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What Makes Reforms Likely?
Timing and Sequencing of Structural Reforms in Latin America

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Introduction

From the mid-1980s to the mid-1990s Latin America experienced a profound economic revolution as import restrictions were lifted, financial markets liberalized and numerous state enterprises privatized. The economic effects of these types of structural reforms are widely thought to be positive, and a growing body of empirical literature for Latin America gives support to that belief (see, in particular, Fernández-Arias and Montiel, 1997; Easterly, Loayza and Montiel, 1997; and Lora and Barrera, 1997).

The wave of structural reforms in Latin America and elsewhere has also stimulated the development of a wide body of theoretical literature on the political economy of reform, i.e., the study of the political constraints that condition the timing, speed and sequencing of reforms. The leitmotif of this literature is the recognition that what is efficient in economic terms may not be politically viable, and that less than optimal policies may be maintained or adopted not as a result of shortsightedness or ignorance, but due to some form of political constraint (two useful surveys are Rodrik, 1996 and Tommasi and Velasco, 1995).

This literature has consisted mainly of case studies and theoretical models that defy systematic empirical testing. The main reason for this is the difficulty of defining, let alone measuring, the progress of structural reform.[1] The purpose of this paper is to test some of the hypotheses associated with these theoretical models, using a set of structural reform indicators recently compiled by Lora (1997) for about 20 Latin American countries for the period 1985-1995. The rest of this paper is organized as follows. Section 1 identifies the main hypotheses that can be subjected to empirical scrutiny; Section 2 organizes these hypotheses under several headings; Section 3 describes the data and sources; Section 4 discusses the econometric results, and Section 5 offers the somewhat disappointing conclusion that, although we find very strong support for some of the theoretical hypotheses, much of the wave of recent reforms in Latin America cannot be explained without either better theories or better data. The result of the paper, therefore, is to show the chasm between the richness and sophistication of the theories, on the one hand, and the paucity of the data and empirical analyses, on the other.

1. What Makes Reform Likely?

A vast number of models have been developed to explain what makes reforms likely and what determines their timing, speed and sequence. This paper concentrates largely on the first of these issues, although all are closely related. The purpose of this section is not to provide a survey of

[1] In contrast, a vast empirical literature has developed around the political economy of *macroeconomic* reform, especially in developed countries. For a review see Alesina (1994).

the theories of the political economy of reform,[2] but only to identify those theories that lend themselves to empirical testing.

The issue of timing arises because policies that are known to be grossly inefficient, such as trade restrictions or highly distortive tax systems, are kept in place for long periods in most countries, while more efficient policies are resisted. Explanations based on some form of irrationality (such as ignorance, shortsightedness or ideology) do not explain why reforms take place at a certain time and not before or after (although irrationality may be part of the story, as we will see below). The main building block of the theories that have been put forward to explain the timing of reforms is the distributional conflicts that are often aroused by (the prospect of) reform. The outcome of these conflicts is influenced by, among other factors: (a) exogenous changes (crisis), (b) the mix of policy changes proposed to the conflicting parties (compensation), (c) how uncertainty evolves as experience accumulates (contagion), and (d) the order in which the reforms will be implemented (sequencing).

Distribution of Costs and Benefits

The seminal work on this issue is Alesina and Drazen (1991; see also Alesina 1994), who have hypothesized that the more unequal the distribution of the costs of reform, and the more polarized the society is, the longer it takes to be adopted. Their argument, which was originally developed to explain why stabilizations are delayed, is that the political conflict among heterogeneous groups over how the burden of the stabilization will be allocated leads to rational delays. In this situation, one of the groups concedes only when it realizes that the cost of waiting exceeds that of the reform. For this "war of attrition" to take place, information must be distributed asymmetrically (each group must know with certainty only its own costs), and stabilization costs must be distributed unequally.

Alesina and Drazen's model suggests that, other things being equal, reforms are adopted later in countries with more political fragmentation, where small groups can use their veto power to block reform legislation. Fragmented party systems are usually considered to be a hurdle for reforms, or at least an important factor in shaping them. "Fragmentation makes coalition rule more likely, increases the difficulty of making compromises and contributes to the instability of governments–all factors that can affect government policy" (Haggard and Webb, 1994; see also Roubini and Sachs, 1989).

[2] Excellent surveys are Rodrik (1996) and Tommasi and Velasco (1995). A compact summary of the latter is provided in IDB (1996, Part 2, Boxes 1.1 to 1.3).

The war of attrition model also implies that reforms that are delayed are those for which the costs have to be allocated in the political debate (typically tax reforms), and reforms that imply changes of entitlements (labor, social security), and even privatizations. Reforms not subject to delay, on the other hand, are those for which the distributional effects are less dependent on the political debate (typically financial reform or, arguably, trade liberalization). Note that the existing income distribution, or the distributional effects of the reforms, are not the relevant issue. What is relevant is the conflict over the distribution of the burden.

Rodrik (1994) has taken a different approach to explaining the role of distributional conflict in the timing of reforms. In his view, the political cost of a reform is associated with the amount of income redistributed among different groups, while the benefit comes from the efficiency gains it produces. The ratio between costs and benefits reflects the degree of "political inefficiency" of the reform. Trade reform is politically inefficient because large amounts of income need to be reshuffled among different groups in the economy to obtain a modest efficiency gain (he suggests a ratio of around 5 to 1). Thus, trade liberalization tends to be pursued gradually, unless tied to other reforms that entail substantial efficiency gains and reduce the political cost-benefit ratio, as we will discuss below.

In democratic societies, uncertainty about the distribution of costs at the individual level may also be an obstacle to reforms that would benefit a majority of the population. In the absence of uncertainty the majority would vote in favor of the reform and it would be adopted. But if the identity of some of the losers is undefined, eventual winners would vote against it just to be safe, thereby blocking its adoption (Fernández and Rodrik, 1991).

The implication that can be drawn from all of these theories, as we discuss below, is that reforms occur during periods of crisis and are facilitated by certain compensation schemes.

Crisis

As Drazen and Grilli (1990) have demonstrated, the war of attrition models can be extended to show that exogenous shocks that aggravate economic conditions increase the cost of not adopting reforms and thus prompt a solution to the war. It follows from this type of model that the particular characteristics of each crisis may facilitate some reforms more than others. For instance, trade liberalization tends to occur during periods of severe collapse of domestic demand, which disproportionately affects the import substituting industries that usually oppose liberalization. Similarly, liberalization of the domestic financial market is facilitated by outbursts of inflation that undermine subsidized credit systems and may reduce the inflation tax revenue partly captured by the banks.

From the discussion of Rodrik´s (1994) political cost-benefit ratio, it follows that a specific reform that is unpalatable by itself may be politically acceptable if packaged with other reforms that have lower cost-benefit ratios. Macroeconomic stabilization is such a reform: "Unlike trade liberalization, it holds the promise of generating benefits that will be shared by all....Moreover, the deeper the crisis, the larger the overall net benefits from recovery" (Rodrik, 1994, p. 80). Thus trade and other structural reforms should be expected to occur in periods of crisis, bundled with macroeconomic reforms.

Compensation Schemes

It also follows from the previous theories that to make reform politically feasible in a democratic setting, it is often necessary to devise compensation schemes to ensure that a majority is better off (or at least no worse off). However, the successful compensation schemes typically are not those that include *direct* compensation for losing groups, but rather those that include complementary policies to offset the costs associated with reform and have other benefits (Haggard and Webb, 1994, Chapter 1). The reason for this is that direct compensation schemes, in the presence of individual uncertainty, may not be credible, since those who fear being hurt know that if reform is passed, a majority will favor its continuation with or without compensation (Fernández and Rodrik, 1991). In the case of trade reform, such an indirect complementary policy may be an exchange rate devaluation, which protects the import-competing sector from external competition and enhances export competitiveness (Rodrik, 1994). Table 1 presents other cases of indirect complementary policies that benefit the potential losers in each area of reform *and* may be desirable for other reasons, in particular on economic efficiency grounds. The table also includes a tentative list of the macroeconomic circumstances that may weaken the opposition to reform, prompting a solution to the war of attrition.

Contagion

A number of models have been put forward to explore the role of uncertainty in the timing of reforms. As we shall see, most of them may be extended into theories of contagion. As already mentioned, Fernández and Rodrik (1991) have shown that uncertainty about which individuals will lose as a result of reform produces a bias toward maintaining an inefficient status quo and against reform that would benefit the majority.

Milesi-Ferretti (1991) shows that reform may also be delayed if the government is uncertain about its own competence to pursue it at low cost. If the reform is implemented and the government is discovered to be incompetent, the public may choose to elect the opposition. On the other hand, if the government does not attempt the reform, nothing is learned about its

incompetence. As Alesina (1994) points out, "This model is particularly relevant for cases in which a policy reform is relatively new." Both Fernández and Rodrik and Milesi-Ferreti's models clearly suggest that previous experiences may facilitate reform by reducing individuals' uncertainty about the distribution of benefits and costs and government's uncertainty about its ability to implement a certain reform. A more direct treatment of the role of the learning process in the timing of reforms is provided by Pertkold and Tommasi (1994, cited by Tommasi and Velasco, 1995). In their view, the choice of economic policies is the result of how much Bayesian learning has taken place about the "correct" model of the world. Bad policies can remain in place for some time, but there is a gradual and cumulative spillover effect from the policy choices and outcomes of other countries. "The experience of many reforming countries (assuming a modicum of success) will hopefully be imitated by others before having to themselves experience a crisis" (Tommasi and Velasco, 1995, p. 18).

Sequencing[3]

The early literature on the sequencing of reforms, which was of a normative nature, concentrated on the order of liberalization of the trade and capital accounts, with some extensions to financial liberalization. In the recent literature on the political economy of reform, the question of order is notoriously absent. What is discussed is the degree of "bundling" or "unbundling" of a (loosely defined) set of reforms. If the reforms are complementary, unbundling is a more likely result on political economy grounds. As formally developed by Dewatripont and Roland (1994), the reason is that, at each stage in the process, people are more willing to accept less popular reforms so as not to lose the gains from previous reforms. For this proposition to be testable it is necessary to prove that the reforms are complementary, in the sense that each additional reform increases the payoff of those already undertaken. A related argument developed by Wei (1992) shows that unbundling is a divide-and-conquer strategy: a package of reforms that would have been rejected by majority voting may gain approval if submitted piecemeal, because a growing constituency may develop in those (also growing) sectors favored by the previous reforms. On the other side of the debate, Martinelli and Tommasi (1993) argue that in societies with powerful interest groups, unbundling is time inconsistent: winners of early reforms, who are hurt by later reforms, would have an incentive to derail the process. Knowing that, losers from early reforms will oppose the earlier measures. Only a complete bundling may cut through this Gordian knot. As suggested by Tommasi and Velasco (1995), these models imply a testable proposition: bundling is more likely to occur in countries with deeply ingrained distributive conflicts and

[3] This subsection draws on IDB (1996, Part 2, Box 1.2).

powerful interest groups, while unbundling is more likely in countries where the majority rule applies.

Other Factors

As we have seen, the theoretical literature on the political economy of reform sheds light on a number of (observable) factors that may influence the timing and mix of reforms. Rather surprisingly, however, that literature offers little explanation of the apparent importance of some factors (and facts) that seem to the average citizen to be the simplest reasons for reform: changes of government, international influences (apart from contagion) and capacity of the state. Based on case studies, Haggard and Webb (1994) have pointed out that the window of opportunity that opens during periods of crisis can be better exploited by newly elected governments, which "typically enjoy a period in which the costs of adjustment can be traded against political gains" (p. 8; see also Haggard and Webb, 1993). They have also found that international factors influence the reform process through a number of channels, such as the prospect of trade concessions and agreements, conditionality and "ideas" (which stem from external advisers, technocrats trained abroad, etc.). We may add to this list of foreign influences the availability of external finance. Haggard and Webb (1993), drawing on Callaghy (1989), also point out that "the prospects for policy reform also depend on characteristics of the state itself, particularly the discipline and competence of the bureaucracy" (p. 151). Although most of these hypotheses are in need of a structured theoretical foundation, we find them worth testing.

2. Hypotheses

We can now summarize the main testable hypotheses that stem from the theoretical literature (and the main authors associated with them) under five headings:

1. The role of crisis:
    a. crisis accelerates reform (Alesina and Drazen 1991, Drazen and Grilli, 1990);
    b. the characteristics of the crisis affect the composition of reform; in particular, growth deceleration may facilitate trade and tax reforms, high inflation may lead to financial reform, fiscal deficits to tax reform and privatization[4] (Alesina and Drazen, 1991, Drazen and Grilli, 1990).

[4] An additional testable hypothesis is that increasing unemployment facilitates tax reforms, privatization and labor reforms. However, it will not be tested here due to lack of comparable indicators of unemployment for a sufficient number of countries.

2. Political variables:

a. reform is adopted later in countries with more political fragmentation (Alesina and Drazen, 1991);

b. reforms for which the distributional effects are more subject to political debate are adopted later (tax, labor and pension reforms as opposed to financial or trade reforms) (Alesina and Drazen, 1991);

c. reform is more likely at the beginning of new government periods (Haggard and Webb, 1994);

d. reform is more likely in countries with more efficient state apparatus (Callaghy, 1989).

3. Compensation:

a. devaluation facilitates the adoption of trade reform (Rodrik, 1994);

b. trade reform is facilitated by the prospect of trade concessions (Haggard and Webb, 1994);

c. reforms with higher cost-benefit political ratios (trade) tend to be bundled with others with lower CBPR (stabilization and maybe financial) (Rodrik 1994);

bundling is likely if one reform offers (indirect) compensation to the losers of other;

d. reforms (Fernández and Rodrik, 1991, Haggard and Webb, 1994). In particular, financial reform may be bundled with tax reform and the latter with trade reform (see Table 1).

4. Contagion and other external factors:

a. international contagion accelerates reform (Pertkold and Tommasi, 1994);

b. external financing facilitates reform.[5]

5. Bundling:

a. if reforms are complementary (a hypothesis in itself), they are likely to be unbundled (Dewatripont and Roland, 1994);

b. structural reform is expected to be bundled with stabilization (Rodrik, 1994);

c. bundling is more likely to occur in countries with deeply ingrained distributive conflicts and powerful interest groups, while unbundling is more likely in countries where majority rule applies (Martinelli and Tommasi, 1993; Tommasi and Velasco, 1995).

[5] Better access to external financing is also a compensation device in the case of domestic financial liberalization.

3. Data

We now describe the data that make these hypotheses testable. A complete list of data sources (including those of the usual economic variables) is presented in Appendix 1.

Structural Reform

The first step in testing our hypotheses is to define and measure structural reform. In Lora (1997), we proposed an "index of structural policies" that seeks to reflect the degree of neutrality of economic policies in five areas: (i) trade policy, (ii) tax policy, (iii) financial policy, (iv) privatization, and (v) labor legislation. In each area, several policy variables are considered (see Box 1). Each policy variable is rescaled so that the worst observation for the entire panel sample (for countries and year periods) takes the value of 0 and the best takes the value of 1. An index is then constructed for each of the five areas (as a simple average of the relevant policy variables). Finally, a total index is obtained as the simple average of the indices of the five areas.

The index attempts to capture the neutrality of policies under the assumption that the primary objective of structural reform in Latin America has been to improve efficiency and not to redistribute income, protect vulnerable groups or raise public revenues, to name just a few alternative policy objectives. For an average of 19 Latin American countries, the total index shows steady improvement, from 0.35 in 1985 to 0.60 ten years later. The most outstanding advances have been in the areas of trade and financial reform (the corresponding indices approach average values of 0.9 and 0.8, respectively). Progress has been much more limited in other areas. The index of tax policy rose only from 0.40 to 0.58, despite many tax reforms in most countries. The average index of privatization reached an average level of only 0.26, with very large differences among countries. Finally, the index of labor legislation remained practically unchanged at around 0.6. Although all the countries in our sample show increases in their total policy indices, the time and pace of the reforms vary significantly from country to country.

Table 2 contains information by country on the initial and final values of the indices for the period 1985-95 and some macroeconomic outcomes before and after the period of main reform in each country.[6] Bolivia and Peru have the highest policy indices in 1995, and Venezuela and Costa Rica the worst. The deepest reformers (i.e., those with the biggest *changes* in the policy indices) are Peru, Nicaragua, Bolivia and Argentina (see Figure 1). The median country shows an improvement of 1.3 percent in its rate of GDP growth in the three-year post-reform

[6] For purposes of this table, the period of main reform is defined as the two-year period when the largest change in the total policy index took place.

period, a reduction of roughly 9 points in the inflation rate and a fiscal improvement of nearly 2 percent of GDP.

Indicators of Crisis

Growth crisis indicators used in the index are: (i) the gap between real income per capita at the beginning of the period and its previous maximum level (since 1970), and (ii) growth in the years of recession (i.e., the negative observations of that variable). Inflation crisis indicators are: (i) the log of inflation when it is higher than 30 percent, (ii) the inflation tax (defined as log(1+)*M1/GDP where p is average inflation, from monthly data) and (iii) the volatility of inflation (measured as the standard deviation in each year of the monthly variations in the CPI). Fiscal crisis is defined as the consolidated public sector balance for those years when there are deficits larger than 3 percent of GDP.

Political Variables

The next step toward applying the hypotheses concerns the definition of political and distributional variables. We use two alternative measures of "political fragmentation." One is the "number of effective parties" in the lower and upper houses of the Congress (weighted by the number of representatives in each house); the other is "governing party representation," i.e., the percentage of legislative seats held by the head of government's party in the Congress (the former come from IDB, 1997, Part 3; the latter from the Inter-Parliamentary Union, 1985 to 1996). Electoral years (also from IPU, 1985) are used to define presidential term years. As a proxy of the intensity of distributional conflicts we use two alternative indicators: (i) the Gini coefficient of income distribution by households (Londoño and Székely 1997, based largely on Deininger and Squire 1997), and (ii) the change in the previous five-year period of the former indicator. We are aware that none of the variables considered is a satisfactory indicator of the concepts used in the theoretical literature.

Contagion

To assess how other countries' policies influence the timing and speed of reforms, we use two alternative explanatory variables. One is the difference between each country's policy index and the (simple) average policy index of the region. The other is the same difference, but computed with respect to a weighted average of the policy indices of the other countries, where the weights are each country's share of bilateral trade in total trade with the other Latin American countries

(from unpublished IDB data). It is implied that we are considering contagion only at a regional level.[7]

Bundling

For any given period, unbundling is maximum when reform takes place only in one area and minimum when it takes place in all areas in equal amounts. A function that behaves in that way (within a range between 0 and 1[8]) is std(Ii)/2*avg(Ii) , i.e., the absolute value of the ratio between the standard deviation of the changes of the individual indices of reform by area and twice the average of those changes. To extend this measure of unbundling to a multi-period sample, we obtain a weighted average of this function over the (t) periods of observation, where the weights are the amounts of total reform in each period t ($w_t = I_t / I_t$).Thus, our index of unbundling becomes:

$$\frac{1}{2}\sum_t [w_t * std_t(Ii_t)/avg_t(Ii_t)].$$

We compute three versions of this index, one including the five areas of reform for the whole sample period (1985-95), a second excluding privatizations and labor legislation, and a third including the five areas but restricting the periods to the two-year periods of maximum reform in each country. Figure 2 shows the results for the first and the third of these versions.[9] With the first version, the degree of unbundling of the reforms undertaken between 1985 and 1995 goes from 0.5 in Argentina, Peru and Colombia, to between 0.8 and 0.9 in Paraguay, El Salvador, Uruguay and Bolivia. With the third version, which refers only to the two-year period of maximum reform, the degree of unbundling goes from a minimum of 0.27 in the case of Argentina (1988-90) to values above 0.8 in the cases of Mexico (1989-91), Colombia (1990-92), Chile (1984-86) and Bolivia (1993-95).[10]

Trade Agreements

The only additional variable that is not self-explanatory is "trade agreements," which has been computed in the following way: in the year when a trade agreement between country i and country j is signed, the variable for country i takes the value of the ratio between total trade of

[7] We report only regressions that use the second measure, but results are similar with the first.
[8] Provided there are no reform reversals. Indices greater than 1 obtain when policy changes in different areas take place in opposite directions.
[9] The coefficients of correlation of the three measures are 0.70, 0.19 and 0.64, where the lowest value is that between the two measures shown in the graph.
[10] In the case of Bolivia the index of unbundling takes a value higher than 1, since policy improvements were concentrated in one area (privatizations), while there was slippage in another area (tax reform).

country i with country j and total external trade of country i. (Trade agreement years were taken from *Latin Trade,* June 1997, and trade values from IDB, unpublished data).

4. Econometric Results

A summary of regression results appears from Table 3 onwards. Tables 3 through 8 contain the regressions for the total policy index each of the five policy areas, respectively. (Table 9 reports the regressions for our alternative measures of bundling, to which we will briefly refer at the end of this section). The estimations are panel regressions for 19 countries and a sample period from 1985 to 1995. In general, we use annual data. However, since the original data used for the construction of the trade index referred only to the years 1986, 1988, 1990, 1992, 1994 and 1995, the regressions for trade reform are restricted to these periods (henceforth "bi-annual" sample period). Since the trade index is part of the total index, we have run the regressions for the latter with both the annual and the bi-annual period samples. In all regressions the dependent variable is the absolute change in the corresponding structural policy index (thus losing the first observation for each country). The independent variables include the lagged *level* of the structural policy index, which is required by the fact that the indices are bounded variables (with values between 0 and 1). The corresponding coefficient (which, in most instances, will have a negative sign) can be interpreted as the speed of (conditional) convergence of structural policy among countries. A constant is also included in all regressions, its value (usually positive) capturing the exogenous rate of change of the policy index. Since some of the explanatory variables are time invariant (e.g., state efficiency) or show most of their variation across countries (e.g., the number of effective parties or the variable "governing party representation") rather than across time, the estimation technique we have chosen is that of random effects (or generalized least squares), although this would not preclude the use of fixed effects. Our main results can now be summarized.

Crisis

Consistently, crisis appears as a significant explanatory variable of total structural reform and its components. For the total index, the best proxy of crisis is the gap in income per capita (with respect to its previous peak). The coefficient, which is robust to the inclusion of all other explanatory variables, indicates that a gap of 10 percent in income per capita leads to an *annual* increase in the total index of between 0.005 and 0.008 (or a bi-annual increase of between 0.007 and around 0.01). Although highly significant in statistical terms, this is a very small effect indeed (remember that the average increase in the total index between 1985 and 1995 was 0.25).

For trade reform the best proxy of crisis is the rate of decline of GDP. A fall of 1 percent in GDP is associated with a (bi-annual) improvement of around 0.01 in the index of trade policy, also a small effect. Financial reforms seem to be part of the aftermath of inflationary periods. When inflation is higher than 30 percent there is a greater chance of improving financial policies, although inflation of 100 percent is associated with an (annual) improvement of only 0.02 points in the financial index. But the *level* of inflation is not the only reason why inflationary periods are good for financial reforms. A high *volatility* of inflation (and, to a much lesser extent, low inflation tax revenues) is also associated with financial reforms. Finally, we have also found evidence that labor reforms tend to occur in moments of crisis. In this case, the best proxy for crisis is reduction in GDP: a fall of 1 percent is associated with an annual increase of around 0.002 in the index of labor policies. Privatizations and tax reforms are the two only types of reforms that do not seem to be facilitated by crises, not even by fiscal crises (the results reported use the variable "deficits larger than 3 percent of GDP" as a measure of fiscal crisis, but this result holds for alternative definitions).

In synthesis, trade and labor reforms are clearly associated with falls in growth and income, while financial reforms are associated with inflation and price volatility. In the total index, which combines the five types of reforms, the effect that prevails is that of growth and income. The causality tests reported in Appendix 3 show that, although causality runs both ways, the causality from alternative measures of growth and income to reform is much stronger than causality from reform to these same variables (obviously, with opposite signs, since falls in income cause increases in the policy index, while these increases accelerate income). There is also a similar two-way causality between inflation and reform, but not between fiscal deficits and reform.

Political Variables

The timing and composition of reforms do not appear to be strongly influenced by the political variables highlighted in the theoretical literature. Neither the number of effective parties, nor governing party representation, which are proxies of political fragmentation, has explanatory power in the regressions. The only possible exception is the case of labor reforms, which are associated with *lower* governing party representation, contradicting the theoretical prediction. Although less discussed in the literature, changes of government may be more important than the previous political variables. The total index increases around 2 percentage points in the second year of a presidential term and that of financial reforms increases 5 points. Financial reforms seem to rank high on the list of priorities of newly elected presidents. Finally, there is no support for the assumptions that more efficient state apparatus either facilitate or retard reform.

Contagion and Capital Flows

Although these two channels of influence are strongly correlated, our estimates give better support to the hypothesis that capital flows to Latin America (as opposed to country-specific capital flows) have been a decisive factor in the reform process. An increase of capital flows by 1 percent of the region's GDP appears to be associated with an improvement of between 1 and 2 percent in the total index of structural policies of each country. Except for labor, all other areas of reform are facilitated by capital flows to the region. The coefficients are high and robust, except in some instances to the inclusion of contagion in the regressions. Interestingly, (lagged) country-specific capital flows do not show a significant influence on reforms, except in the case of privatizations. The causality tests reported in Appendix 3 suggest, however, that when an appropriate number of lags is considered, the reforms have caused capital flows to the region (although, surprisingly, not to the individual countries).

Compensation

The evidence on the importance of compensating the opponents of reform is somewhat mixed. If anything, real devaluations retard rather than facilitate trade reforms. The prospect of trade pacts does not have any significant influence on the timing of trade reforms, nor do tax or trade reforms have any influence on financial reforms. The only interaction between reforms that we were able to establish was one going from the *level* of trade policies to the *change* in tax policies, which implies that a country that has low tariffs tends to speed up its tax reform. This may be due partly to the political economy reasons mentioned above (see Table 1), and partly to the fact that tax distortions become more problematic in open economies.

Exogenous Changes

The convergence and the constant terms of the regressions are highly significant (except in the case of labor reform) and present large coefficients in some instances (especially in the regressions for the total and the trade indices). The average estimations are as follows:

Reform area:	Convergence	Constant
Total (annual)	-0.09	0.05
Total (bi-annual)	-0.20	0.13
Trade (bi-annual)	-0.33	0.31
Financial (annual)	-0.19	0.07
Tax (annual)	-0.12	0.07
Privatization (annual)	0.09	0.02
Labor (annual)	-0.00	0.00

Although extremely scanty, this evidence favors the hypothesis according to which those areas of reform where the distributional conflicts are more subject to political debate are adopted later. In a more robust way, however, it also implies that, after controlling for the main factors suggested by theory, a large proportion of the changes observed in the structural policies are either trends common among the countries or simply unexplained variations. The low R-squared values of the regressions point in the same direction. Only in the case of trade reforms do we get R-squared values around 0.5; in the rest of the estimations they are usually below 0.2. In other words, although we do find evidence to support some of the hypotheses put forward by the theoretical literature on the political economy of reform, only a small fraction of the timing and speed of the reforms undertaken in Latin America in the last decade is explained by them.

Bundling

The regressions that attempt to explain the degree of bundling of reforms are reported in Table 9. Unlike the previous regressions, these are cross-section regressions, as the time dimension of the reforms is embedded in the alternative measures of bundling. We have been unable to find any evidence in support of the hypotheses that either the distributional conflicts or the political variables influence the degree of bundling of the reforms. In the regressions that use the third version of unbundling, i.e., those for the two-year period of maximum reform, the initial level of the total policy index is consistently significant, while the rest of explanatory variables are not.[11] This suggests that the degree of bundling (during a relatively short period) is influenced not so much by political or distributional variables as the status of the structural policies. Thus, the conclusions of the previous paragraph apply equally well to the question of bundling. We must

[11] The initial level of the policy index is not significant in the other definitions of bundling, which take the whole ten-year period.

stress, however, that our indicators of distributional conflict are extremely rudimentary and do not do justice to the theoretical models, and that the degrees of freedom in this last set of regressions are rather small.

5. Conclusion

The theories on the political economy of reform have put forward an array of hypotheses that are, at least partially, subject to empirical scrutiny. We have found very strong support for the well-known hypothesis that crises make reform viable. More specifically, we have found that crises that are characterized by falls in real incomes and by negative rates of growth facilitate the adoption of trade reforms (and maybe labor reforms), while inflationary crises tend to be associated with financial reforms. Nothing can be said on the influence of fiscal crises, or on the type of crises that could prompt the adoption of tax reforms or the advance of privatization programs.

We have also found support for the (less theoretically sound) hypothesis that reforms (especially financial ones) are more likely at the beginning of government periods, and also for the common belief that capital flows to Latin America as a whole (not to the individual countries) have been a major engine of reform. None of the other hypotheses on the role of political and distributional variables, the importance of compensation schemes or contagion, finds support in our results. At most, there is some evidence suggesting that tax reforms are more likely in countries with open trade regimes and, perhaps, that reforms where the distributional costs are subject to political debate tend to be adopted later. But, rather disappointingly, most of the important reforms that have turned around the structural policies of Latin America seem to have responded to a process of convergence and to exogenous rates of change that are yet to be explained.

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APPENDIX 1
DATA SOURCES

Bundling indices: computed with the indices of structural policy (Lora 1997) using the definitions explained in the text.
Capital flows: data from the Economic and Social Data Base of the IDB (ESDB), based on IMF data.
Contagion: computed with the definition explained in the text with data of the structural policy indices (Lora 1997) and trade values furnished by IDB (unpublished data).
Effective number of parties: is defined as $1/ Sj^2$ where Si is the proportion of representatives party j has in the lower/single house, computed with data taken from IPU (1985 to 1996).
Fiscal deficits: ESDB based on IMF and national data. See IBD (1997), Part 4.
GDP growth: ESDB based on national data.
Gini coefficients: Londoño and Székely (1997), based largely on Deninger and Squire (1997).
Governing party representation: the percentage of legislative seats held by the head of government's party in the lower/single house, computed with data taken from IPU (1985 to 1996).
Index of structural policies: Lora (1997), reported also in IDB (1997), Part 2.
Inflation: defined as Log(1+) where p is average inflation (from monthly data), based on data from ESDB.
Inflation tax: defined as Log(1+)*M1/GDP where p is average inflation (from monthly data) and M1/GDP is the standard liquidity ratio, computed by ESDB.
Per capita income gap: log difference between real income per capita of the previous year and the highest value of this same variable observed between 1970 and that year. Based on ESDB.
Real devaluation: change in the real exchange rate index computed by ESDB (1990=100) using a trade-weighted basket of currencies for each country.
State efficiency: simple average of indices, on a scale from 0 to 1, which measure corruption, bureaucratic procedures and efficiency of the judiciary, taken from Mauro (1995).
Terms of trade change: change in the indices of terms of trade (1990=100) computed by ESDB, based mainly on ECLAC.
Trade pacts and their years of subscription come from *Latin Trade*, June 1997.
Volatility of inflation: average of the variance of monthly inflation rates, computed from the IMF electronic database.

APPENDIX 2
TABLES, BOX AND FIGURES CITED IN TEXT

Table 1. Major Opponents to Reform and Possible Indirect Compensation

	Major opponents	Debilitating factors	Possible compensation
Trade reform	Import-competing firms (and their workers)	Domestic demand recession	Devaluation; trade agreements
Domestic financial reform	Big firms, targeted credit users and large (especially state-owned) banks	High inflation; reduced inflation tax	Reduce marginal income tax rates; better access to external credit
Tax reform	Medium to large firms, middle-class workers	Recession; fall in real wages; unemployment	Better access to credit and imported goods
Privatization	Workers of state-owned firms	Fiscal deficits; falling wages	Access to ownership and credit
Labor reform	Wage earners	Fall in real wages; unemployment	Better access to social security; freedom to unionize

Table 2

Structural Reforms and Macroeconomic Performance

	Total structural index		Years of major reform	Fiscal deficit		GDP growth		
	1985	1995		Pre-reform	Post-reform	Pre-reform	Post-reform	
Argentina	0.367	0.679	1988-1990	-1.56%	-0.39%	-1.84%	7.86%	
Bolivia	0.343	0.721	1993-1995	-2.43%		3.51%		
Brazil	0.348	0.584	1987-1989	-13.53%	-3.40%	3.65%	-1.66%	
Chile	0.489	0.628	1984-1986	-2.29%	0.68%	1.98%	7.93%	
Colombia	0.443	0.590	1990-1992	1.53%	-0.50%	3.22%	5.39%	
Costa Rica	0.309	0.512	1986-1988	-2.88%	-2.20%	3.68%	3.82%	
Dominican Rep.	0.361	0.638	1989-1991	0.22%	0.87%	0.37%	5.12%	
Ecuador	0.325	0.580	1990-1992	1.73%	0.37%	2.77%	2.91%	
El Salvador	0.386	0.671	1988-1990	-0.85%	-2.59%	1.79%	6.16%	
Guatemala	0.309	0.596	1989-1991	-1.92%	-0.78%	3.65%	4.25%	
Honduras	0.402	0.548	1990-1992	-2.00%	0.70%	2.56%	2.80%	
Jamaica	0.426	0.684	1985-1987	-2.87%	-0.07%	-1.50%	5.05%	
Mexico	0.328	0.563	1989-1991	-5.86%	0.37%	3.03%	2.63%	
Nicaragua	0.216	0.643	1991-1993	-40.70%	-2.72%	0.08%	3.76%	
Paraguay	0.336	0.625	1988-1990	1.02%	0.60%	5.50%	2.79%	
Peru	0.232	0.712	1989-1991	-4.38%	0.05%	-8.47%	6.02%	
Trinidad and Tobago	0.425	0.715	1988-1990	-5.14%	-1.40%	-3.12%	-0.13%	
Uruguay	0.486	0.577	1991-1993	0.63%	-2.11%	3.99%	2.16%	
Venezuela	0.304	0.457	1987-1989	-3.78%	0.54%	5.67%	7.56%	
Average/a	0.360	0.617	1988-1991 b/	-4.59%	-0.66%	1.50%	4.14%	
Median/a	0.348	0.625		-2.14%	-0.23%	2.66%	4.04%	
Standard Deviation/a	0.072	0.069		9.41%	1.35%	3.38%	2.52%	

a/ Does not include Bolivia for macroeconomic performance variables

b/ During this years, 8 countries undertook their major reforms

Table 3
Regression Results: All Reforms

Regression Results
Method of estimation: generalized least squares
Periods: Annual from 1985 to 1995, bi-annual: 1986,1988,1990,1992,1994 and 1995
Dependent Variable: Structural Policy Index, Total (in Change)

Regression #	1		2		3		4		5		6		7		8	
Independent Variable	annual	bi-annual	annual	bi-annual	annual	bi-annual	annual	bi-annual	annual	bi-annual	annual	bi-annual	annual	bi-annual	annual	bi-annual
Controls																
Lagged policy index (in level)	-0.073	-0.018	-0.079	-0.188	-0.071	-0.166	-0.066	-0.186	-0.079	-0.180	-0.116	-0.133	-0.131	-0.298	-0.074	-0.168
	(-2.78)	(-3.78)	(-2.95)	(-3.84)	(-2.66)	(-3.33)	(-2.55)	(-3.84)	(-2.41)	(-3.00)	(-2.89)	(-1.57)	(-4.19)	(-5.59)	(-2.88)	(-3.60)
Constant	0.056	0.129	0.067	0.143	0.057	0.123	0.048	0.128	0.043	0.116	0.026	0.103	0.064	0.145	0.064	0.124
	(4.29)	(5.21)	(4.18)	(4.82)	(4.09)	(4.96)	(3.64)	(5.04)	(2.24)	(3.46)	(1.26)	(2.52)	(4.91)	(5.93)	(4.05)	(5.13)
Crisis																
Income per-capita gap (maximum observed)	0.054	0.080	0.049	0.073	0.054	0.078	0.060	0.083	0.065	0.077	0.061	0.071	0.056	0.084	0.053	0.096
	(2.87)	(2.74)	(2.55)	(2.46)	(2.81)	(2.77)	(3.22)	(2.78)	(2.83)	(2.31)	(2.41)	(2.00)	(3.07)	(2.64)	(2.31)	(3.17)

Table 3, continued

Political Variables								
# of effective parties		-0.002	-0.003					
		(-1.14)	(-0.89)					
Government's party representation			-0.002	0.000				
			(-0.16)	(-0.00)				
Second year of presidential term				0.021	0.019			
				(2.65)	(1.25)			
State efficiency					0.019	0.018		
					(0.83)	(0.46)		
Contagion and other External Conditions								
Contagion						0.101	0.081	
						(1.81)	(0.79)	

Table 3, continued

Capital flows to Latin America														0.735	1.398	
														(3.21)	(3.58)	
Capital flows by country, lagged															0.022	-0.075
															(0.48)	(-1.23)
Statistics of regressions																
R2	0.07	0.18	0.07	0.18	0.07	0.16	0.10	0.19	0.07	0.15	0.10	0.18	0.12	0.29	0.05	0.17
Durbin-Watson	2.05	2.01	2.04	1.98	2.05	1.96	2.07	1.98	1.97	1.73	2.14	1.94	2.04	2.03	2.10	1.95
# of observations	175	91	175	91	174	90	175	91	117	62	136	70	175	91	175	91

Table 4
Regression Results: Trade Reforms

Regression Results

Method of estimation: generalized least squares

Periods: bi-annual, 1986,1988,1990,1992,1994 and 1995

Dependent Variable Structural policy index, TRADE (in change)

Independent Variable															
Regression #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Controls															
Lagged policy index (in level)	-0.331	-0.376	-0.343	-0.334	-0.330	-0.314	-0.349	-0.330	-0.335	-0.310	-0.321	-0.276	-0.388	-0.311	-0.
	(-6.53)	(-9.01)	(-6.57)	(-6.98)	(-6.34)	(-4.93)	(-6.76)	(-6.42)	(-6.48)	(-5.24)	(-6.52)	(-3.96)	(-6.96)	(-6.12)	(-6
Constant	0.310	0.356	0.334	0.290	0.310	0.298	0.336	0.310	0.311	0.298	0.310	0.283	0.308	0.301	0.3
	(7.39)	(10.84)	(6.57)	(6.77)	(7.30)	(5.24)	(7.71)	(7.30)	(7.29)	(6.25)	(7.50)	(5.57)	(7.33)	(7.26)	(7.
Crisis															
Income per-capital gap (maximum-observed)		0.032										-0.023			
		(0.82)										(-0.65)			
GDP growth (in recession)	-1.209		-1.125	-1.076	-1.213	-1.239	-1.243	-1.255	-1.249	-1.288	-1.228		-1.247	-1.303	-1.
	(-2.67)		(-2.47)	(-2.45)	(-2.66)	(-2.37)	(-2.78)	(-2.72)	(-2.74)	(-2.49)	(-2.73)		(-2.80)	(-2.86)	(-2
Political Variables															
Number of effective parties			-0.004												
			(-0.81)												

Table 4, continued

Govern-ment's party represen-tation				0.050										
				(1.27)										
Second year of presiden-tial term					-0.003									
					(-0.12)									
State efficiency						-0.008								
						(-0.12)								
Compen-sation Real devalua-tion (positive values)							-0.334							
							(-2.43)							
Real devalua-tion, lagged (positive values)								-0.155						
								(-0.43)						
Trade pacts									-0.019					
									(-0.09)					
Trade pacts (lead one period)										0.130				
										(0.70)				
Stabiliza-tion (reduction of inflation, lagged, log)											-0.053			
											(-1.32)			

Table 4, continued

Contagion and other External Conditions															
Contagion												0.037			
												(0.56)			
Capital flows to Latin America													1.537		
													(2.40)		
Capital flows by country, lagged														-0.147	
														(-1.50)	
Financial index (change)															
Terms of trade change (%)															0.2
															(0.
Statistics of regressions															
R2	0.48	0.46	0.48	0.48	0.47	0.44	0.51	0.47	0.47	0.43	0.48	0.49	0.50	0.48	0.4
Durbin-Watson	1.86	1.92	1.83	1.77	1.86	1.88	1.85	1.86	1.86	1.96	1.87	2.01	1.85	1.91	1.8
# of observations	87	91	87	87	87	62	87	87	87	68	87	70	87	85	85

Table 5
Regression Results: Financial Reforms

Regression Results
Method of estimation: generalized least squares
Period: Annual from 1985 to 1995

Dependent Variable: Structural policy index, FINANCIAL (in change)

Independent Variable Regression #	1	2	3	4	5	6	7	8	9	10	11	
Controls												
Lagged policy index (in level)	-0.153	-0.148	-0.246	-0.246	-0.280	-0.122	-0.240	-0.259	-0.124	-0.129	-0.127	-
	(-4.89)	(-4.76)	(-5.58)	(-5.51)	(-5.97)	(-4.25)	(-5.38)	(-5.62)	(-4.30)	(-4.56)	(-4.48)	(
Constant	0.064	0.057	0.076	0.081	0.080	0.048	0.078	0.080	0.063	0.080	0.055	(
	(3.28)	(2.88)	(3.03)	(3.19)	(2.99)	(2.51)	(3.10)	(3.20)	(2.10)	(2.87)	(1.40)	(
Crisis												
Inflation (higher than 30%, only), lagged	0.018	0.017	0.028		0.028	-0.001	0.005		0.016	0.020	0.017	(
	(1.95)	(1.84)	(2.45)		(2.35)	(-0.07)	(0.30)		(1.87)	(2.32)	(2.01)	(
Inflation tax			-0.008	-0.002	-0.012		-0.009	-0.009				
			(-1.77)	(-0.53)	(-2.42)		(-2.00)	(-2.23)				
Volatility of inflation, lagged						0.448	0.549	0.606				
						(1.62)	(1.78)	(3.09)				

Table 5, continued

Political variables												
Number of effective parties										-0.006		
										(-1.23)		
Govern-ment's party represen-tation									-0.023			
									(-0.54)			
Second year of president-ial term		0.047	0.054	0.059	0.055				0.047	0.049	0.048	(
		(2.11)	(2.06)	(2.18)	(2.08)				(2.10)	(2.22)	(2.17)	(
State efficiency												
Compens ation												
Index of tax (change)												-
												(
Index of trade (change)												
Contagion and other External Condi-tions												
Contagion											-0.012	
											(-0.15)	

Table 5, continued

Capital flows to Latin America	1.629	1.559	2.810	2.820	2.896	1.545	2.955	3.108	1.370	1.384	1.487	1
	(3.10)	(2.98)	(3.83)	(3.79)	(3.92)	(2.95)	(4.01)	(4.23)	(2.59)	(2.63)	(2.17)	(
Capital flows by country, lagged					0.250 (1.74)							
Statistics of regres-sions												
R2	0.11	0.11	0.18	0.16	0.20	0.10	0.18	0.19	0.11	0.11	0.10	(
Durbin-Watson	2.35	2.35	2.31	2.25	2.31	2.31	2.27	2.27	2.35	2.35	2.34	2
Number of observa-tions	260	260	180	180	179	260	180	180	260	260	260	2

Table 6
Regression Results: Tax Reforms

Regression Results
Method of estimation: generalized least squares
Period: Annual from 1985 to 1995
Dependent variable **Structural policy index, TAX (in change)**

Independent variable Regression #	1	2	3	4	5	6	7	8	9	
Controls										
Lagged policy index (in level)	-0.101	-0.098	-0.101	-0.101	-0.101	-0.198	-0.183	-0.150	-0.080	-0.108
	(-4.91)	(-4.54)	(-4.89)	(-4.93)	(-4.92)	(-5.37)	(-5.93)	(-4.85)	(-3.97)	(-5.22)
Constant	0.067	0.066	0.069	0.056	0.067	0.122	0.070	0.091	0.039	0.059
	(6.33)	(5.72)	(5.05)	(3.79)	(6.24)	(5.33)	(3.82)	(5.51)	(1.95)	(5.30)
Crisis										
Deficit (higher than 3%, only)		0.032								
		(0.55)								
Political Variables										
Number of effective parties			0.000							
			(-0.22)							
Govern-ment's party representa-tion				0.021						
				(1.09)						
Second year of presidential term					0.005					
					(0.52)					

Table 6, continued

State efficiency						-0.021				
						(-0.75)				
Compensa-tion										
Index of trade (level)							0.049			
							(2.23)			
Index of trade (change)								0.031		
								(0.67)		
Contagion and other External Conditions										
Contagion									0.035	
									(0.80)	
Capital flows to Latin America										0.432
										(2.04)
Capital flows by country, lagged										
Statistics of regressions										
R2	0.08	0.08	0.08	0.08	0.08	0.17	0.15	0.12	0.05	0.09
Durbin-Watson	1.82	1.94	1.82	1.83	1.83	1.61	1.87	1.89	1.92	1.85
Number of observations	250	209	250	250	250	140	181	175	240	250

Table 7
Regression Results: Privatization Reforms

Regression Results
Method of estimation: generalized least squares
Period: Annual from 1985 to 1995
Dependent variable **Structural policy index, PRIVATIZATION (in change)**

Independent variable Regression #	1	2	3	4	5	6	7	
Controls								
Lagged policy index (in level)	0.106	0.100	0.104	0.111	0.114	0.140	0.053	0.091
	(4.04)	(3.54)	(3.96)	(4.24)	(4.36)	(4.90)	(1.69)	(3.33)
Constant	0.021	0.017	0.032	0.021	0.018	0.008	0.009	0.005
	(4.17)	(3.03)	(5.96)	(1.49)	(3.43)	(0.58)	(1.51)	(0.69)
Crisis								
Deficit (higher than 3%, only), lagged		-0.033						
		(-0.74)						
Political Variables								
Number of effective parties			-0.003					
			(-1.20)					
Government's party representation				-0.001				
				(-0.05)				
Second year of presidential term					0.012			
					(0.99)			
State efficiency						0.018		
						(0.80)		

Table 7, continued

Contagion and other External Conditions								
Contagion							0.142	
							(3.06)	
Capital flows to Latin America								0.621
								(2.10)
Capital flows by country, lagged								
Statistics of regressions								
R2	0.05	0.04	0.06	0.05	0.06	0.13	0.08	0.07
Durbin-Watson	1.79	1.86	1.77	1.78	1.77	1.39	1.73	1.79
Number of observations	260	215	260	260	260	150	260	260

Table 8
Regression Results: Labor Reforms

Regression Results
Method of estimation: generalized least squares
Period: Annual from 1985 to 1995
Dependent variable **Structural policy index, LABOR (in change)**

Independent variable Regression #	1	2	3	3	4	5	6	
Controls								
Lagged policy index (in level)	-0.005	-0.005	-0.007	-0.006	0.003	-0.003	-0.004	-
	(-0.79)	(-0.86)	(-0.99)	(-0.95)	(0.46)	(-0.49)	(-0.37)	(
Constant	0.005	0.004	0.002	-0.007	0.009	0.003	-0.001	(
	(1.06)	(0.92)	(0.53)	(-0.66)	(1.92)	(0.53)	(-0.07)	(
Crisis								
Income per-capita gap (maximum-observed)		0.005						
		(0.63)						
GDP growth (in recession), lagged			-0.164					
			(-3.32)					

Table 8, continued

Political Variables								
Number of effective parties				0.000				
				(-0.66)				
Government's party representation					-0.020			
					(-2.31)			
Second year of presidential term						0.007		
						(1.81)		
State efficiency							-0.009	
							(-0.81)	
Contagion and other External Conditions								
Contagion								
Statistics of regressions								
R2	0.00	0.00	0.04	0.00	0.01	0.01	0.00	
Durbin-Watson	2.00	2.00	2.06	2.00	2.06	2.02	1.99	
Number of observations	260	260	230	260	260	260	150	

Table 9
Regression Results: Bundling

Regression results
Method of estimation: ordinary least squares
Cross Section

Depen-dent Variable	**Bundling 1:** **full period, five areas**				**Bundling2:** **full period, tax, trade and financial**				**Bundling3:** **change in two years of reform, five areas**				
Indepen-dent Variable Regres-sion #	1	2	3	4	1	2	3	4	1	2	3	4	
Controls													
Constant	0.365	0.750	0.914	0.620	0.526	0.682	0.833	0.677	0.745	0.662	0.681	0.700	-0.464
	(0.54)	(7.06)	(4.34)	(4.35)	(2.13)	(19.75)	(8.49)	(9.76)	(1.45)	(10.48)	(3.61)	(5.38)	(-0.89)
Initial index of reform													2.017
													(3.29)
GINI85	0.008				0.003				-0.001				0.002
	(0.60)				(0.72)				(-0.07)				(0.27)
Change in GINI 1985-1989		-0.014				-0.001				0.002			
		(-0.52)				(-0.09)				(0.14)			

Table 9, continued

Political Variables													
Government's party representation			-0.304 (-0.72)				-0.229 (-1.17)				-0.004 (-0.01)		
Number of effective parties				0.045 (1.14)				0.013 (0.71)				-0.006 (-0.17)	
Statistics of regressions													
R2	-0.05	-0.07	-0.02	0.01	-0.04	-0.11	0.02	-0.02	-0.09	-0.10	-0.05	-0.05	0.42
Durbin-Watson	1.81	1.95	1.90	1.93	1.55	1.87	1.97	2.07	2.13	2.27	2.76	2.71	2.61
Number of observations	13	11	19	19	13	11	19	19	13	11	19	19	13

Box 1. The structural policy index

The index seeks to measure the market freedom allowed by economic policies in five areas: trade, tax, finance, privatization and labor. All the variables considered by the index (usually there is more than one policy variable in each of the areas) can vary over a range of from 0 to 1, based on the worst and best observation of this variable in the entire sample of countries and years. Similar methodologies for construction of indices (of policies and other variables) have been used recently by Thomas and Wang (1995) and by Hall and Jones (1996), among others. The total structural policy index is the simple average of the indices in the five areas, which in turn are the simple average of the indices for the policy variables considered.

The policy variables that have been considered in each of the areas are as follows (for greater detail see Appendix 1):

Trade policy: The two indicators used in this area are (i) average tariffs (including surcharges) and (ii) the tariff spread. For lack of information, the index does not consider, as would be desirable, the restrictions placed on international trade through permits and quotas. The information on exchange rate differentials cited in the text is not sufficient for measuring non-tariff and exchange rate restrictions because it is an outcome, not a policy, variable, which is closely connected to macroeconomic imbalances and external shocks.

Tax policy: This area combines the following policy indicators (i) maximum marginal income tax rate on corporations, (ii) maximum marginal income tax rate on individuals, (iii) basic value-added tax rate, and, for countries on which information is available, (iv) productivity of value-added tax (defined as the ratio between the basic rate and actual collection expressed as a percentage of GDP). We have chosen the maximum instead of the average marginal tax rates because the former are those that influence labor and investment decisions. We take into account the productivity rate of the VAT because that indicates how far the real indirect taxation system deviates from the principle of neutrality among economic activities.

Financial policy: This area combines four indicators: (i) freedom of interest rates on deposits (on a discrete scale going from 0 to 2), (ii) freedom of interest rates on loans (idem), (iii) real level of reserves of bank deposits, and (iv) quality of banking and finance oversight (on a discrete and subjective scale, from 0 to 2).

Privatization: In this area the only indicator used is the effort at privatization measured as the sums accumulated from privatization since 1988, including sales and other property transfers, as a proportion of average public investment between 1985 and 1987. We take the *cumulative* privatization and not the flow, because we are interested in measuring how great is the field opened to private enterprise, just as, for example in the tariff areas it is the levels that are taken, not the changes. The ideal measure would be the percentage of a country's physical assets that are owned and operated by the private sector, but that information is not available. Hence we take privatizations in relation to public investment in previous years, since presumably this variable is related to the capital stock held by the public sector when the process began.

Labor legislation: In this area the flexibility of legislation is considered in five respects, each of which is qualified with objective criteria on a discrete 0 to 2 scale: (i) hiring, (ii) costs of dismissal after one year of work, (iii) costs of dismissal after ten years of work, (iv) overtime pay, and (v) social security contributions.

Figure 1

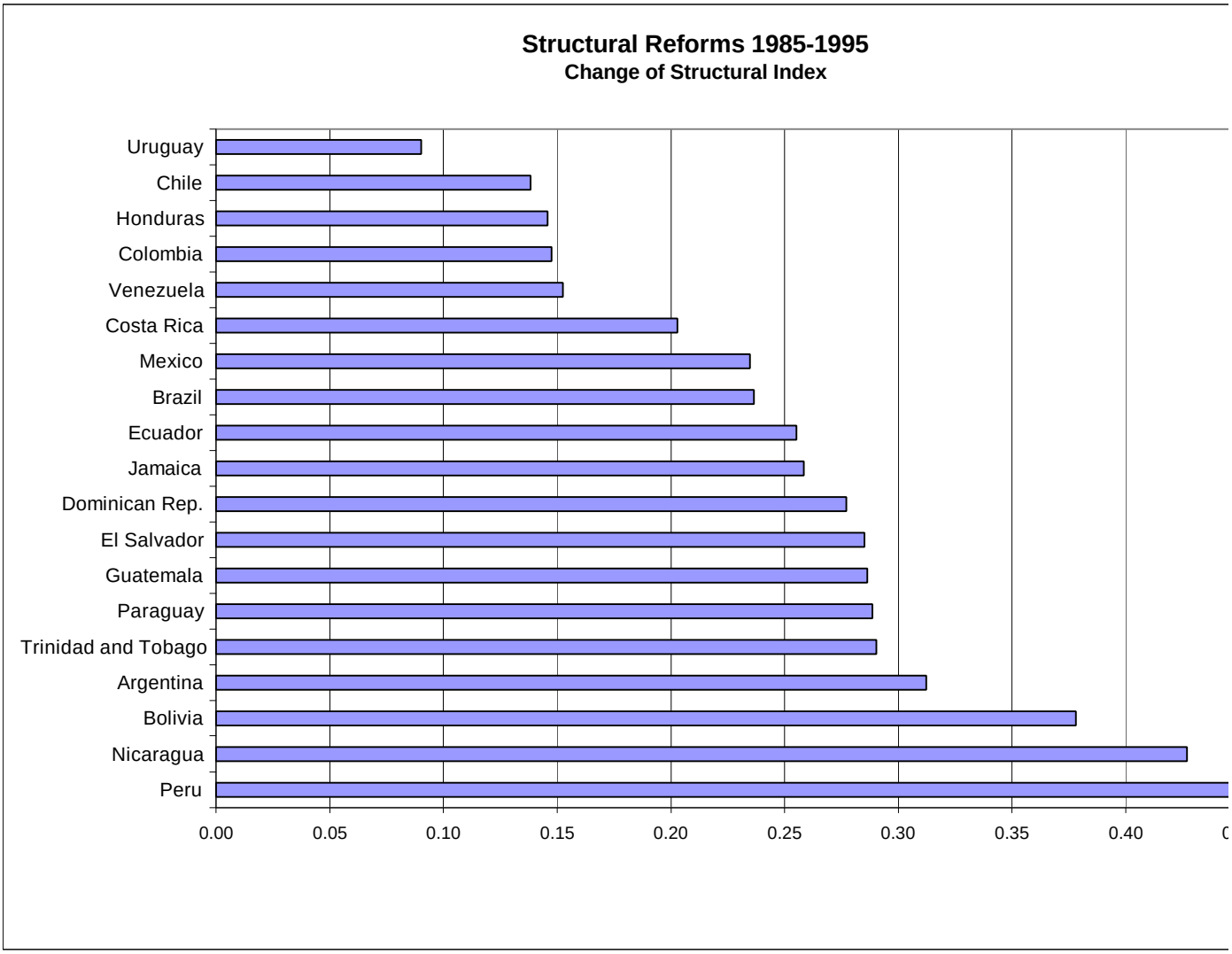
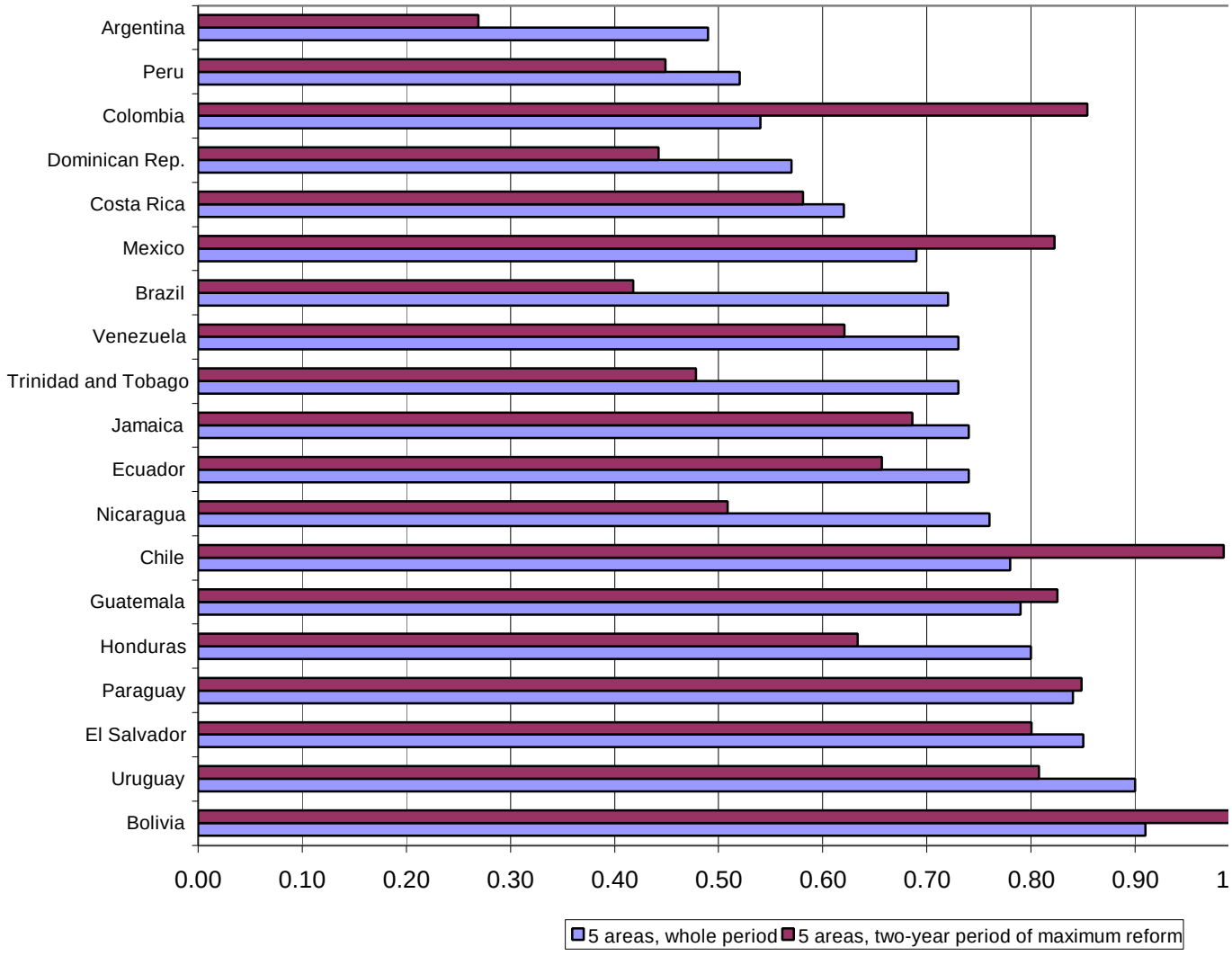

Structural Reforms 1985-1995
Change of Structural Index
Uruguay
Chile
Honduras
Colombia
Venezuela
Costa Rica
Mexico
Brazil
Ecuador
Jamaica
Dominican Rep.
El Salvador
Guatemala
Paraguay
Trinidad and Tobago
Argentina
Bolivia
Nicaragua
Peru
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.40

Figure 2
Degree of Unbundling of the Structural Reforms Carried out Between 1985



Appendix 3
Causality Between Macrovariables and Structural Refor

	Granger - Causality Test (2 lags)		
	Macrovariables to reform		Ref
	Coefficient	Significance level	Coeff
GDP Growth			
level of index	-0.33971	0.11%	
change of index	-0.37979	0.07%	
GDP gap w.r.t long term trend (trend-observed,when positive)			
level of index	0.60917	0.07%	
change of index	0.77387	0.01%	
Income per-capita gap (maximum-observed)			
level of index	0.04945	0.22%	
change of index	0.05254	0.21%	
Inflation (log)			
level of index	0.01104	3.95%	
change of index	0.01780	0.07%	
Inflation (higher than 30%)			
level of index	0.01048	4.20%	
change of index	0.01681	0.08%	
Fiscal deficit			
level of index	0.00237	78.23%	
change of index	-0.15101	49.39%	
Fiscal deficit (higher than 3.0%)			
level of index	-0.04368	74.17%	
change of index	-0.20076	25.92%	
Capital flows to Latin America			
level of index	0.06055	46.31%	
change of index	-0.39250	7.32%	
Capital flows to country			
level of index	-0.01042	8.11%	
change of index	-0.05668	3.34%	