mahon 2004 and Lora 2007). This is not necessarily a consequence of a lack of interest in the topic but a result of the

The authors would like to thank the editor, three reviewers, and participants at the DC Comparative Politics and Political Economy Seminar, the seminar "The Future of Taxation" at the Inter-American Development Bank, MPSA 2012, Western Economic Association 2012, and the German Development Institute for their comments and suggestions on the overall research project. We would also like to thank Maria Franco Chuaire for her assistance with our research. The opinions expressed in this document are those of the authors and do not necessarily reflect those of the Inter-American Development Bank, its Board of Directors, or the countries they represent.

1. This is also the case even if measured as a percentage of GDP because of changes in labor composition, informality, and so on.

difficulty in quantifying tax reforms, that is, in collecting data and transforming the information regarding changes in tax laws into variables that can be the subject of quantitative analysis. In this article, we present a more comprehensive database of tax reforms for Latin America between 1990 and 2004 using the Worldwide Tax Summaries of Price Waterhouse Coopers (PwC). This database can be used for studying the political economy of tax reforms in Latin America. With these data in hand, researchers can explore why tax reforms happen (or not) as well as under what conditions certain types of reforms are more likely than others. This work should be relevant for policy recommendations regarding what conditions make it possible to raise or lower taxes and to foster increasing welfare through reforms that increase the efficiency of the tax system.

In this article we provide a full description of the database, including the data collection process. We discuss its advantages and pitfalls and provide summary statistics. We also review the previous literature on the topic of tax reforms and describe stylized facts. Some stylized facts that arise from a first look at the data are that the number and scope of reforms differ significantly by country; the main goal of the reforms has indeed evolved over the years, from the search of more efficient taxes following the Washington Consensus to a more concentrated focus on increasing revenues, even at the expense of less neutral systems; efforts to increase revenue from major taxes have focused on VAT (value-added tax) rather than income taxes; and there are many reforms to minor taxes. These reforms were designed to increase efficiency at the beginning of the period (e.g., through the elimination of excises) but switched to increasing revenues later on (e.g., by the introduction of taxes on financial transactions.)

As a first test of the power of the database, we also include a replication of Mahon (2004), which is the major empirical study of Latin American taxation reform to date. Our results indicate that some of the reform dynamics have switched as countries have become fully democratic; some of the variables that were significant in that publication have become less significant over the years while others have gained significance. Some of the reasons behind these differences are obvious. First, because of the time period we consider, we include countries that had already transitioned to democracy, which reduces the role of regime changes and the unrestrictive power of the executive; the salience of the debt crises of the 1980s as a focus for guiding reforms was fading; and the Washington Consensus had both its heyday and low point as the guiding light for policy reform.

Second, we have coded a higher number of reforms even for the years that overlap in the two studies. While this additional detail in the coding may obscure some of the aggregate results, it provides more versatility for understanding the mechanisms behind the reform processes. For example, once we disaggregate the data according to the type of tax and run the same empirical models, new channels of influence are uncovered. In this way it is possible to explain better some of the correlations that were more puzzling when looking at the aggregated data. For example, while we find a fading role for the International Monetary Fund (IMF) overall, we can uncover better the specific channels of influence when looking at the relationship by tax or group of taxes. Consequently, a richer analysis could be performed with this database, and the last section motivates a research agenda that would make good use of the versatility of the database. The codebook of the database and the online appendix include a full description of the reforms included in the database (Focanti, Hallerberg, and Scartascini 2013).[2]

TAX REFORMS IN LATIN AMERICAN COUNTRIES

The stylized facts regarding levels and changes of tax revenues in Latin America are as follows. First, Latin American countries collect less revenue than would be expected given their level of development and socioeconomic structure. According to the Inter-American Development Bank (IDB) (2013), the so-called tax pressure gap for Latin America is 2.3 percent of GDP. This means that, for the level of development, tax revenues should on average be more than 2 percent of GDP higher than they are.[3] Second, the divergence with level of development and in comparison with other regions is not the same across all taxes. VAT revenue levels are similar to those in OECD (Organisation for Economic Co-operation and Development) countries. In contrast, the collection of income taxes—and in particular, personal income taxes—is very low (IDB 2013, figure 1.3). Very few countries in the region collect more than 4 percent of GDP using income taxes. The same ratio is around 15 percent in the OECD countries (IDB 2013, 5). Third, while still lagging behind, countries in Latin America have registered significant progress in terms of increases in tax revenues in the last two decades (almost 3 percentage points of GDP higher), increasing more than in any other region (IDB 2013, figure 1.4). When subnational revenues are included in the analysis, the mentioned increase has been almost 5 percentage points of GDP (IDB 2013, 11). Finally, only part of the revenue gap can be explained by economic determinants alone; much variation across countries remains unexplained (IDB 2013).

Is the higher level of tax revenues a consequence of tax reforms? Can differences across taxes and countries be explained by differences in the way country governments have reformed their tax codes? Are some country governments better able than others to adapt their tax code to changing economic circumstances (such as crisis)? Indeed, governments in Latin America have been active reformers during the last couple of decades. As Eduardo Lora (2007, 5) suggests, there has been a "silent revolution" on institutional reform that has swept the region. Taxation has not been the exception as "reforming activity has been continuous and more frequent than in previous decades" (Lora 2007, 205). Still, the evidence shows that "the results of the tax reforms depend much more on the political processes that affect their passage into law than on their technical design. Consequently, a major future challenge is to understand and improve these political processes, rather than to propose technically perfect reforms with little possibility of being

2. The database is available here (IDB-DB-111, published November 2013): http://www.iadb.org/en/research-and-data/publication-details,3169.html?pub_id=IDB-DB-111. The online appendix can be accessed in the IDB working paper version of this article here (IDB-WP-457, published December 2013): http://www.iadb.org/en/research-and-data/publication-details,3169.html?pub_id=IDB-WP-457.

3. See IDB (2013, figure 1.2) for a detailed explanation. The tax gap is computed by taking into account tax revenues controlling for economic development, the population's age distribution, the openness of the economy, the levels of self-employment, and the share of revenues coming from natural resources.

passed and that, in fact, may introduce more distortions and administrative difficulties" (Lora 2007, 206).

Studies that focus on political processes across countries in the region are rather scarce. The most comprehensive effort is by James Mahon (2004), who considers reforms in the region concentrating on the period of structural reforms up to 1995. Mahon uses two sources of data. First, he coded tax reforms to the VAT, income taxes, and some other duties, alongside administrative reforms. Second, he also uses the index of tax reform from Morley, Machado, and Pettinato (1999), which constructed several indices of structural reforms in Latin American countries for the period 1970–1995. The index of tax reform is the average of four components: the top marginal rates of personal and corporate income taxes, the value-added tax rate, and the efficiency of the VAT, measured as the ratio of the standard rate and revenues as a percentage of GDP. Therefore, this is an index solely based on rates and revenues of the major taxes rather than more specific changes to tax laws. Using these two sources of data, Mahon finds that past inflation, IMF conditionalities, changes in government administration, more authoritarian-leaning democracies, and some proxies for electoral systems affect the likelihood of reform. On the other hand, he finds little or no link between tax reforms and changes in GDP, constitutional powers of the president, party institutionalization, or partisan balance. Mahon's analysis starts in 1977, which means that he also captures the transition to democracy in several countries. Because his analysis stops in 1995, a large percentage of the country years in the data set correspond to autocracies, so he is not able to study in depth the political mechanisms in Latin American democracies that affect bargaining and negotiation over such a complex policy issue. Consequently, any new tax collection effort should expand the data to include more of the democratic period in order to study the working of reforms during fully-fledged democratic times. Another lesson coming from Mahon's article is the fact that because not all tax reforms have the same political costs and benefits, it is important to have a more fine-grained identification of reforms.[4]

Another important work that looked at tax reform in the broader context of structural reform is Lora (2007). Lora argues that, among the economic determinants, the drive for introducing reforms to increase revenues arose from the need to preserve fiscal balance in a context of high inflation and lower revenues from international trade rather than from the pursuit of an increase in expenditures for social or economic policy or a higher progressivity of the system. Lora also highlights a widespread failure to increase the neutrality of the tax system. As governments aimed to increase tax revenues, they turned to easy-to-collect taxes such as those on financial transactions. Finally, this work mentions an increase in tax reform activity in the first few years of the 2000s, which makes the collection of more recent data of great interest. Lora also mentions the increasing relevance of tax expenditures (which has been one of the motivations for paying attention to tax incentives and changes in the bases of the taxes and not just their rates). From

4. Gomez Sabaini and Martner (2008) use Mahon's results as a basis for policy recommendations, which highlights once more the relevance that the article had in the literature.

Lora (2007), we draw lessons on the importance of the neutrality and efficiency of the tax system and hence focus a significant amount of effort in making our tax reform data as informative as possible on those features of the system. Similar conclusions can be drawn from other works that summarized the reforms and the evolution of revenues in Latin America, such as Gomez, Sabaini, and Martner (2008), Figari and Gandullia (2008), and more recently Tanzi (2013).[5]

Sanchez (2006) also explores tax reforms in Latin America, emphasizing the role of external pressures, IMF programs, and debt crises in the process. He argues that lower administrative capacity and pragmatic needs for resources are domestic factors that must not be overlooked and that can trump external pressures. Profeta and Scabrosetti (2008) find results similar to Mahon's regarding the role of political institutions in the determination of taxes. According to this work, a low level of representation of political parties; the strength of lobbies and interest groups; high disintermediation from the financial sector, which reduces tax enforcement; and the heritage of populist economic policies tend to explain some of the puzzles of taxation. In particular, these factors help to explain relatively low levels of taxation.[6]

Other work on tax reforms in Latin America has been rather descriptive and/or based on case studies of one or a small group of countries rather than an overview of the whole region. Examples of this are Bird (1992), which looks at Bolivia, Argentina, Mexico, and Colombia in the 1980s, with particular focus on Bolivia; and Rodriguez (1993), which compares Mexico, Colombia, Ecuador, Bolivia, the Dominican Republic, and Paraguay over a longer period of time. Both studies purposely choose a sample of countries that have been active reformers during their period of study and try to extract lessons from their experiences. Both also highlight the heterogeneity in the reforms carried out by the country governments under study. A more recent study, Bird (2003), looks at the issue of the sustainability of the system. Bird concludes that sustainability will not be achieved directly through fiscal reform but will require more encompassing and legitimate democratic political institutions. Once again, the relevance of underlying political economic institutions is stressed.

Other recent and detailed case studies are Olivera, Pachón, and Perry (2010), which looks at Colombia after the constitutional reform of 1991; Bonvecchi (2010), which explores the experience of Argentina between 1988 and 2008; Melo, Pereira, and Sousa (2010), which explores the tax expansion in Brazil of the last two decades; and Magar, Romero, and Timmons (2010), which explores the ability (and inability) of presidents to reform taxes in Mexico after the democratic transition. Case studies can be a good complement to our line of work by offering a more detailed perspective that does not suffer from the problems derived from aggregating the information from different countries. For example, Bonvecchi (2010)

5. These authors have also highlighted that pursuing more efficient taxes was a task concentrated in the early parts of the 1990s, with countries switching to revenue-enhancing reforms later in the period.

6. Ardanaz and Scartascini (2013), and Machado, Scartascini, and Stein (2013) have reanalyzed the puzzles once more; in particular, the low levels of personal income taxation in the region.

suggests that, while reforming activity can be explained by political and economic shocks, the types of reforms that actually take place depend on changes in political leadership, intergovernmental coalitions, and shifts in the power of local bosses. Olivera, Pachón, and Perry (2010) find support for the hypothesis that increased political fragmentation and limited unilateral executive power after the 1991 constitutional reforms restricted the extent of tax reforms, and it only allowed for piecemeal reforms during crisis conditions. Melo, Pereira, and Sousa (2010) show that reforms in Brazil have been geared toward generating high levels of revenue, but tax overhauls have greatly discouraged policy makers from introducing major changes in the tax system. The data we present in this article show this pattern starkly. For example, since 1999 all the reforms we have coded have attempted to increase revenues. Most of these reforms included the addition of, or increases in, rates and coverage of relatively minor taxes, such as excise taxes.

Some country studies have centered on the role of interest groups and business associations (an issue raised more generally by Profeta and Ambrosetti 2008). Fairfield (2010) explores the power of the business sector that is exerted through organized associations or by individual firms and investors. This dimension helps to explain the differences in taxation reform between Chile, where organized business groups were able to keep key reforms off the agenda, and Argentina, where weaker organizations provided leeway to the government to advance more in increasing taxation. Schneider (2012) shows how much the internal cohesion and power of some dynamic economic groups vis-à-vis previously constituted elites and popular sectors shaped the reforms (or lack thereof) that took place in Central America following waves of democratization and globalization. The role of business interests and lobbies highlight the need to take into account not only the direction of the reforms but also whom they benefit. For that reason, we distinguish every reform according to whether they had a particularistic or general scope.

A relevant literature considers countries outside Latin America and emphasizes political economic determinants of tax policy. Di John (2006) compares the experiences of developed and low-income countries and highlights how, while developed country governments have consolidated their systems with the VAT and a progressive income tax, developing countries have suffered more with external restrictions and capital flight and have had to resort to more immediate and easy-to-collect sources of revenue. The work concludes with the idea that special attention should be paid to fostering reforms that exploit sources of revenue that are sustainable over time. In this approach, historical context plays an important role because country governments that turn to more immediate and easy-to-collect (but less efficient) sources of revenue, such as financial transactions, may end up being more active reformers in the future as well, because of changes in the allocation of economic resources that affect those less broad sources of revenue.[7] Castanheira, Nicodeme, and Profeta (2011) discuss reforms to income taxes in the European Union (EU) and provide a perspective based on

7. A future expansion of our work to OECD countries may provide a new perspective on this topic, which would include a comparison of the events in Latin America with the transition countries of Eastern Europe as well as wealthier countries.

https://doi.org/10.1353/lar.2016.0003 Published online by Cambridge University Press

optimal taxation theory, in which they try to explain how and why the actual tax system differs from an "ideal" one. These authors use a database of reforms in labor taxes in the EU to analyze their determinants. Following Mahon (2004), they affirm that political economic variables, such as the ideology of the government, the structure of representation, the fractionalization of the parliament, and the existence of a coalition government, carry more weight in triggering reforms than economic variables, and that they are the main reason why the actual income tax system differs from the theoretically targeted one. More generally, there is a broad literature looking at developed countries that focuses on political explanations for tax policy, be they the form of the electoral system, partisanship, or tax competition among governments.[8] This supports our interest both in analyzing political economic variables with as much depth as possible and in extending our analysis to developed countries.

Given the findings of previous literature that have been summarized thus far, we encountered the need to collect new data for our work for several reasons. First, we wanted to increase the coverage to more recent years, a period when all the countries in the region are under democratic regimes. Unfortunately, our data set runs from 1990 only through 2004; the constraint we face is the interruption of the publication of our main source of information, the Price Waterhouse Coopers *International Tax Summaries*, in 2005. Still, these annual publications over 15 years allowed us to increase the coverage relative to previous literature. Second, in order to understand the nuances of the reform process and the incentives politicians face when reforming taxes, we created a more detailed classification, especially for minor taxes (i.e., taxes other than VAT and income taxes). This is relevant when we consider that Latin American countries are much less dependent on income taxes than their more developed counterparts and that the implementation of the VAT was completed in the early 1990s. Relative to previous work, our data allow us to explore the introduction and development of other features of the tax system, such as taxes on financial transactions, changes in the use of tax incentives, taxes on capital gains, and minor taxes that provide smaller revenues but that are relevant for the neutrality and efficiency of the system, such as stamp duties or taxes on real estate and other assets. This more detailed classification, along with the inclusion of reforms to tax incentives and social security contributions, means that for years where our data set overlaps with Mahon (2004) we measure 50 percent more individual changes to tax laws, or 313 against 206. Third, we add an entire new dimension to the analysis of tax reforms by classifying whether each reform was "general" or "particular"—in other words, whether each reform affected every sector in the economy (e.g., an increase in the general rate of VAT) or targeted a specific sector or sectors (e.g., a tax incentive for the oil industry). This feature will allow researchers to examine the effect of the reforms that have taken place on the neutrality and efficiency of the system and to gauge the effort of each country in enhancing those characteristics in their respective tax systems.

8. A partial list from only the past decade includes Swank and Steinmo 2002; Swank 2006; Basinger and Hallerberg 2004; Ganghof 2006; Hays 2009; Plümper, Tröger, and Winner 2009; and Genschel and Jachtenfuchs 2011.

It will be particularly useful for running more detailed studies looking at the role of interest groups in taxation.

THE DATABASE OF REFORMS

We build the database by coding all reforms included in the Coopers & Lybrand *International Tax Summaries* (1989–1991) and the corporate and individual *Worldwide Tax Summaries* of Price Waterhouse Coopers (1992–2004/5a, b). PwC is the leading provider of tax services worldwide both in terms of the size and scope of the tax practice and its reputation.[9] The information contained in each publication is provided by its country-based network of associates.

Because the publication suffered a hiatus after 2004–2005 we had to close our database with the reforms that took place in 2004. The coding of the reforms using a common source allows us to construct a homogeneous, and therefore comparable, source of data that covers all of the countries in the region (with the exception of El Salvador after 1997). To ensure the quality of our data we compared it with the data collected by Mahon (2004) and Lora (2007), and double-checked it by looking into the country legal tax codes when there was any discrepancy between the sources.[10]

The coding of the reforms was inspired by the work of Mahon (2004) and Lora (2007), but it includes some refinements. We classify each reform in one of fifteen categories (in parentheses are the codes we use to differentiate among them): tax system overhauls (T), creation of VAT (VC), changes in VAT rates (VR), in VAT base (VE), personal income tax (PIT) rate (PIR), PIT base (PI), corporate income tax (CIT) rates (CIR), CIT base (CI), comprehensive administrative reforms (A), reforms to taxes on financial transactions (FT), reforms to excise taxes (E), reforms to other taxes (O), reforms to tax incentives (TI), to social security contributions (SS), and finally other minor or hard to classify reforms (M). The main difference with Mahon's database is a more detailed coding of minor reforms. In that database, changes to excises, taxes on financial transactions, and other minor taxes are aggregated, which makes it more difficult to identify certain trends such as the introduction of taxes on financial transactions in the late 1990s and early 2000s. The inclusion of tax incentives is another novelty of our database that will allow us to explore in more detail the effect of reforms on tax neutrality and the broadening of tax bases. Following Mahon, we code each reform according to whether we expect that it would increase or decrease tax revenues. For example, we consider a tax rate increase as a reform geared toward increasing revenues while a narrowing of a base would produce the opposite effect. Table 1 presents a summary of the reforms.

As an example of how to read the table one can look at the first few columns

9. See http://www.pwc.com/tax for references about this statement.

10. We also try to estimate whether the data may be biased based on PwC interests in the country in question. After controlling for the level of economic development of each country, neither the number of PwC offices in a country nor the relative economic relevance of each country to the United States (measured as exports to the United States in dollars and as percentage of the GDP and the existence of a trade agreement with the United States) were statistically significant to explain the number of reforms identified by PwC (and even some of the coefficients were negative). Estimations are available upon request.

Table 1 Summary of tax reforms in Latin America

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Argentina	T, vr, pir, cir, FT, E, o, TI, SS	M, VR, ft	VR, CIR, ft	ti	SS	VR	PIR, CIR, o, ss		O	PIR, CIR, ti, ss	PIR	FT, ss	ft, O	A	
Bolivia	CIR, ti	SS	VR	PIR, SS		CI, CIR, E	ti	E, ti, SS			ss	E	E, ss	E	E
Brazil	cir	VR	CIR	M, cir	VR, PIR, O	CIR, ft	pir, cir, o			O	PIR	M, A, FT, O	M, O	O	M, E, O
Chile	VR	CIR			pir	M, pir	M, E						pir, CIR, ss	VR, pir, CIR, ti	CIR
Colombia	M, VR		TI	M, VR, PIR, ti		PIR, CIR, o	M, VR, e, O, SS	E, ti	M		M, vr, FT, ti	VR, O		M, VE, PI, CIR, e, ti	A
Costa Rica			VR	vr	vr	VR	E	vr	M, e		pi		e, ti	PIR, CIR, E	cir
Dominican Rep.			T, pir, cir, O, TI	pir, cir	pir, cir	VR, pir, cir					T	pir		VR, E, SS	E, o
Ecuador	pir, cir				M, E	M, pir, E		pi, pir, E	e	pi, ci, O	VR, PI, CI	T, ft, E, SS		E	ti
El Salvador				VC, e, SS	e	VR, e, o									

(*continued*)

https://doi.org/10.1353/lar.2016.0003 Published online by Cambridge University Press

Table 1 (continued)

Guatemala	E, O		T, e, o	pir, ci, cir		PIR, CIR, O, SS	VR		pir, FT, E	cir	cir	PIR, CIR, O, TI, SS		O	VR
Honduras	cir	VR				O	pir			VR	pir, cir				O, ti
Mexico	pir	cir	vr	cir	cir, TI, SS	VR, o	ti	M, PI	ti	PIR		M	T, M, CIR, E, O	M, pir, cir, e, o, ti	T, pir, cir, e, o
Nicaragua		ti	pir	ve, cir, o								pir, cir			
Panama		cir	pir, cir	cir, ti	cir, O, TI			cir	ti					cir, E, O, ti	ti
Paraguay	ti	T, o	M, VC, CIR, O	O	e				ti	M					
Peru	VR	vr, o	VR, pir, cir, o, TI	o, ti, SS	pir, e, o, ss		SS	O	E, SS	o		M, pir, cir	PIR, CIR, E	M, PIR	VR, CIR, FT, e
Uruguay	CIR			E	TI		VR, o		ti	O, ti		ti		CIR, E	
Venezuela		ti, SS	pir, cir	VC, O	M, VE	VR, PIR, CIR		ve, VR		T, vr, PI, FT	vr, ci, ft	T, CI, ti	VR, FT		ft
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004

Source: Authors' compilation using Price Waterhouse Coopers, *International Tax Summaries*, based on Eduardo Lora's database and James Mahon's (2004) coding criteria.

Notes: A: comprehensive administrative reform; CI: broadening of corporate income tax; CIR: increase corporate income rate; E: excises; FT: financial tax; M: minor or hard to classify reform; O: other taxes; PI: broadening of personal income tax; PIR: increase personal income rate; SS: social security contributions; T: tax system overhaul; TI: tax incentives; VC: VAT creation; VE: VAT expansion; VR: VAT rate increase.

Lowercase represents a change in the opposite direction, such as a rates decrease or the elimination of a tax.

For tax incentives, capitals mean the reduction or elimination of an incentive and lowercase the creation of one.

of Uruguay. The information shows that in 1990 corporate income taxes increased and in 1993 excises and duties increased. In particular, the rate on gross income of the tax on commissions increased from 7 to 9 percent. In 1994, a tax incentive to the importation of fishing vessels was eliminated. In 1996, the rate of the capital tax was reduced from 2 percent to 1.5 percent at the same time that the VAT rate increased. The last reform coded for Uruguay took place in 2003. That year, the already mentioned rate on gross income of the tax on commissions increased once more, now to 10.5 percent. Details about each of the reforms coded are included in the online appendix.

The final step in the coding of the reforms is another contribution that consists of categorizing each reform as "general" or "particular." A particular reform is one that explicitly targets a specific sector or sectors of the economy (e.g., a tax incentive for a specific sector such as manufacturing, or a reduction in the VAT rate for a set of specific products, such as milk or bread). A general reform is one that does not target any particular sector but applies to the whole economy instead (e.g., an across-the-board increase of the VAT rate).

A SUMMARY OF REFORMS

Table 2 provides a quick overview by showing the number and type of reforms by country (total number of reforms and average per year). The table suggests that governments in South America (particularly Argentina, Brazil, and Colombia) have been more active reformers than those in Central America. Still, variance is high within those groups. For example, Argentina introduced two times more reforms than Chile, and Guatemala introduced more reforms than Honduras. Table 2 also splits reforms in two categories: reforms to major taxes and reforms to minor taxes. Here variance has been high, too, with some governments being more active reformers in one category or the other. For example, Bolivia and Brazil introduced more minor reforms, while Honduras and Venezuela have concentrated more on major reforms (twice as many).

Overall, the country governments that reformed the most were also the ones that saw the biggest gains in revenues. The correlation between revenues and reforms seems to be higher for "major" taxes, but variance is high and some big reformers have not reaped its benefits. Interestingly, they do not seem to have taken the opportunity to improve the quality of their tax system, given that the correlation between reforms and tax neutrality is negative. Taken from Lora (2007), the tax neutrality index combines the rates and productivity of different taxes. Lower rates and higher productivity are reflected as higher values in the neutrality index. In general, those that have reformed the most have shown lower performance in terms of tax neutrality. That is, increases in revenues have been accompanied by reductions in tax neutrality, which is largely explained by the proliferation of new minor taxes. Finally, there is a strong negative correlation (−0.75) between the number of reforms and the number of years with no reforms, meaning that the governments that reformed more did not necessarily have many reforms in a small number of years but they have rather been active reformers throughout the

Table 2 Summary of tax reforms in Latin America by country

	Tax reforms 1990–2004			*Major taxes reforms*		*Minor taxes reforms*		*Balance of reforms*		*Revenue change*	*Tax neutrality change*
	Number of reforms*	Reforms per year	Years with no reforms†	number	#/year	number	#/year	% increase taxes	% decrease taxes	2003–2004 vs. 1990–1991	
Argentina	28	1.87	3	12	0.80	14	0.93	57%	36%	71%	−2%
Bolivia	14	0.93	5	5	0.33	9	0.60	79%	21%	90%	−2%
Brazil	25	1.67	2	10	0.67	14	0.93	72%	24%	35%	33%
Chile	14	0.93	7	10	0.67	4	0.27	64%	36%	7%	12%
Colombia	30	2.00	4	11	0.73	18	1.20	70%	27%	68%	2%
Costa Rica	15	1.00	4	9	0.60	6	0.40	47%	53%	24%	5%
Dominican Rep.	18	1.20	7	11	0.73	5	0.33	33%	56%	59%	
Ecuador	22	1.47	5	10	0.67	11	0.73	50%	45%	37%	27%
El Salvador	6	0.86	4	2	0.29	4	0.57	33%	67%	24%	56%
Guatemala	23	1.53	4	12	0.80	10	0.67	61%	35%	37%	12%
Honduras	9	0.60	8	6	0.40	3	0.20	44%	56%	14%	
Mexico	30	2.00	1	13	0.87	15	1.00	37%	57%	−2%	−4%
Nicaragua	7	0.47	11	5	0.33	2	0.13	0%	100%	63%	
Panama	15	1.00	7	7	0.47	8	0.53	27%	73%	−9%	
Paraguay	11	0.73	8	2	0.13	8	0.53	55%	36%	18%	43%
Peru	28	1.87	3	13	0.87	15	1.00	50%	50%	20%	72%
Uruguay	11	0.73	7	3	0.20	8	0.53	64%	36%	18%	
Venezuela	25	1.67	4	15	1.00	8	0.53	52%	40%	159%	11%
Average LA	18.4	1.3	5.2	8.7	0.6	9.0	0.6	53%	44%	41%	20%
Correlation with revenues	0.24	0.23	−0.07	0.32	0.33	0.06	0.04				
Correlation with tax neutrality	−0.27	−0.19	0.13	−0.32	−0.27	−0.12	0.01				

Source: Authors' compilation using Price Waterhouse Coopers, *International Tax Summaries*. Tax neutrality is from Lora (2007). Revenue from IDB and CIAT (2012).
*Tax system overhauls and financial tax reforms are included.
†Years with no reforms, excluding reforms to social security contributions.

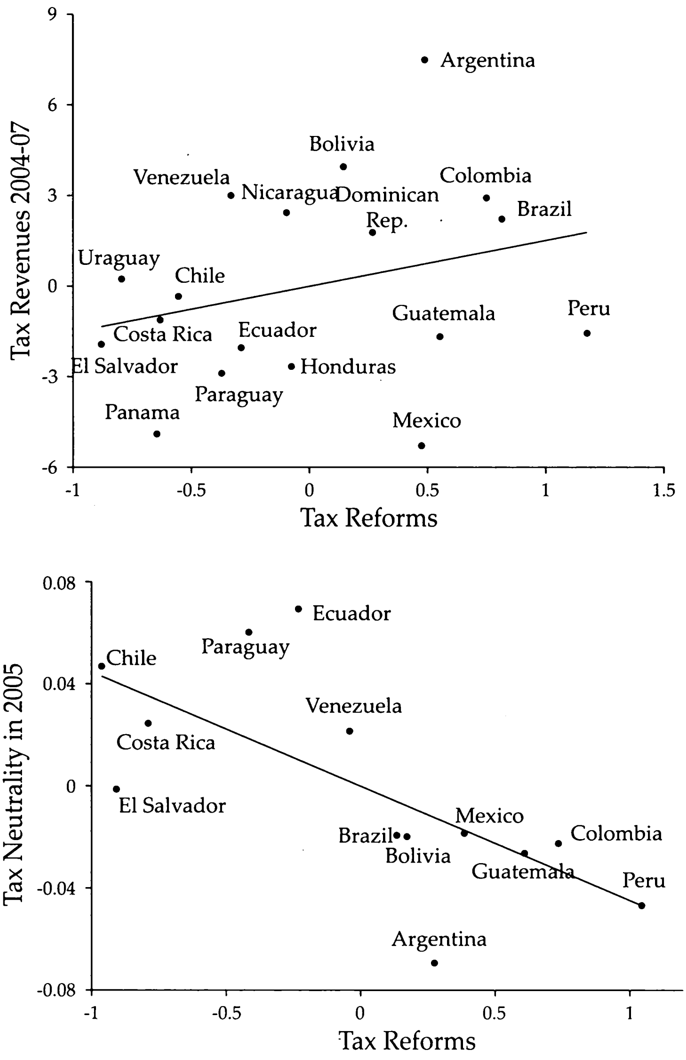

Figure 1 Relationship between tax reforms, tax revenues, and tax neutrality. Authors' elaboration based on data compiled from Price Waterhouse Coopers, Worldwide Tax Summaries *(1992–2004/5a, b), Lora (2007), and revenue data from IDB and CIAT (2012).*

period under study. This stylized fact tends to debunk the myth that tax reforms only follow economic crises.

Figure 1 presents similar information to the correlations in table 2 but controlling for the level of development as well as for revenues and tax neutrality at the beginning of the period. As figure 1a shows, although there is some positive correlation between the number of reforms and revenues, it is not highly significant. Also, tax neutrality does not seem to have been a driver of reforms. As fig-

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ure 1b shows, there is a negative correlation between the number of reforms and how neutral the tax code is in each country. This pattern had been identified by Lora (2007), which shows that efforts at reform toward greater neutrality generally stalled in the mid-1990s.

In spite of the existence of some correlations between reforms and outcomes, there remains ample variance to be explained. For example, the differences between Argentina and Mexico in terms of results, but not in terms of reforms, are staggering. The evidence coming from Mexico is one puzzling example of the objective and impact of the reforms. While Mexico has been one of the most active reformers, the tax share of GDP has been remarkably stable over the fifteen years this study covers. This suggests an obvious point, namely that all tax reforms do not do the same thing and governments may reform for a variety of reasons. Therefore, what makes a government reform may not be the same as what makes a government reform in the direction of increasing revenues.

In table 2 we can also observe in which countries reforms were more or less common: the three biggest economies in the region, namely Argentina, Mexico, and Brazil, were the most active reformers, while Central American countries were the least active. We can also see that the proportion of reforms corresponding to major taxes is higher in some countries, such as Venezuela, Guatemala, and Costa Rica, and lower in others, such as Brazil, Colombia, and Bolivia. By the same token, only Mexico, Panama, El Salvador, and Nicaragua have more revenue-decreasing than revenue-increasing reforms.[11]

Figure 2 shows the evolution of the number of reforms and tax revenues over the period covered. While the dotted gray line shows the total number of reforms, the solid gray line shows the difference between reforms that were expected to increase revenue minus the number of reforms expected to decrease it. While the total number of reforms has remained relatively stable over time—with some exceptions, such as a drop toward the end of the 1990s—the intention of the reforms has changed. While at the beginning of the decade reforms tended to be "revenue neutral" on average, that is, the number of reforms in which the intent was to increase taxes was approximately the same as those which intent was to decrease taxes, the balance tilted in favor of reforms that increase taxes in the second period of reforms (all positive values in average starting in 2001). The solid black line suggests a potential impact of these reforms on tax revenues. Although this line follows a steady upward trend, that trend seems to be interrupted between 1994 and 1996, the years after we observe more revenue-reducing reforms; it seems to speed up again between 1996 and 1998, which coincides with three years of more revenue-increasing reforms (1995–1997). The same pattern is repeated between 1998 and 2004: the reforms are mixed and revenue does not increase until 2000. Starting in 2001 reforms tend to increase revenues, which grow steadily until the end of the period.

Another dimension of analysis is the different type of reforms and the different taxes they affect. Table 3 provides a summary of reform by tax, differentiating

11. In the case of El Salvador, this may be biased by the country only being covered until 1997, since we know that there was a certain trend to lowering taxes in the first part of the period we analyze.

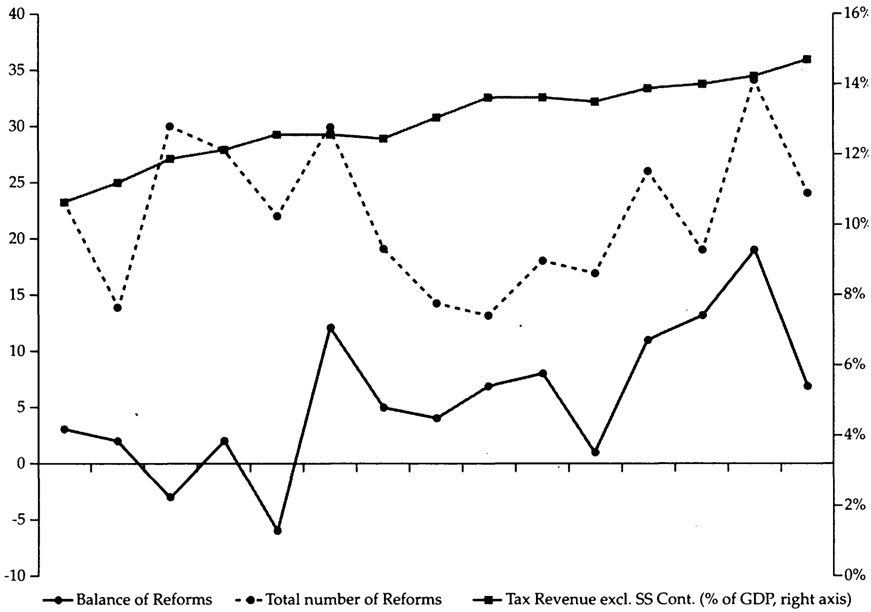

Figure 2 Total number of reforms, "balance" of reforms, and tax revenues in Latin America. Authors' elaboration based on data compiled from Price Waterhouse Coopers, International Tax Summaries.

major and minor taxes, and also differentiating increasing and decreasing reforms. The table shows that slightly more than half (55 percent) of the reforms were on minor taxes. For both types of taxes, reforms have usually been in the direction of increasing revenues. Among major taxes, VAT, CIT, and PIT seem to have been the subject of a similar number of reforms that have usually focused on rates rather than bases, which once again suggests that the broadening of the tax system has not been a relevant goal in the region. Another feature of the data that reinforces this conclusion is the introduction of tax incentives across most countries.[12]

Three governments (Paraguay in 1992 and El Salvador and Venezuela in 1993) introduced a VAT (all other countries in the region had one before 1990), and while there have been many more increasing than decreasing reforms in VAT, the opposite is true for both types of income tax. The relatively even number of increasing and decreasing number of reforms to financial transactions taxes reflects the introduction of such taxes as temporary sources of easy-to-collect revenue. While in some cases (such as Ecuador) the financial tax was later abolished, in others (such as Argentina) it is still in force today. Finally, it is worth noting that about a

12. The introduction of a tax incentive is generally taken as a tax-reducing reform and therefore recorded as such.

Table 3 Type of tax reforms in Latin America (1990–2004)

	Number of reforms	*Direction of reforms*		
Tax category	Total	Net total	Increase	Reduction
Tax system reform/overhaul	10			
Comprehensive administrative reform	3			
Major taxes	156	4	80	76
VAT	46	24	35	11
VAT creation	3	3	3	0
VAT base change	4	0	2	2
VAT rate increase/reduction	39	21	30	9
Personal income tax	50	–12	19	31
Personal income tax base change	7	1	4	3
Personal income tax rate increase/ reduction	43	–13	15	28
Corporate income tax	60	–8	26	34
Corporate income tax base change	6	0	3	3
Corporate income tax rate increase/reduction	54	–8	23	31
Minor taxes	162	26	94	68
Financial transactions taxes	15	1	8	7
Excise taxes and duties	41	13	27	14
Other taxes	44	8	26	18
Tax incentives creation/ elimination	37	–21	8	29
Minor or hard-to-classify reforms	25	25	25	0
Total	331	30	174	144

Source: Authors' compilation using Price Waterhouse Coopers, *Worldwide Tax Summaries.*
Notes: Increase refers to those reforms that implied the creation of a tax, the broadening of the tax base or a rate increase. *Reduction* refers to reforms that implied the elimination of a tax, narrowing its tax base, rate reduction, or incentive creation. *Net total* refers to the difference between increases and reductions.

quarter of all recorded reforms are classified either as reforms to "other taxes" or as "minor or hard to classify" reforms, meaning that country governments have also been making adjustments to a wider array of small taxes. These increases in smaller taxes probably had the goal of increasing revenue and with the side effect of making the system more complicated and less neutral.

What happened to the evolution of reforms, rates, and revenues for the three major taxes? The steady increase in VAT revenue in terms of GDP is accompanied by many tax-increasing reforms, at least until 1996 (see figures in the online appendix). The average VAT rate suffers a small decline around 1993 simply because the three governments that introduced it between 1992 and 1993 did so at a below-average rate of 10 percent. After that, several countries (Argentina, Costa Rica, El Salvador, Mexico, Nicaragua, and Venezuela) had steep VAT rate increases in 1995 that ranged between 2.5 and 5 percentage points. This change is observed in the data both in terms of the balance of the reforms and the changes in the rates (with large positive changes). The period between 2001 and 2004 also shows the introduction of reforms that increased the average tax rate.

The story for income taxes is different. Except for CIT in 1995 (when Bolivia, Colombia, and Guatemala raised the top CIT marginal rate), the reforms tended to reduce the burden of these taxes (this is shown in the figures in the online appendix). The picture changes slightly at the end of the period, but it is clear that government authorities in Latin America have not been successful in increasing revenues from income taxes, in particular those on individuals. Only the CIT suffered significant increases in the last three years under analysis, but its revenue still accounts for less than 4 percent of GDP, on average. Our data track some of the most significant changes well. For example, our data show a large change in personal income taxes in 1992, a year in which average marginal top rates dropped dramatically. Similarly, our reforms data track well the drop in rates for the corporate income tax during the 1990–1994 period and also the hikes in 1995 and since 2002.

Another feature of the database that we have mentioned earlier is the classification of each reform either as "general" or "particular" according to whether it affects every sector of the economy equally (at least on paper) or targets a specific sector or sectors. Table 2 above provides a count of the reforms according to this classification. It shows that we have classified about 80 percent of the reforms as general, but this rate is much lower for minor taxes (68 percent) compared to major taxes (95 percent). This means that changes to VAT and income taxes are mostly to the general rates and that changes to the bases of income taxes mostly have to do with reaching different types of income rather than different economic sectors. On the other hand, and as would be expected, changes to excise taxes, tax incentives, and other small taxes tend to affect certain economic sectors differently than others.

To summarize, some stylized facts that arise from a first look at the data are that the number and scope of reforms differs significantly by country; the main goal of the reforms has evolved over the years from revenue-neutral, efficiency-enhancing reforms to revenue-increasing reforms; efforts to increase revenue from major taxes have focused on VAT rather than income taxes; and there are many reforms to minor taxes, not necessarily with the goal of eliminating them or increasing efficiency but with the intent of increasing revenues, particularly in the last part of the period. The next section provides some hints at possible exercises that show the usefulness of the database.

USING THE DATABASE

Thus far, we have described our new data on tax reforms thoroughly and, along with its description and the literature review, we have hinted at the goals of our research agenda. In this section, we attempt to give a brief example of the use of this database beyond the descriptive purposes of the previous section by replicating the main exercise in Mahon (2004), which explores the link between tax reforms and several institutional and economic variables.

In table 4 we replicate table 2 from Mahon (2004). As a dependent variable, we consider the total number of reforms by country and year, which is similar to the index used in that table. A higher value of the variables means a higher number of tax reforms. The set of independent variables (sources and definitions in the appendix) include Fiscal Balance, Inflation, GDP Growth, IMF Conditionalities, (Level of) Democracy, Years in Office (of the current administration), New Administration (in office that year), Tenure of (Democratic) System, (Political) Party Age, Number of Parties (in Congress), (Political) Party Fractionalization (in Congress), Party Balance (in Congress), Majority (held by the Government in Congress), and Closed Lists (Electoral System). The last two columns of table 4 summarize the information from the regressions using a method popularized in Persson and Tabellini (2003). The coding is as follows: "–" and "+" mean that the variable is significant across specifications; "+/0" and "–/0" mean that the variable is statistically significant in most but not all of the specifications; "0/+" and "0/–" mean that the variable is only statistically significant in a few of the specifications; "0" means the variable is not significant in any specification.

The only difference between the sets of independent variables is the measure of presidential power that Mahon includes, because it comes from an older database that does not fit our coverage. Still, that variable is never significant in those regressions. In table 4, we replicate the pooled time-series structure of the data from Mahon (2004). We can see some differences in our results. There are reasons to expect differences among these sets of exercises. First, the time period has changed. In particular, Mahon (2004) covered many autocratic country-years, which our database does not, as countries had become democratic by the 1990s. The underlying political model may therefore have changed over the years. Second, we have coded more reforms. Therefore, as we have gained the ability to understand better the underlying processes for each tax and group of taxes, it is more difficult to explain the behavior of such an aggregate variable.

From a simple exploration of the results, it is easy to observe some regularities. First, the effect of inflation is more ambiguous in our sample. While in Mahon, inflation was a strong trigger for reforms, this effect is clearly not as strong for our database, which can be consistent with a period in which inflation has been much lower across the region. Second, we find that the effect of IMF conditionality on explaining the overall number of reforms has either disappeared or even been reversed. One explanation for this result is that the role of the IMF as a trigger for reforms may have changed over the years. Another explanation is the difference in coding of this variable between Mahon's data and ours. While we consider whether the country was under an IMF agreement, his coding is a little narrower by considering only those cases in which there was an explicit mention of tax reform in the agreements. Each of the options has trade-offs. While the Mahon definition is narrower it may also be more prone to reverse causality issues: only those countries that are willing and able to pass tax reforms agree to include them

Table 4 Pooled cross-country time-series results

Dependent variable: Number of reforms	(1) Mahon	(1) New	(2) Mahon	(2) New	(3) Mahon	(3) New	(4) Mahon	(4) New	(5) Mahon	(5) New	(6) Mahon	(6) New	Summary Mahon	Summary New
Fiscal Balance	0	−0.0527	0	−0.0489	0	−0.0591	−*	−0.0748	0	−0.0694	0	−0.0816	0/−	0
		(0.0434)		(0.0440)		(0.0448)		(0.0548)		(0.0581)		(0.0558)		
Inflation	+***	0.0097***	+***	0.0001	+***	−0.0010	+***	0.0009	+**	−0.0046	+**	0.0009	+	0/+
		(0.0032)		(0.0002)		(0.0007)		(0.0006)		(0.0151)		(0.0006)		
GDP Growth	0	−0.0364	0	−0.0451*	0	−0.0372	0	−0.0275	0	−0.0292	0	−0.0259	0	0/−
		(0.0249)		(0.0254)		(0.0253)		(0.0281)		(0.0286)		(0.0283)		
IMF Cond.	+***	0.0350	+***	0.0069	+***	0.0250	+***	−0.0595	0	−0.0593	+***	−0.0570	+	0
		(0.2358)		(0.2402)		(0.2393)		(0.2539)		(0.2587)		(0.2572)		
L.IMF Cond.	+***	−0.4281*	+***	−0.8490**	+***	−0.4531*	+***	−0.4647*	+*	−0.4589	+**	−0.5239**	+	−/0
		(0.2342)		(0.3530)		(0.2381)		(0.2594)		(0.2898)		(0.2568)		
Democracy	0	−0.0097	0	−0.0604	0	−0.0564	0	−0.0815	0	−0.0802	0	−0.0798	0	0
		(0.0536)		(0.0509)		(0.0511)		(0.0762)		(0.0768)		(0.0782)		
Inflation*Democracy	0	−0.0012***											0	−
		(0.0004)												
Years in Office	0	0.0315	−***	−0.0798	0	0.0133							0/−	0
		(0.0443)		(0.0743)		(0.0447)								
YrsOff*IMF			0	0.1469									0	0
				(0.0904)										
YrsOff*Inflation					0	0.0010*							0	+
						(0.0006)								
New Administration							+***	−0.2990	+*	−0.2812	0	−0.3676	+/0	0
								(0.2354)		(0.3528)		(0.3299)		
NewAdm*IMF									0	−0.0377			0	0
										(0.4895)				
NewAdm*Inflation											0	0.0048	0	0
												(0.0174)		

(continued)

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Table 4 (continued)

Tenure of System							+**	0.0019	+**	0.0020	+**	0.0017	+	0
								(0.0099)		(0.0101)		(0.0102)		
Party Age							0	−0.0005	0	−0.0002	0	0.0004	0	0
								(0.0029)		(0.0030)		(0.0028)		
Number of Parties							0	0.0440**	+**	0.0429**	+*	0.0428**	+/0	+
								(0.0172)		(0.0177)		(0.0177)		
Party Fractionalization							0	1.3592	−**	1.4531	−*	1.9063*	−/0	0/+
								(1.1032)		(1.1382)		(1.0869)		
Party Balance							−**	−0.5942	−*	−0.7065			−	0
								(0.4862)		(0.5964)				
Balance*Inflation									0	0.0056			0	0
										(0.0154)				
Maj											+*	0.2677	+	0
												(0.6606)		
Closed Lists							+**	0.4340	+*	0.4537	+**	0.4139	+	0
								(0.3721)		(0.3782)		(0.3742)		
Constant	0	1.4486***	0	2.2219***	0	1.8615***	dropped	0.9313	dropped	0.9584	dropped	−0.0425		
		(0.5086)		(0.5037)		(0.4874)		(1.1936)		(1.2148)		(1.0666)		
Observations	264	221	264	221	264	221	125	186	125	186	125	186		
R−squared		0.0941		0.0684		0.0688		0.1359		0.1367		0.1297		

Notes: Standard errors in parentheses.

The coding in the table is as follows: "−" and "+" means that the variable is significant across specifications."0/+" and "0/−" mean that the variable is only statistically significant in a few of the specifications. "0" means the variable is not significant in any specification.

***p < .01; **p < .05; *p < .1.

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as conditionalities in the agreements. A final option is that IMF conditionalities were usually narrower in focus and used to target reforms to some specific taxes and in some particular direction. If that were the case, the relevance of the IMF as a trigger of reforms would be watered down when the analysis is performed on the broad set of reforms. This is a possibility we explore next.

Third, years in which there is a new administration do not appear to be much different than any other years for having reforms, in our database. Here, again, the sample period may matter. While having a new administration may be more salient as a driver of reforms in the early years of democracy, these changes may not be as salient later on. On the one hand, in this period, a new administration may be a consequence of term limits and not of major changes in political winds or type of regime. Therefore the underlying currents for reform may be weaker. On the other hand, new administrations may arise as a consequence of economic turmoil and the resignation of incumbents (e.g., Alfonsín in 1989 and de la Rúa in 2001 in Argentina). It may be the case that new administrations use the opportunity to reform, but it may also be the case that the underlying economic problems are a proxy for the difficulties for the polity to tackle economic shocks and introduce reforms.

Finally, we do still find an effect for the number of parties (even though other political institutional variables such as the electoral system are not significant). This result can be interpreted in two nonexclusive ways. It may show the relevance of a common-pool effect as fragmentation increases, which usually translates into further tax reforms. Or higher fragmentation may mean a larger number of entry points for lobbyists and interest groups for passing particularistic reforms. Our database, because of its highly detailed coding, should be a good tool for uncovering these different mechanisms.

Table 5 uncovers many of the interesting relationships that having a more detailed definition of the dependent variables entails. We look not only at the number of reforms introduced by year, as in table 4, but also at the direction (or balance) of those reforms. We also divide the reforms according to the type of tax. On the one hand, "major taxes" includes reforms to VAT-type taxes and personal and corporate income taxes. "Minor taxes" considers the reforms to duties, excise taxes, financial transactions taxes, tax incentive mechanisms, and other minor taxes. Table 5 summarizes the results across the different specifications using the already mentioned summary strategy (the original regression tables are in the online appendix).

With a different aggregation of the data, we can uncover more nuanced relationships than before. Inflation, while relevant for explaining numbers of reforms, does not seem to explain the direction of reforms. Most probably, two effects tend to take place. High inflation reflects fiscal problems that increasing taxes may help to solve. It may also reflect that the government has trouble increasing taxes and uses the inflationary tax as a substitute. This channel becomes more apparent when evaluated in combination with the interaction between inflation and democracy, which presents a negative sign. Therefore, inflation may generate incentives for tax reforms, but these reforms may be more difficult in democracies. Democratic governments may find it easier to finance themselves with an inflation tax rather than enduring a long negotiation process in Congress.

Table 5 Summary of regression results across dependent variables

Dependent variable	Mahon	Number of reforms	Balance of reforms	Balance of major taxes reform	Balance of minor taxes reforms
Fiscal Balance	0/−	0	−/0	0	−/0
Inflation	+	0/+	0/−	0/−	0
GDP Growth	0	0/−	0	0	0
IMF Cond.	+	0	0	0	0
L.IMF Cond.	+	−/0	0	−/0	0
Democracy	0	0	0/+	0	+
Inflation × Democracy	0	−	0	0	0
Years in Office	0/−	0	0	0	0
YrsOff × IMF	0	0	0	0	0
YrsOff × Inflation	0	+	0	0	0
New Administration	+/0	0	0	0	0
NewAdm × IMF	0	0	0	0	−/0
NewAdm × Inflation	0	0	0	0	0
Tenure of System	+	0	0	0	−/0
Party Age	0	0	0	0	0
Number of Parties	+/0	+	+	+	0
Party Fractionalization	−/0	0/+	0	0	0
Party Balance	−	0	−	0	−
Balance × Inflation	0	0	0	0	0
Maj	+	0	0	0	0
Closed Lists	+	0	0	0	0

Note: The coding in the table is as follows: "−" and "+" means that the variable is significant across specifications; "0/+" and "0/−" mean that the variable is only statistically significant in a few of the specifications, with the few significant results either positively or negatively signed; "0" means the variable is not significant in any specification.

The fact that more democratic regimes seem to increase minor taxes more regularly provides another insight into the previous finding. When faced with the need to increase taxes, introducing excise taxes or the like is easier than reforming the personal income tax laws.

However, not all administrations behave in the same way. New administrations that are under an IMF program seem to reduce the burden of excise taxes and other minor taxes. Again, this policy direction has usually been advocated by the IMF in the quest to increase efficiency. New administrations may be more likely to follow that advice. Additionally, IMF conditionality seems to have an impact on major taxes, which comes from reductions in the top marginal rates of corporate and personal income taxes, again a policy usually advocated by the IMF for increasing competitiveness of the economy. The more disaggregated data help to explain the differences between Mahon's results and ours for the IMF variable. Overall, while the IMF does not seem to have been a strong force behind the full set of reforms, their impact has concentrated on some taxes, in line with the Washington Consensus literature (as described in Lora 2007).

The disaggregated data also help to uncover the mechanisms behind the role of the number of parties. The effect of number of parties on the number of reforms shows that the incentives come from the common-pool effect in which a larger number of reforms get passed, and these reforms aim at increasing total revenues.

Finally, fiscal balance becomes relevant to explain what country governments tend to do in terms of tax reform. Basically, governments enact more reforms aimed at raising taxes when fiscal balances are negative.

Summarizing, the idea of this section was to show how our database can be used not only to describe tax reforms in Latin America but also to explain how they are determined. We do not propose that the previous exercises have provided a final and definitive answer. On the contrary, we believe they should open the appetite for further research along these lines. We hope that the richness and versatility of the data will help improve on the results of previous literature and also explore new dimensions around the occurrence of reforms. The next and final section concludes by providing a preview of both current and future work that is part of our research agenda in this matter.

MOTIVATION FOR FURTHER WORK

This article has introduced a new database that is superior in various dimensions to previous attempts for understanding the effect of politics in taxation. In particular, it includes only democratic country-years. Further, it considers a larger set of taxes and disaggregates the information at a more detailed level. Finally, it codes not only the reforms and their direction but also whether they are particular or general in their impact.

Researchers can now investigate the factors favoring tax reforms that aim to increase taxes, and the factors favoring reforms that aim to increase efficiency in the tax system. This analysis can be done at the aggregate level or by looking at each tax individually. By the same token, we can ask ourselves, given that Latin American governments seem to have been pursuing an overall increase in tax pressure, what taxes have been increased and why? Factors like lobbying by interest groups, availability of natural resources, administrative capacity, or external constrains (i.e., the possibility that capital may exit a small open economy) look like some of the possible determinants to consider in this point.

In the same line of thought, another relevant issue is whether reforms tend to be broader or more particularistic, meaning whether reforms tend to affect the whole economy more or less equally (as in an across-the-board increase in income taxes or VAT) or if they seem to target particular sectors or populations (e.g., industry-specific tax incentives, taxes on cigarettes or natural resources). This is a particularly relevant subject as it can allow us to further inquire about what circumstances favor reforms that affect the efficiency and neutrality of the tax system in different ways.

The data can be also used extensively by researchers pursuing detailed country studies. Having highly disaggregated data at the tax level that include analysis of the direction of the reforms and the degree of particularism should help researchers to focus their attention on uncovering the agents and the bargaining processes that shaped those reforms (or prevented them) instead of spending their time cataloguing reforms. As has been shown in the past, country studies are a necessary complement to broader (and coarser) cross-country endeavors.

Finally, we plan to extend the database to cover OECD countries in order to compare the reforms that have been made in Latin America with those that have been made in developed countries. The goal here is to compare the type of reforms that took place and the political economic determinants at play. For example, it could be asked whether the tax systems of developed countries are as sensitive to the electoral cycle, to changes in ideology, and to economic crises as the tax systems of Latin American countries. It would also be of interest to evaluate whether the degree of harmonization between countries is similar, whether developed countries also seem to aim to raise taxes, and whether reforms in developed countries tend to be broader than or as particularistic as those in Latin American countries.

We hope this database, the preliminary empirical analysis, and the overall project it belongs to help to shed some evidence on the political economic determinants of tax reforms. More importantly, we hope it assists other researchers to build a stronger literature on politics and tax policy and to take into account politicians' incentives and windows of opportunity for passing reforms that would help increase welfare in the region.

APPENDIX: SOURCES AND DEFINITIONS

Variable	Obs.	Mean	Std. Dev.	Min	Max	Definition	Source
Number of Reforms	262	1.26	1.37	0.00	8.00	Number of Reforms	Own compilation based on PwC
Balance of Reforms	262	0.32	1.33	−3.00	5.00	It is the balance between the changes in the tax laws that attempted to increase and decrease tax revenues.	Own compilation based on PwC
Balance of Major Taxes Reforms	262	0.03	0.96	−3.00	3.00	It is the balance between the changes in the tax laws that attempted to increase and decrease tax revenues for major taxes.	Own compilation based on PwC

(continued)

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Variable	Obs	Mean	Std. Dev.	Min	Max	Definition	Some
Balance of minor taxes reforms	262	0.18	0.73	−2.00	3.00	It is the balance between the changes in the tax taws that attempted to increase and decrease tax revenues for minor taxes	Own compilation based on PwC
Fiscal balance	258	−1.83	2.22	−11.54	5.58	Fiscal balance	CEPAL
Inflation	260	87.77	546.95	−1.17	7481.66	Inflation rate	World Development indicators
GDP growth	270	3.39	3.67	−10.89	18.29	GDP growth	World Development Indicators
IMF conditionalities	270	0.56	0.50	0.00	1.00	Whether a country is under an IMF agreement or not.	Data from Dreher's (2006) coding, updated and available on-line in 2010
Democracy	269	7.54	1.79	2.00	10.00	Democratic system	Polity IV
Tenure of democratic system	256	14.83	10.71	1.00	56.00	Tenure of democratic system	Database of Political institutions
Party age	250	43.01	39.98	4.33	189.00	Party age	Database of Political Institutions
New administration	270	0.21	0.41	0.00	1.00	Year in which a new administration takes office	Database of Political Institutions
Years in office	270	3.24	2.22	1.00	12.00	Years in office of the current administration	Database of Political institutions
Number of parties	270	7.79	5.83	3.00	39.00	Number of parties in the lower house	Database of Political Institutions
Fractionalization	264	0.68	0.11	0.48	0.88	Index of Legislative Fractionalization	Database of Political Institutions
Closed lists	265	0.89	0.32	0.00	1.00	Closed lists electoral system	Database of Political Institutions
Majority	267	0.53	0.16	0.11	1.00	Share of legislative seats held by the government party	Database of Political Institutions
Balance	267	0.77	0.24	0.00	1.00	Balance of power among parties in the lower house of Congress	Own calculations

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