Trade Liberalization in Latin America

Why Is There No Compensation?*

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Abstract

In the last decades, Latin American countries have progressively liberalized their trade policies. This increased exposure to international markets do not seem to have been responded by parallel increases in the size of the public sector, as the compensation argument would hypothesize. The paper provides a more meaningful rationale for trade-induced compensation. The impact that economic openness will have on demands for redistribution depends critically on two factors: the availability of currency policy and the inequality that internationalization is expected to generate domestically. Since these two variables are likely to differ cross-nationally, there is no reason to expect a homogeneous response of governments to increased economic openness. The evidence seems to support the theory: governments with fixed exchange rates regimes compensate more than governments under floating regimes. And the lower the expected income-inequality generated by internationalization (because the low-income groups are the owners of the factors with which the country is relatively abundant, or because there are no significant sectors negatively affected by openness), the less compensation governments provide as a response to openness. The final section emphasizes the inherent interplay between domestic economic characteristics, currency policy, fiscal policy and commercial policy. In an attempt to endogenize economic liberalization in the region, it is shown that as long as trade reforms need to be politically sustainable, differences in combinations of the other three elements explain a great deal of the variation in the rhythm with which trade openness have been embraced in Latin America.


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1. Introduction.

Latin American countries have witnessed profound changes in their national political economies in the last decades. One of these changes—and arguably one of the most important—is the radical change of orientation of their foreign economic policies. During the 1950s and 1960s, Latin American countries were among the most committed to the well-known import-substituting industrialization (ISI) strategy. Perhaps the most defining characteristic of such strategy was the adoption of protectionist commercial policies that were seen as necessary to foster national economic development. Following the infant industry argument, the development of national firms in industry required the existence of a domestic market temporally closed to international competition so that the skills and technology needed to make these industries internationally competitive would be gradually generated. The progressive bad overall economic performance of most Latin American countries under this development strategy provoked the crisis of this economic paradigm. And along with it, it came the steady abandonment of one of the pillars of this policy package—protectionism—and the implementation of significantly more liberal trade policies in the whole region.

As long as protectionism was such a prevalent characteristic of the functioning of these economies in the recent past, there are powerful reasons to expect that its disappearance would alter in fundamental ways these countries’ political economies. How these countries have adapted to this fundamental change? Have their governments responded systematically to the consequences of this policy shift? Since the level of economic internationalization has domestic distributive consequences, the alterations in these levels induced by the new liberalizing policies may easily generate increases in the certain social groups’ demands for distribution. In fact, a sizeable literature on political economy has contended that one of the reasons why more open countries tend to be accompanied by higher levels of government intervention in the economy is precisely the grow of the demands for protection that openness produces. However, this proposition seems to be at odds with what has taken place in Latin America in the last three decades. As will be shown in the paper, the dramatic shifts in trade policy undertaken by all governments in the region have coexisted with stagnant levels of public and social
spending. Can we use this finding as a pure rejection of the compensation argument on empirical grounds (Kaufman and Segura-Ubiergo, 2001)? Or, rather, should this fact lead us to theorize more rigorously about the relationship between internationalization and redistribution? The latter strategy will be pursued here.

Based on this new theorization and contrasting it with available evidence, this paper makes two fundamental contributions. First, when studying the distributive effects of trade openness, the politics of the exchange rate cannot be overlooked. Since currency and commercial policy can be understood as substitutes, it makes no sense to look at one without taking the other into account. The case for paying attention to exchange rates is particularly strong in Latin America, where not only there is a great deal of variation in currency policies in the period of study, but where this variation has been due to a large extent to political-economy considerations. The conclusion is that currency policies have been extensively used in the Latin American context as a compensating device, alleviating the need for governments to implement other redistribution strategies.

My second point is even more crucial. The arguments linking economic openness and governmental redistributive policies assume that the effects of internationalization are similar across countries—it necessarily increases the demands for public sector-led redistribution. However, we have good theoretical reasons and empirical evidence indicating that domestic characteristics are a crucial element in the distributive effects of increasing economic openness. Taking this heterogeneity into account, and developing more meaningfully the linkages between openness and redistribution, we can make more sense of the different impact that economic internationalization has on the size of the public sector across countries. Whenever increased trade harms those groups situated in the lower end of the income distribution, openness will bring about increased demands for redistribution. In contrast, when internationalization has less inegalitarian consequences—which is, I will argue, the situation in which many Latin American countries are--, there is less reason to expect trade-induced governmental compensation policies.
The paper is structured as follows. The second section summarizes the conventional arguments used in the literature to link economic openness and fiscal policy. Next, I show the evolution of Latin American countries in this regard. The fourth section develops the theoretical arguments and explicitly states the hypotheses about the role of exchange rate policies and the conditional effect of internationalization on redistributive demands on governments. Section 5 tests the validity of those propositions in a pooled sample of 14 Latin-American countries between 1974 and 1995. Bearing those results in mind, in the next section I attempt to explain the evolution of commercial liberalization in the region by looking at the domestic characteristics that make trade reform politically sustainable. A final section summarizing the findings and suggesting next steps in the research program concludes.

2. Economic Openness and the Size of the Public Sector. The Conventional Arguments.

Why would we expect economic openness to be associated with the size of the public sector? A sizeable literature on comparative political economy has dealt with these issues after Cameron’s (1978) original finding that in developed countries, international trade dependence was associated with higher levels of government intervention in the economy. This literature has tried to give explanations for such relationship.

The most common argument used to explain the link between economic openness and higher public intervention in the economy is what I would call the ‘risk-avoidance’ argument. The logic is quite simple: the more internationalized the economy becomes, the greater the consequences of exogenous risks –because the domestic economy is highly dependent on forces beyond its control--. As a response to this increased risk, governments enlarge the public economy as an insurance device (Rodrik, 1997; Bates et al. 1991). In Katzenstein’s (1985) framing, the very existence of this national-based insurance mechanism makes domestic actors more prone to specialize in their comparative advantage, and this in turns enables them to extract larger gains from international trade. The risk-avoidance argument is certainly pervasive,


See Adserà and Boix (2001) for a review of these different theoretical arguments. However, the twofold division is an heuristic construction of my own..
but it has to be noted that in the limit, fails to address the distributive struggle that economic openness may bring about. Insurance against risk is seen as a public good that enhances overall welfare. But if we are to derive a theory about compensation derived from the asymmetrical distributive consequences of internationalization, something more than insurance against external risk is needed.

Therefore, a richer approach should take these asymmetrical distributional consequences into account. The basic argument here is the following. Even if -as international trade theory shows-- greater openness enhances overall welfare, it will also generate domestic ‘winners’ and ‘losers’. Losers, provided they are politically powerful, will demand and eventually achieve some type of compensation in exchange of their support for free trade policies. This compensation may take many different forms, but the most common is redistribution through a larger public sector. This would explain why, for instance, in democratic polities, greater levels of economic internationalizations are associated with higher levels of public revenues (Adserà and Boix, 2002).

In any case, these two views predict a positive relationship between economic openness and size of the public sector. But there are also reasons to expect this relationship to be the opposite, or nonexistent. I will not go into much detail describing the ‘efficiency hypothesis’, since the argument is widely known. Greater openness intensifies the competitiveness pressures that firms must face. This increased competitiveness forces companies to oppose policies that impose high costs on their balance sheets. Governments, interested in maximizing national firms’ profitability, response by reducing pay-roll taxes, social security contributions, capital taxes and, in general, any kind of ‘distortions’ that they have introduced in the economy. As most simplistic arguments, the efficiency hypothesis has its own pitfalls. First, many government interventions in the economy that go beyond law and order such as provision of infrastructures or human capital through public education may go in the interests of firms (Garret, 1996, 1998). Moreover, as the most recent ‘varieties of capitalism’ literature suggests (Hall and Soskice, 2001), if national comparative advantages are embedded into complex systems of industrial relations, social policies, and economic regulations that complement each other, there is no reason to expect that greater
international competitiveness will bring about convergence in governments’ economic policies. Rather, the opposite scenario –that is, divergence- is more likely to prevail.

In any case, the validity of these different hypotheses is an empirical issue. What does the available evidence indicate? After Cameron’ original work, Rodrik (1998) showed the robustness of the compensation hypothesis using a worldwide sample. However, there is growing lack of consensus about the real links between size of the public sector and the degree of economic openness. Iversen and Cusack (2000), for instance, show that in OECD countries, after introducing some controls, the relationship completely vanishes. Garrett and Mitchell (2000) show that in developed economies, the short-term effect of trade increases is to reduce public spending, even if this effect is very small. On the contrary, Garrett (2001) and Adserà and Boix (2002), who include both developed and developing countries in their samples show that there is a significant positive relationship between trade openness and the size of the public sector. Regarding Latin American countries, the only two studies available seem to falsify the compensation view (Haggard and Segura-Ubiergo, 2001; Avelino, Brown and Hunter, 2001). How can we account for the lack of coherence among these studies’ findings? Is it all due to the fact that each one uses a different set of variables and model specifications? Or is it because we have not got the compensation story right yet? Before turning to these questions, it will be useful to look in some detail at the precise evolution of commercial liberalization and government spending in Latin American countries.

3. Trade liberalization and the size of government in Latin America: the stylized facts.

In the 1960s, the Latin American countries were among the most internationally closed of the world. As mentioned in the introduction, this was not casual. It was an essential part of a comprehensive policy package aimed at the development of national-based industrial sector that would eventually free these countries’ economies from their natural dependence on primary products, something that was

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2 As will become apparent later, the evidence I will survey here is actually consistent with these findings.
considered a permanent malaise of these economies\(^3\). The reasons underpinning the adoption of these policies are still matter of controversy: was it the impact of some common international shocks what make these countries move towards ISI policies, the special influence of some sectoral interests particularly entrenched in the political institutions of these countries, or the role of the ideas developed in the United Nations’ Economic Commission for Latin America and the Caribbean (CEPAL, in its Spanish acronym) that provided the rationale for these economic policies? (Meseguer, 2002) Whatever the reasons for its adoption, ISI strategies were prevalent in the region for a long period of time. But beginning in the 70s, chronic balance of payments problems and bad overall economic performance made these countries’ governments dismantle progressively the whole development strategy. As a consequence of this paradigm shift, the character of trade policies in the region became to change dramatically. Figure 1 depicts the evolution of the year average of the index of commercial liberalization for the 14 Latin American countries included in my sample from 1974 to 1995\(^4\).

Figure 1 here

The graph makes visible two facts. First, there is a steady process of liberalization of trade policies in the region. Although changes begun to take place in the 70s, it is in the second half of the 80s—the years in which the hardships associated with the debt crisis were more severe- the adoption of free trade practices seem to accelerate. The second conclusion has to do with convergence, and is self-evident by looking at the one standard deviation bounds. Whereas by 1974 there is significant variability in commercial policies, by the end of the period, this variation seems to have disappear, and all countries in the sample have converged around trade policies of the most liberal type. Latin American countries have

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\(^3\) Basically, under the ISI proponents’ view, the specialization in primary products that would entail trade liberalization is bad because i) the elasticity of demand for primary products is extremely volatile, and ii) the lower income elasticity of these products induces a structural deterioration of the terms of trade. Also, if factor endowments are endogenous, specialization in these products will entrap these countries in a capital-poor and unskilled labor-rich equilibrium (see Cardoso and Helwege, 1992).

\(^4\) The variables and the sample used are described in detail in Section 4.
not escaped from the ‘rush for free trade’ that has characterized trade policies around the world in the last two decades (Milner, 1999).

Departing from a situation of extensive protection, Latin American economies have reduced tariffs, lifted quotas and commercial restrictions, and entered in international free trade agreements. And they have implemented these changes quite radically, within a relatively short period of time. These fundamental changes in trade policy must have had significant domestic consequences. Leaving aside overall welfare considerations, it is more than reasonable to expect these policy shifts to produce distributive consequences. Certainly, some groups may have benefited from having access to cheaper imports or by enjoying greater opportunities for their products in the now more open foreign markets. But for others, on the other hand, lacking protection against international competition may have meant the loss of jobs that were conditional on the existence of secure domestic markets for their firms. ‘Trade losers’, so the argument goes, will exert greater pressure towards their governments to obtain public compensation for their losses. Obviously, the odds that they will obtain this benefits depend critically on how politically powerful they are. What has been the governmental response to these expected demands? Has the public sector responded in a systematic way to the increased international openness of their economies? Figure 2 plots, for the same sample of countries and years, the evolution of the averages of two variables that have been traditionally used as a measure of the size of the public sector and the redistributive nature of public spending: total expenditures and social security and welfare spending, both measured as a percentage of GDP.

In contrast with the evolution of trade policy, there seems to be not big changes in the average levels of government spending in the region during the period under which the rush for free trade has taken place. Although it is true that in the early 1990s there is an increase both in total expenditures and in social security and welfare spending, note that by those years most of the liberalizing move had been already done –for many countries, many years ago, indeed. The 1980s, the period in which the major liberalizing efforts in the region were undertook, witnessed, if anything, a reduction of the size of the
government. Unless we can develop an argument that makes government to respond to internationalization-induced demands for public sector expansion after several years the reforms are introduced, this first glance at the data indicates that Latin American governments have not accompanied the trade policy reforms they have passed with compensation packages in a systematic way. Or, at least, that the government’s response has not taken the form of increased public spending, as the traditional ‘compensation’ hypothesis would suggest. Can we deduce that the distributive struggle brought about by economic internationalization is irrelevant for fiscal policy decisions, or is it because we have not modeled correctly the compensation logic? In order to demonstrate that he first conclusion is unwarranted, the next section attempts to give a better account for the links between trade openness and redistribution and applies it to Latin American countries.


To be sure, there is one political argument that may be used to explain the lack of compensation in the face of economic internationalization in Latin America. The argument derives from Adserà and Boix’s (2002) contribution. In their model, the distributional struggle among three social groups regarding fiscal policy and trade openness can produce three different outcomes. One possible scenario is liberalized trade and to establish a compensation package. A second possible outcome is the formation of a coalition that keeps the protectionist regime. Finally, free trade policy may be imposed by an authoritarian regime in which no compensation is provided. In the light of this model, it may the case that this third scenario is what best defines the interaction between trade policies and redistribution in the Latin American region. In fact, this would fit well with the argument that linked the success of the
economic policy reforms in the region with the need of governmental ‘isolation’ from societal pressures (Haggard, 1995).\(^5\)

However, this possibility is at odds with the political evolution of Latin American countries in the period in which trade liberalization intensified. Even though one of the first initiators of the change in commercial policy was Chile under Pinochet, the great bulk of these reforms carried out without systematic public sector expansion were actually implemented by democratically elected governments\(^6\).

This particularly contrasts with the recent history of many of these countries, where democratic stability has been the exception rather than the rule and, more importantly, where many authoritarian regimes were among the most prominent proponents of protectionist commercial policies. Authoritarianism, therefore, dos not seem to be an adequate explanation.

Two compatible explanations will be used here to explain why trade liberalization has not been systematically accompanied by redistributive policies in Latin America. First, the use of currency policy has helped to cushion the demands for redistribution. Second, as long as trade liberalization does not generate the same set of winners and losers across countries, there are powerful reasons to expect that the demands for redistribution will differ accordingly.

4.1. Currency policies as a substitute for compensation.

In the period under study, not only trade policy has changed in Latin American countries. Another fundamental change that has taken place in these countries in the last three decades has been the progressive abandonment of fixed exchange rate that were prevalent in the ISI period. In fact, fixed exchange rates were also part of the comprehensive ISI package, since the overvalued exchange rates

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\(^5\) However, Maravall (1997) shows that autocracies, because of its inherent lack of legitimacy, may be even more uncapable of pursuing policies that entail societal costs in the short-run.

\(^6\) Interestingly, when democracy was reestablished in Chile, the elected president Aylwin showed its enthusiastic support for more economic openness and avoided any attempt to restore protectionism (Stokes, 2001:32). In fact, democratization has been seen as a potential candidate to explain the recent ‘rush to free trade’ in the more recent years. For a review of this and other explanations, see Milner 1999.
associated with fixed regimes\textsuperscript{7} were also a mean to achieve easy access to the needed foreign capital. In the presence of high trade restrictions (one of the other big pillars of the ISI strategy), having an overvalued currency did not produce distributional problems. But as long as commercial policy begun to move towards free trade, political attention moved towards the level of the exchange rate. Groups threaten by international competition shifted their locus of protest towards the exchange rate and begun to lobby for their preferred currency policy. The rationale for this is easy to see: were these groups successful to obtain exchange rate devaluations, an outcome equivalent to trade protection ‘across the board’ would have been achieved. In Colombia, for instance, ANDI, the industrial association, become militant in the 1990s asking for a ‘competitive’ exchange rate, after the liberalization trend seemed unstoppable (Jaramillo et al. 2001: 222-223). In Chile there is also evidence pointing at the same direction: “[F]rom 1974 to 1979 the [devaluing] exchange rate regime was consistent with the compensation needed to implement a deep trade reform and the drastic switch from import substitution to outward-oriented development” (de Gregorio, 2001). Taking into consideration this interplay between trade policies and exchange rate, it should not come as a surprise that the trend toward trade liberalization in Latin America almost perfectly coincided with an increased adoption of floating exchange rate regimes in the same countries, as Figure 3 indicates.

\begin{figure}[h]
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\caption{Figure 3 here}
\end{figure}

Whereas in 1974 all the fourteen Latin American countries included in the sample had a fixed exchange rate regime, the mood changes dramatically during the twenty-one years time span, and by the 1990s almost all countries had moved to some type of floating regime. It has just been suggested before that one of the reasons of this shift in currency policy is the adoption of free trade policies during the same period. But it has to me remarked that the adoption of exchange rate regimes must be understood also as a consequence of other political-economy determinants (Frieden and Stein, 2001; Frieden et al.\textsuperscript{7}

\textsuperscript{7} In the Latin American context, fixed and overvalued exchange rate may be understood as synonymous, since the anchor currency for pegging is the US dollar. As long as inflation in these countries is higher than in the US, fixed exchange rates entail real appreciation. (see Brock Blomberg et al. 2001)
2001; Bernhard and Leblang 1999; Eichengreen 1995), and only under some circumstances the devaluing option may be available for governments willing to compensate groups negatively affected by trade liberalization. For instance, under harsh economic circumstances, governments may find an extremely useful ally in a fixed exchange rate commitment. The need to stop hyperinflation and to restore macroeconomic stability was actually the ultimate cause of the 1991 Argentinean convertibility plan that tied the national currency to the US dollar (Bonilla and Schamis, 2001). Since the choice of the exchange rate regime itself depends on many factors beyond the level of economic internationalization, it is not possible to assume away that currency policies will always be an option for governments, and then we need not to see necessarily a deterministic relationship between trade liberalization and currency devaluation. In any case, floating exchange rates give some leeway to governments when dealing with the domestic consequences of openness. If that is the case, countries with fixed exchange regimes should be less prone to adopt commercial liberalization, because one of their hands (namely, currency policy) they have to tackle domestic demands for redistribution is tied. Table 1 tests very roughly these conjecture.

Table 1 here

Looking at these rough figures that do not control for the influence of any other factors, there seems to be some true in this idea. As the first row indicates, countries with fixed exchange rates have had, on average, less liberal trade policies than countries with flexible currency regimes. Perhaps more importantly, the average annual liberalization effort is one third higher under floating regimes than under fixed ones. Note here that the causality run both ways. As mentioned at the beginning of the section, increased commercial openness requires more flexible regimes to compensate ‘losers’. At the same time, floating exchange rate regimes make easier the embracement of liberal trade policies. The aim here is not to detect the actual direction of causality, but rather to point out the close interconnection between currency politics and commercial liberalization in Latin America.

My argument should have become evident by now. Exchange rate policies may help to alleviate the distributive consequences associated with commercial liberalization, because in the extreme, currency
devaluation can be interpreted as protection across the board. Although there are powerful reasons and evidence pointing at the interconnections between currency policies and the decisions to liberalize, exchange rate politics follow their own logic. Whatever this logic is, the existing exchange rate regime is a crucial element on the real impact of trade liberalization measures. And as long as the real impact of liberalization depends critically on the exchange rate regime in place, we should expect the demands for compensation induced by liberalization to be filtered by the type of the exchange rate. More precisely, when the exchange rate is not fixed, currency policies may alleviate commercial liberalization decisions. On the other hand, when the exchange rate is fixed, the demands for state-based compensation programs responding to increased internationalization levels should be larger.

4.2. The effect of openness in the distributive struggle.

What is, in last stance, what makes governments to respond to openness by redistributing? Have we got the compensation story right? Let us depart from the distributional conflict brought about by economic internationalization. The argument is that economic openness generates domestic ‘losers’. These losers, whoever they are, will ask for redistribution and governments, accordingly, will respond by increasing expenditures, social security transfers, or public consumption. Presented like this, the argument appears to apply in the same way to all countries that any under any circumstances decide to open up their economies to international markets. Note that this implies that we are making an additional assumption, namely, that economic internationalization has the same distributive consequences and produces always the same type of losers. This is unreasonable given existing trade theory, that indicates that the domestic effects of trade are conditional on country characteristics (O’Rourke, 2001) Since we have well defined theories informing about the nature of those who will be the losers in every country, and we also know that domestic characteristics will affect which groups will benefit and which one will be harmed by
openness. By using well-known theories about the asymmetrical impact of economic openness, we can develop a more meaningful theory of compensation\(^8\).

The literature on the determinants of preferences towards openness can be very informative here\(^9\), since knowing the reasons for being in favor or against commercial liberalization is the same that identifying who is going to be affected by this policy, and in what sense. Depending on the degree of asset specificity we believe to exist (Hiscox 2001), different types of groups will emerge as winners and losers of internationalization. If asset specificity is low (or if we look at the long-run, where no asset is production-specific), we are in the Heckscher-Ohlin world. Owners of factors of production with which the country is comparatively well endowed will benefit from reduction to barriers of trade; local owners of scare domestic factors will be harmed by liberalization. Politically, trade policy coalitions will be formed across classes (factors) (Rogowski, 1989). If asset specificity is high, we move to the Ricardo-Viner world. Here, the distributional consequences of openness do not benefit or harm entire classes, but particular industries or sectors, facilitating the building of cross-class coalitions along sectoral lines (Frieden, 1991). Both models show that the asymmetrical consequences of economic openness are not the same across countries. In fact, the very notion of comparative advantage indicates that beneficiaries and losers of openness must differ across countries.

What does these cross-national differences in winners and losers imply for redistributive politics? According with the classic Meltzer and Richard’s (1981) model, we should expect more demands for

\(^8\) Burgoon (2001) is a nice of example of the how meaningful is to relax the homogeneity assumption. He convincingly shows that, as different dimension of openness generate different types of demands, the domestic conflict produced by internationalization should vary across the different dimensions of the liberalization process.

\(^9\) Alt et al. (1996) provide a review of this literature. Scheve and Slaughter (2001) have found that in the U.S. individuals tend to derive their preferences over trade policy from their endowments in terms of factor of production. Mayda and Rodrik (2001), and O’Rourke and Sinnott (2001) also find on a cross-national survey that preferences are based factor endowments, and that cross-national differences can be explained in terms of each country’s degree of relative abundance and scarcity of factors of production.
redistribution the larger the increases in inequality\textsuperscript{10}. If we further assume that the size of the public sector and/or of some social policy expenditures captures the size of the publicly allocated redistribution of resources among the citizenry\textsuperscript{11}, then we are ready to hypothesize the different impact that economic openness will have on governments’ fiscal policies. Whenever commercial openness will increase income inequality because it will harm the low-income groups, demands for redistribution will increase. However, if the consequences of trade openness ameliorate the distribution of income by benefiting the less affluent groups of the society, demands for redistribution need not necessarily to increase, and could be actually hypothesized to be reduced.

Back to the Latin American case, two questions now arise. First, what we should expect in Latin American countries to be the effect of economic liberalization measures in terms of income inequality? Secondly, is there empirical evidence that give support to these effects that we would predict?

It is possible to device to different hypothesis depending on what of the ‘two worlds’ we believe to be. Under the factor endowments model, it may be hypothesized that Latin America would be rich in unskilled and semiskilled labor compared with the more skill-intensive developed countries (Little, 1982: 142). Would that be the case, intensification of international trade would benefit the low-income sectors of the population, and consequently, no increase in demands for redistribution should be expected. However, it is not clear that in most recent times factor endowments in Latin America differ significantly from the world average (Spilimbergo et al., 1999). The last two decades have witnessed the entrance in world markets of developing countries abundant in low-skill and semi-skilled labor. As a consequence, the world average composition of factors has become similar to the Latin American one. The fact that

\textsuperscript{10} Meltzer and Richard’s argument is very simple: as long the median voter determines government’s policies, the larger the distance between the median income and the mean income, the larger will be the government redistribution package. Increases in income inequality imply skewer distribution of income, and then higher demands for public redistribution.

\textsuperscript{11} To be sure, this is a big assumption to make. Particularly in Latin America, where it has been broadly argued that the public sector has been very little redistributive, and the great beneficiaries of Latin American welfare states have been politically powerful middle and higher classes. In any case, I contend that even in Latin America, it still seems reasonable to assume that more state produces more redistribution than less state.
Latin America has embraced openness when these developing economies were already participating in international markets can explain that whereas openness had a clear egalitarian effect in the East-Asian experience, the same policies do not appear to have such neat egalitarian effects in Latin American countries (Wood, 1997). However, even if Latin American countries share a lot of common characteristics, there is also a great deal of differences among them. And as had been explained before, these differences should shape the consequences that economic openness will produce in each country. More precisely, it should be expected that the greater the abundance of factors related to lower income groups (unskilled labor), the further away that country would be from world average factor endowments, the more likely that trade openness will not increase inequality, so the less likely is that the liberalization process will spur demands for compensation. On the other hand, the richest Latin American countries, better endowed in skilled labor, can be considered middle-income countries by world standards. This in turn will make less likely that internationalization will generate income equality, so it is in these contexts where commercial liberalization will induce greater demands for redistribution.

Departing from the Ricardo-Viner world, a somewhat different perspective emerges. Under high levels of asset specificity –that is, when moving factors of production across sectors is very costly--, the groups that will stand as net winners and losers out of economic internationalization will not longer be owners of certain type of factors of production, but whole industrial sectors instead. In the Latin American context, we can reasonably argue that those sectors that were created and developed as a part of the ISI strategy and whose profitability depended critically on the protectionist policies that isolated them from international competition would be those at higher risk of losing under commercial liberalization. The clearer example of such a sector is manufactures. ISI policies exaggerated growth in this sector (Cardoso and Helwege, 1992). The fact that this sector felt very deeply threaten by international competition can be shown by looking at the impact that its size has had in imposing currency devaluations in the region (Brock Blomberg et. al, 1991). Would the harm produced by trade liberalization in this sector increase income inequality? Note that in the Ricardo-Viner world the whole sector loses. So in principle we cannot really tell whether the crisis of the manufacturing will produce more or less
inequality. However, there is still good reasons to expect a positive association between commercial
liberalization and government redistribution when the size of the manufacturing sector is high. First, it is
reasonable that the income distribution will be more affected by the loss of jobs and wages of workers in
these industries than by the losses of managers and capital owners. And second, if we relax the
assumption that government spending is purely income redistribution, it is reasonable to expect that the
manufacturing sector, that has been traditionally well entrenched in Latin American political systems, will
have an easier way to obtain compensation from governments, even if government intervention does not
entail redistribution. Table 2 shows that, whilst manufacture-intensive countries have liberalized as much
as the less manufacture-intensive ones, their fiscal and currency policies seem to have been different.

Table 2 here

Concretely, countries with large manufacturing sectors increased their social security and welfare
spending and their total expenditures significantly more than countries where this sector was smaller.
Also, and consistent with the exchange rate argument, governments in ‘manufacturing countries’ have
tended to opt more for floating regimes, that have permitted them to compensate for the expectable
negative consequences that openness may have entailed for this sector.

Before turning to the empirical findings about trade liberalization and its consequences on income
inequality in Latin America, it will be worthwhile to show how these countries differ in the two
dimensions that may filter the effects of liberalization on compensation: GDP per capita (which I will use
as a proxy for the position of the country in the factor endowments scale\textsuperscript{12}) and size of the manufacturing
sector. Figure 4 plots the distribution of these two variables.

Figure 4 here

\textsuperscript{12}To measure relative factor endowments in terms of skills of the labor force, I have been constrained to use GDP
per capita. Barro and Lee (1992) have data on education for the countries in my sample, but no yearly time series
were available. However, the correlation of my proxy (GDP per capita) and the two basic indicators: percentage of
the labor force with at least secondary education and average number of years of schooling were very high: r:.75 and
r:77, respectively.
As the graph shows, there is a great deal of variation across Latin American countries along these two dimensions. Some countries have traditionally had very large manufacturing sectors (Argentina and Brazil), whereas the effort to build up a manufacturing base seems to have been much more limited in others (as Honduras or Bolivia). In terms of GDP per capita, the Southern Cone countries and the oil-rich Venezuela seem to be significantly richer than, particularly, their Central American counterparts. Interestingly, there seems to be a positive relationship between the size of the GDP per capita and the size of the manufacturing sector. This degree of variation will permit us to test the conditional effect of openness across countries following the arguments that have been just developed. Following the hypotheses, the expectations are that trade openness will cause more inequality in countries in the North-East corner of the graph, and those will be the countries were more demands for compensation will be raised. Commercial liberalization, on the contrary, will generate less inequality in countries in the South-West part of the graph, which implies that decisions to liberalize will not have to be accompanied by increases in public spending figures.

What does the evidence say about trade liberalization and income inequality in Latin America? Identifying the independent effect of trade policies in this respect is extremely complex not only because of the inherent problems of measuring inequality and make comparisons between results coming from different surveys, but in this case it is also difficult to isolate the impact of trade policy reform on inequality when many other policies that may also affect income distribution are being implemented at the same time (Morley, 2001:152). Nevertheless, some serious attempts have been made. Their main conclusions are summarized in Table 3.

Table 3 here

No clear picture emerges from these results. Trade openness does not appear to be significantly associated with more or less income redistribution in the whole region, although a common finding in Spilimbergo et al, Morley and Altamir –the only ones that do not treat observation across countries as a common pool-- is that Argentina and the most skilled-rich countries of the region seem to be the ones that have suffered most increases in inequality. This, as Spilimbergo et al. point out, corroborates the factor
endowments hypothesis. However, it has to be noted that all these studies tend to disregard the political
game that the distributive consequences of economic liberalization bring about. As the arguments
depicted here show, governments will face incentives to respond in different ways to the challenges
imposed by liberalization depending on domestic characteristics. And these governmental responses will
also ultimately affect the national income distribution.

To sum up, this section has developed two clear and testable hypotheses regarding the expected fiscal
policy responses that Latin American governments will adopt in the trade liberalization.

**H1.** The pressures to compensate to internationalization losers will be weaker under a flexible
exchange rate regime, since currency policy can be used as a substitute for trade policies and therefore
can be used as a tool to mitigate the distributional dislocations that openness may have.

**H2.** As long as liberalization have different distributive consequences depending on characteristics
of the domestic economy, the demands for compensation need not to be the same across countries.
Under the Heckscher-Ohlin perspective, where national factor endowments are further away from
world averages (as in the lower income countries), trade liberalization will generate less inequality
and then the pressures to redistribute will be smaller. Following a sectoral approach, the size of
sectors that will be directly damaged by openness (in Latin America, manufactures) will affect the
size of the compensation package induced by commercial liberalization.

These are the two main hypotheses that will be empirically tested in the next section.

5. **Empirical Analysis.**

To carry out the empirical test of these hypotheses, I have gathered political and economic data
from different sources for a sample of 14 Latin-American countries (the larger group for which most of
the variables were available) covering a time span of 21 years (1974-1995). The sample comprises
Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Guatemala, Honduras,
Mexico, Paraguay, Peru, Uruguay and Venezuela. A detailed description of all the variables and their sources can be found in the Appendix. As dependent variables –measures of the government’s fiscal policy-- I will use two common used indicators: total public expenditures as a percentage of GDP, and social security and welfare spending as a percentage of GDP. Whereas the first can be thought as a broad measure of the size of the public sector, the second refers to those expenditures more directly addressed to redistribute income from the rich to the poor. To detect the impact of trade liberalization on the government’s spending decision, I use the commercial liberalization index (CLI) developed by Morley et al. (1999). To model the predicted differential impact of this variable, I interact it with a dummy variable indicating the presence of a fixed exchange rate regime, the GDP per capita, and the size of the manufacturing sector. I include some additional controls in the estimation: the percentage of population over 65, which is supposed to increase automatically the social security bill, the level of economic development, and two dummy political variables to grasp the effect of being a democratic country and having a left-wing executive in office.

In order to grasp the effects of these covariates on fiscal policy, I estimate the following error correction model (ECM):

\[ \Delta Y_{i,t} = \alpha_i + \Delta X_{i,t} \beta + \phi (Y_{i,t-1} - X_{i,t-1} \gamma) + \epsilon_{i,t} \]

where \( Y \) refers to the government spending variable, \( X \) to vector of the independent variables, \( i \) and \( t \) indicate the correspondent country and time period, \( \alpha \) is the constant term, \( \beta \) is the vector of the short-term effect of the independent variables, \( \epsilon \) is a white noise error term, and \( \Delta \) is the first-difference operator. The term in parentheses is the error correction mechanism, and it can be shown that \( \gamma \) is equilibrium level relationship between \( X \) and \( Y \). The coefficient of the error correction mechanism, \( \phi \),

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13 No data for Peru was available regarding social security and welfare spending, so the estimations for this dependent variable used only 13 countries.

measures the rate of return to the equilibrium relationship after a shock in one of the exogenous variable.

To estimate the model by OLS, the model is simply transformed in the following way:

\[
\Delta Y_{i,t} = \alpha_i + \Delta X_{i,t} \beta + Y_{i,t-1} \phi + X_{i,t-1} \lambda + \epsilon_{i,t}
\]

where \( \lambda \) is simply \((-\phi)/(\gamma)\). To derive our parameter of interest \((\gamma)\), we just have to divide the estimated \( \lambda \) by minus the estimated \( \phi \) coefficient.

As the subscript on the \( \alpha \) parameter indicates, I include in all the estimations dummies for all the countries. Along with the fixed effects, two decade dummies --one for the 80s and one for 90a-- are included. To avoid an inherent problem with this type of data (panel heteroskedasticity), I report the more conservative panel corrected standard errors as suggested by Beck and Katz (1995). Finally, as long as the model is estimated in differences, it is unlikely that the data will manifest serial autocorrelation. To test for that, I report in every regression the results of a Lagrange-multiplier test showing no serial correlation remaining in the data\(^{15}\).

Table 4 presents the results for the two dependent variables: social security and welfare spending and total expenditure as a percentage of GDP.

Table 4 here

Before testing the main hypotheses, let us look at the impact of the control variables. As hypothesized, aged populations have a positive impact on social security spending, GDP per capita has a negative effect on social security and welfare spending, and regarding the political variables, only having a left government seem to have a short-term effect increasing social security and welfare spending and total expenditures as a percentage of GDP. Regarding the more substantive hypotheses, note that, in line with Kaufman and Segura-Ubiergo (2001) and Avelino et al. (2001), the commercial liberalization index is associated with less public spending --although the coefficient is only statistically significant in the

\(^{15}\)The Lagrange multiplier test simply consists in running an OLS regression of the residuals of the original regression on the lagged residuals and all the independent variables included in the original model. If the coefficient of the lagged residual is not significantly different from zero, we cannot reject serial independence.
regression for total expenditures. But as long as this is an interactive model, these coefficients measure
the impact of liberalization on spending when all the other variables with which is interacted are zero. In
order to understand better the interactive effects between the liberalization index and the exchange rate
(always with the expected signs and highly significant) and the level of development (significant for
social security and welfare spending) and the size of the manufacturing sector (significant for total
expenditures), Figures 5 through 7 interpret in substantive terms these coefficients.

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Figure 5 here

Figure 5 shows neatly how the relationship between liberalization and redistributive policies is
conditioned by the exchange rate. When the economy is commercially protected, countries with floating
regimes tend to have a slightly higher level of social security and welfare spending. But when the
economy is liberalized—as all have become in the 90s—to have a fixed exchange regime is associated
with an equilibrium level of social spending higher in 3 percentage points in relation with countries with
floating regimes. Even if I do not show a similar graph for total expenditures, the interaction between
exchange rate regime and commercial liberalization has the same sign and is equally statistically
significant in that regression, indicating a similar relationship as shown in Figure 5. These results are
strong support for H1.

Figure 6 here

Figure 6 conducts a similar exercise to illustrate the conditional impact of the level of
development in changes in the level of social security and welfare spending. Consistently with H2 in its
Heckscher-Ohlin variant, for low income countries\textsuperscript{16}, commercial liberalization do not increase
redistributive policies. By contrast, for wealthier countries, commercial liberalization seems to have a
significant positive effect on social security and welfare policies. And this effect is quite large: moving

\textsuperscript{16} To run this simulation I imputed the value for of one standard deviation above and below the mean to obtain a
‘high GDP country’ and a ‘low GDP country’.
from protectionism to free trade may increase spending in these categories by almost four percentage points of the GDP.

Figure 7 here

Finally, Figure 7 makes visible the effect of the size of the manufacturing sector on the difference in equilibrium level of total expenditures between an open economy country and a closed one. If manufactures are not a big sector in the economy, trade liberalization will not bring increases in the size of government. However, and consistent with the Ricardo-Viner hypothesis, in economies where the manufactures contributed to a greater extent to the national product, liberalization spurs compensation. More precisely, high manufacturing countries that liberalize their trade regime have an equilibrium level of total expenditures six points as a share of the GDP higher than their more protectionist counterparts.

Overall, these results provide strong support for the two main hypotheses developed here. First, exchange rate regime considerations filter the demands for redistribution created by increased openness. This result applies both to the evolution of social security and welfare spending and total expenditures. Second, the hypothesis that the demands for redistribution will critically depend on the consequences that internationalization produces on income distribution seem also to be confirmed by the data. However, one important point merits attention. The factor endowments argument seems to explain the response of the allegedly more redistributive programs: social security and welfare spending. This is somewhat reasonable, since, as has been argued before, the Heckscher-Ohlin model is the one that focus more clearly on income distribution. Although the Ricardo-Viner approach may be incorporated in a pure redistributive framework à la Meltzer and Richard, it also suggests the possibility of non-redistributive compensation. Following this logic, total expenditures, an arguably less redistributive category than welfare spending, may be more easily used to address the demands of groups not necessarily worried about overall income redistribution.

17 ‘Open’ means a country with a CLI one standard deviation above the regional period mean (0.894). And ‘close’, a CLI of one standard deviation below the mean (0.543).
6. Closing the circle. A political economy account of the liberalization process.

So far we have been considering the process of trade liberalization that all this countries have undertaken as an exogenous and unavoidable process that governments have had to accept. This is coherent with the popular view of the so-called globalization phenomenon: an exogenous force against which countries cannot do anything but to try to adapt as best they can. There may be huge pressures to liberalize, as the one created by the decisions of peer countries and the fear of remaining isolated in international markets (Simmons, 2000), the need to obtain higher gains from trade when technological improvements reduce transportation costs (Frieden and Rogowski, 1996), or pressures from the international community or international organizations. But as former Brazilian minister Bresser Pereira (1996) put it, “the decision to open the economy was essentially a domestic one”. In fact, the logic depicted here implies that trade liberalization can only be understood in interaction with three other dimensions of the political economy: the domestic economic characteristics, the ability of governments to pursue currency policies, and the capacities of these governments to compensate the loser that may arise from the liberalization process. And it is this constellation of macro-variables what will determine the feasibility of trade policy reform.

What these considerations imply is that the very decision to liberalize trade may be endogenized, since it is this domestic political economy constellation what drives the capacities of governments to implement commercial liberalization. With this idea in mind, I have estimated a model of trade liberalization that tries to detect the influence of these domestic considerations on the decisions to open up the economy.

The econometric model parallels the one presented in last section. Two differences, however, should be noted. First, as long as the data presented serious problems of serial autocorrelation even in the

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18 Although very extended in the public realm, this argument seems to be rejected from the empirical evidence (Simmons, 2000).
error correction form, I have had to take a second difference in the dependent variable\textsuperscript{19}. The effects of the covariates cannot be interpreted the same way now, since the underlying dependent variable is no longer liberalization levels, but alterations in the liberalization process. Second, as independent variables I include democracy, left executive (which has been associated with protectionism in the region (Bresser Pereira, 1996:113)), GDP per capita, inflation (Pastor and Wise (1994) argue that governments may use trade liberalization as a way to introduce competitiveness in the economy and stop rampant inflation) and a set of variables grasping these “domestic capabilities”: the size of the manufacturing sector, total expenditures, the exchange rate regime, an interaction of exchange rate with democracy (to test whether fixing the exchange rate complicates liberalization in the more responsive democratic countries), an another between size of the manufacturing sector and total expenditures (to see whether the ability to compensate is a more determinant factor when manufactures are vary high, as the last section suggested).

Table 5 presents the regression results.

Table 5 here.

These results are highly supportive of the idea that domestic capabilities are a crucial determinant of trade liberalization. It is certainly true that worsening economic circumstances and higher levels of inflation tend to accelerate the liberalization process. But the effect of the political economy considerations is even more powerful. Democracies with floating regimes are the regimes more prone to liberalize, and moving to a fixed exchange regime retards the openness process, particularly in democracies (as we expected). Manufacturing countries have a tendency to stop the liberalization process, but this ‘brake’ is lifted the higher the total expenditures available for compensation. To grasp better the effects of this interaction, table 6 simulates the differences in the equilibrium level of yearly liberalization between countries with high total expenditures and countries with low total expenditure for different sizes of the manufacturing sector.

\textsuperscript{19} The Lagrange multiplier test in the original formulation showed a p value of 0.013. After taking an additional difference in the dependent variable, the problem disappeared, as the results of the Lagrange multiplier test at the bottom of the regression result indicates.
Table 6 here

The table indicates that when the manufacturing sector is small, having high total expenditures decreases the rhythm of liberalization. However, when the manufacturing sector represents a large portion of the national economy, total expenditures become an asset for commercial liberalization. High spending countries are more prone to liberalize, in accordance with the prediction.

If one lesson were to be taken from this section, that would be that trade policy should not be analyzed in isolation as a pure external element of the political economy. Fundamental features of the national political economy influence the nature of trade policy. On order to be adopted, it does not suffice for a policy to promise overall welfare gains—as the argument for trade liberalization goes--. It needs to be also “politically sustainable” (Bresser Pereira, 1995), as this section as attempted to demonstrate. That is why paying attention to the interplay between domestic characteristics of the political economy and commercial policies provides us a better understanding of the process of the economic internationalization.

8. Conclusions.

This paper has attempted to give a better explanation of the relationship between commercial liberalization and redistributive policies that the prevalent in the conventional literature by analyzing the Latin American case. Out of this theorization exercise, two clear propositions emerged. First, as long as exchange rates filter in a fundamental way the real domestic effects of commercial liberalization, we should expect divergence in governmental response to openness depending on the currency regime in place. And second, since the consequences of economic internationalization on income inequality differ depending on the characteristics of the national economy, there is no reason to expect trade liberalization to spur similar demands for redistribution across countries. The more (less) inequality is generated by commercial liberalization --because the country is not (is) relatively abundant in low-income factors or because the sector most likely to be a trade loser is small— the larger (smaller) will be the need to
redistribute through government spending. Data from 14 Latin American countries from 1974 to 1995 seems to give support to these two contentions.

These findings indicate that the consequences of trade liberalization and the very decision to liberalize have to be understood in interaction with the domestic variables that are believed to be inherently related to openness. In fact, as the last section points out, the rhythm that every country has followed in the liberalization process can be explained to a great extent by domestic political economy considerations: when trade openness is expected to produce more inequality, governments must be ready to address the expected demands for redistribution that internationalization will entail. The capacity to pursue egalitarian public policies will become crucial here in this scenario. On the contrary, countries whose income distribution would not get worsened by commercial liberalization can keep the size of their governments small, and proceed to liberalize easily. Finally, the ability to pursue currency policies may become crucial to mitigate the economic dislocations associated with openness.

The next step in the research program would be to find qualitative historical data matching what the theoretical argument and the econometric evidence have indicated so far. More work here is warranted. But certain anecdotic findings seem to fit reasonably well into the arguments developed here. The huge problems that Argentina face nowadays can be understood under this framework. The country in the region that—according to my data—faces more need to compensate finds itself with stringent budgetary constraints. The other alternative—currency policy—had been removed due to the convertibility plan. Under such circumstances, social unrest should not come as a surprise. The fact that the less developed countries have been those were trade liberalization appear to have encountered less resistance also make sense under these prepositions. Finally, the main example in the region that explicitly pursued a strategy of compensation originated in the decision to liberalize is Mexico, with its Plan of Economic Solidarity that followed the tariff reduction in 1986 (Astudillo, 1999; Buendía Laredo, 2001). And arguably, Mexico would be another country in which, because of its domestic characteristics, we would expect a strategy of government-led compensation. None of these examples can count as further support for the propositions advanced here, but they certainly suggest that a more detailed analysis
of the processes through which these countries have dealt with economic openness, exchange rate politics, and redistributive policies may provide fruitful to strengthen the theory developed here.

References


Mayda, A. and D. Rodrik. 2001. “Why are some people (and countries) more protectionist than others?”, manuscript, Harvard University.


### Appendix. Data Sources.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP per capita (constant 1995 US dollars)</td>
<td>World Bank. <em>World Development Indicators</em></td>
</tr>
<tr>
<td>Population over 65</td>
<td>World Bank. <em>World Development Indicators</em></td>
</tr>
<tr>
<td>Size of the Manufacturing Sector. Added value as % GDP.</td>
<td>World Bank. <em>World Development Indicators</em>.</td>
</tr>
<tr>
<td>Total expenditures as % GDP</td>
<td>IMF <em>Government Finance Statistics</em>, various years.</td>
</tr>
<tr>
<td>Inflation</td>
<td>World Bank. <em>World Development Indicators</em>.</td>
</tr>
<tr>
<td>Exchange Rate Regime</td>
<td>IMF <em>Annual Report on Exchange Arrangements and Restrictions</em>, various years. 1 fixed, 0 float.</td>
</tr>
<tr>
<td>Commercial Liberalization Index</td>
<td>Morley, Machado and Pettinato (1999)</td>
</tr>
<tr>
<td>Democracy dummy</td>
<td><em>Polity III database: Regime Type and Political Authority</em>. Jaggers and Gurr, 1995. 1 if democracy score minus autocracy score is greater than 1, 0 otherwise.</td>
</tr>
</tbody>
</table>
Table 1. Average Commercial Liberalization by exchange rate regime (period means: 1974-1995)

<table>
<thead>
<tr>
<th></th>
<th>Floating Exchange Rate</th>
<th>Fixed Exchange Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Liberalization Index</td>
<td>0.817</td>
<td>0.628</td>
</tr>
<tr>
<td>Δ Commercial Liberalization Index (CLt-CLt-1)</td>
<td>0.024</td>
<td>0.016</td>
</tr>
</tbody>
</table>
Table 2. Average Increases in Commercial Liberalization, Social Security and Welfare Spending, and Total Expenditures and choice of Exchange Rate Regime by Size of the Manufacturing Sector.

<table>
<thead>
<tr>
<th></th>
<th>Manufacturing Countries</th>
<th>Non-Manufacturing countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Δ Commercial Liberalization Index (CLI_t-CLI_{t-1})</td>
<td>0.020</td>
<td>0.020</td>
</tr>
<tr>
<td>Δ Social Security and Welfare Spending (%GDP) (SSW_t-SSW_{t-1})</td>
<td>0.122</td>
<td>0.012</td>
</tr>
<tr>
<td>Δ Total Expenditures (% GDP) (TEXP_t-TEXP_{t-1})</td>
<td>0.306</td>
<td>0.044</td>
</tr>
<tr>
<td>Proportion of country-years with fixed exchange rates</td>
<td>0.448</td>
<td>0.682</td>
</tr>
</tbody>
</table>

Manufacturing countries are defined as those with a share of the manufacturing sector in the economy above the region median between 1974-1995.
Table 3. Summary of the results of the recent evolution of income distribution in Latin America.

<table>
<thead>
<tr>
<th>Source</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edwards (1997)</td>
<td>No effect</td>
</tr>
<tr>
<td>Behrman, Birdsall, Székely (2001)</td>
<td>Less inequality but not statistically significant</td>
</tr>
<tr>
<td>Morley (2001)*</td>
<td>Higher inequality in Argentina, Chile, Mexico. Lower inequality in Bolivia, Peru.</td>
</tr>
<tr>
<td>Altimir (2001)*</td>
<td>Increase inequality in Argentina, Mexico, Chile before in the 90s. Decrease inequality in Colombia</td>
</tr>
</tbody>
</table>

* These studies only look at the evolution of income distribution, but not specifically at the impact of trade liberalization on them.
Table 4. Regression Results for Social Security and Welfare Spending and Total Expenditures.

<table>
<thead>
<tr>
<th></th>
<th>Δ Social Security and Welfare Spending as %GDP</th>
<th>Δ Total Expenditures as % GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagged Dependent Variable (φ)</td>
<td>-0.3118** (0.0711)</td>
<td>-0.3055** (0.0593)</td>
</tr>
<tr>
<td>Population over 65</td>
<td>0.3108* (0.1863)</td>
<td>-0.1304 (0.5575)</td>
</tr>
<tr>
<td>Δ Population over 65</td>
<td>6.0961* (3.3072)</td>
<td>2.1166 (7.2119)</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>-0.0008** (0.0004)</td>
<td>0.0011 (0.0008)</td>
</tr>
<tr>
<td>Δ GDP per capita</td>
<td>-0.0014** (0.0005)</td>
<td>-0.0002 (0.0014)</td>
</tr>
<tr>
<td>Exchange Rate Regime</td>
<td>-2.0003** (0.6292)</td>
<td>-4.8428** (1.3896)</td>
</tr>
<tr>
<td>Δ Exchange Rate Regime</td>
<td>-1.5941** (0.6629)</td>
<td>-2.1316* (1.1928)</td>
</tr>
<tr>
<td>Democracy</td>
<td>0.3056 (0.2839)</td>
<td>0.3077 (0.4391)</td>
</tr>
<tr>
<td>Δ Democracy</td>
<td>0.2127 (0.5027)</td>
<td>-0.4881 (0.7303)</td>
</tr>
<tr>
<td>Left</td>
<td>0.4234 (0.2661)</td>
<td>0.5820 (0.5768)</td>
</tr>
<tr>
<td>Δ Left</td>
<td>0.6118** (0.2922)</td>
<td>1.5920** (0.6635)</td>
</tr>
<tr>
<td>CLI</td>
<td>-1.0525 (1.4882)</td>
<td>-10.0230** (4.4683)</td>
</tr>
<tr>
<td>Δ CLI</td>
<td>-0.7200 (2.5326)</td>
<td>-14.7770** (7.0228)</td>
</tr>
<tr>
<td>Manufacturing Sector</td>
<td>0.0277 (0.0677)</td>
<td>-0.3711** (0.1720)</td>
</tr>
<tr>
<td>Δ Manufacturing Sector</td>
<td>-0.1248 (0.0784)</td>
<td>-0.7046** (0.2320)</td>
</tr>
<tr>
<td>CLI * GDP per capita</td>
<td>0.0008** (0.0004)</td>
<td>-0.0007 (0.0009)</td>
</tr>
<tr>
<td>Δ (CLI * GDP per capita)</td>
<td>0.0002 (0.0007)</td>
<td>0.0001 (0.0015)</td>
</tr>
<tr>
<td>CLI * Manufacturing Sector</td>
<td>-0.0692 (0.0983)</td>
<td>0.5174** (0.2399)</td>
</tr>
<tr>
<td>Δ (CLI * Manufacturing Sector)</td>
<td>-0.0884 (0.1139)</td>
<td>0.7517** (0.3294)</td>
</tr>
<tr>
<td>CLI * Exchange Rate Regime</td>
<td>3.1442** (0.8698)</td>
<td>4.5460** (1.7345)</td>
</tr>
<tr>
<td>Δ (CLI * Exchange Rate Regime)</td>
<td>2.4489** (0.9978)</td>
<td>6.5643** (1.7511)</td>
</tr>
<tr>
<td>N</td>
<td>180</td>
<td>239</td>
</tr>
<tr>
<td>R²</td>
<td>0.4151</td>
<td>0.3172</td>
</tr>
<tr>
<td>Prob &gt; χ²</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>Lagrange multiplier test:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H₀= no remaining serial correlation. p value</td>
<td>0.979</td>
<td>0.117</td>
</tr>
</tbody>
</table>

All level independent variables are lagged one period. Constants, time and country dummies not shown. Panel corrected standard errors in parentheses. *: 0.10 significance level. **: 0.05 significance level.
Table 5. Regression Results for Changes in Commercial Liberalization (ΔCLI)

<table>
<thead>
<tr>
<th>Lagged Dependent Variable</th>
<th>(Δ) CLI</th>
<th>0.7318**</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP per capita (*1,000)</td>
<td></td>
<td>0.00045</td>
</tr>
<tr>
<td>Δ GDP per capita (*1,000)</td>
<td></td>
<td>-0.0685**</td>
</tr>
<tr>
<td>Inflation (*1,000)</td>
<td></td>
<td>0.0169*</td>
</tr>
<tr>
<td>Δ Inflation (*1,000)</td>
<td></td>
<td>-0.0501</td>
</tr>
<tr>
<td>Democracy</td>
<td></td>
<td>0.0268**</td>
</tr>
<tr>
<td>Δ Democracy</td>
<td></td>
<td>0.0119</td>
</tr>
<tr>
<td>Left</td>
<td></td>
<td>-0.0041</td>
</tr>
<tr>
<td>Δ Left</td>
<td></td>
<td>-0.0156</td>
</tr>
<tr>
<td>Manufacturing Sector</td>
<td></td>
<td>-0.0086**</td>
</tr>
<tr>
<td>Δ Manufacturing Sector</td>
<td></td>
<td>-0.0073</td>
</tr>
<tr>
<td>Total Expenditure (% GDP)</td>
<td></td>
<td>-0.0106**</td>
</tr>
<tr>
<td>Δ Total Expenditure (%GDP)</td>
<td></td>
<td>-0.0103**</td>
</tr>
<tr>
<td>Exchange Rate Regime</td>
<td></td>
<td>0.0482*</td>
</tr>
<tr>
<td>Δ Exchange Rate Regime</td>
<td></td>
<td>0.0218</td>
</tr>
<tr>
<td>Exchange Rate Regime * Democracy</td>
<td></td>
<td>-0.0602**</td>
</tr>
<tr>
<td>Δ (Exchange Rate Regime * Democracy)</td>
<td></td>
<td>-0.0255**</td>
</tr>
<tr>
<td>Manufacturing<em>Total Expenditure</em>1,000</td>
<td></td>
<td>0.4813**</td>
</tr>
<tr>
<td>Δ (Manufacturing*Total Expenditure)*1,000</td>
<td></td>
<td>0.4889**</td>
</tr>
<tr>
<td>N</td>
<td>231</td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>0.4443</td>
<td></td>
</tr>
<tr>
<td>Prob &gt; χ²</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td>Lagrange multiplier test:</td>
<td>0.477</td>
<td></td>
</tr>
</tbody>
</table>

All level independent variables are lagged one period. Constants, time and country dummies not shown. Panel corrected standard errors in parentheses. *: 0.10 significance level. **: 0.05 significance level.
Table 6. Estimated differences in the equilibrium level of liberalization for different levels of total expenditures (% GDP) depending on the size of the manufacturing sector.

| Added Value of the Manufacturing Sector (%GDP) | ΔCLI*|High total expenditures-ΔCLI*|Low total expenditures |
|-----------------------------------------------|-----------------------------------|--------------------------|
| 10                                            | -.0881                             |                          |
| 20                                            | -.0152                             |                          |
| 30                                            | .0577                              |                          |

Note: ‘High’ and ‘low’ total expenditures refer, respectively, to one standard deviation above (23.47) and below (12.35) the mean of this variable.
Figure 1. The evolution of commercial liberalization in Latin America.
Figure 2. The evolution of total expenditures and social security and welfare spending in Latin America.

Total & Soc Sec and Welfare Spending in Latin America as %GDP
Figure 3. Proportion of countries with fixed exchange rates.
The different impact of commercial liberalization on social security and welfare spending by exchange rate regime

Difference in Equilibrium Level of SSW Spending between fixed and floating exchange regimes

(SSW*|fixed) - (SSW*|float)
Figure 5.

Effect of Commercial Liberalization on social security and welfare spending by levels of GDP

Change in the Equilibrium Level of SSW spending (%GDP) vs. Commercial Liberalization Index

- High GDP per capita
- Low GDP per capita
Figure 6.

Effect of Commercial Liberalization on social security and welfare spending by levels of GDP

Change in the Equilibrium Level of SSW spending (%GDP)

Commercial Liberalization Index

- High GDP per capita
- Low GDP per capita
Figure 7.

Differential Effect of Commercial Liberalization on Total Expenditures by Size of the Manufacturing Sector

Difference in Equilibrium Level of Total Expenditures (%GDP) (Openness (Totexp*Open)-(Totexp*Close))

Added Value of Manufactures as % GDP