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The Political Economics of Import Substitution Industrialization.

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**THE POLITICAL ECONOMICS OF
IMPORT SUBSTITUTION
INDUSTRIALIZATION**

Claudio Sapelli*

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ABSTRACT

Chile has shown in Latin America that an open economy can detach itself from the vicissitudes of its neighbors. It also has shown that it delivers growth. However, other countries in Latin America have considered reinventing the ALALC strategy of the sixties, a strategy of opening to regional trade while closing itself to trade outside the region. Chile followed that strategy at some point. How did it get from there to here? How is the political economics of the reform from an ISI strategy to an open economy? Is there a role for IFIs in that process?

This paper discusses Chilean economic policy choices in the period 1950-1973, the period of the import substitution industrialization (ISI) strategy. The ISI model rested on two main pillars: a closed economy (high tariff barriers, quotas and exchange controls) and a strong role for the state (government expenditure as a large share of GDP, extensive regulations and an increasing presence of state-owned firms). Particular emphasis is put on trying to explain how the ISI strategy was sustained and what led to its demise. The framework of interpretation provided in the paper is also applied to Uruguay, in an attempt to gauge its capacity to interpret what happened in another Latin American country.

Policy is endogenous, and hence reform is endogenous. Credibility can affect the chances of reform to succeed. According to the reasoning presented here, a key issue is to study the factors that affect the equilibrium rent extraction rate. There are many incentives to announce and then reverse a liberalization program. If investors believe in reform, and invest, then there is a short run boost to GDP, and then investors are partially expropriated by the reversal (since without the liberalization their project was not profitable). Hence announcements are not credible unless signaling of commitment is present.

This paper argues there is a role for IFIs in this process but that the loan size and the amount of conditionality are key in making the liberalization process credible. If the size is too small or there is not enough conditionality, then the rent seeking government will fool both the investors and the IFI by getting the investment, the loan, and not reforming. Investors know this moral hazard problem and hence invest less than expected initially, making the elasticity of supply to the RER lower, and making the optimal RER higher. The signaling of commitment is key to triggering investment. But if IFIs get into the problem and are unable to sustain conditionality or estimate the

adequate size of the loan, then IFIs will lose credibility and this signaling device will be devoid of utility.

IFIs can solve the time inconsistency problem faced by rent seeking governments that results in very low investment. However, if the donor agencies become unreliable in enforcing conditionality, they will result in countries free riding on the signal, the signal losing credibility, and IFIs will lose the ability to perform the role. This is a common property problem: each country individually would rather the IFI enforce the conditionality for all other countries and not for itself. If the negotiation process in the IFI permits this to occur sufficient times all are worse off since then a signaling device is lost.

I. INTRODUCTION

Chile has shown in Latin America that an open economy can detach itself from the vicissitudes of its neighbors. It also has shown that it delivers growth. However, other countries in Latin America have considered reinventing the ALALC strategy of the sixties, a strategy of opening to regional trade while closing itself to trade outside the region. This strategy is implied in the recent discussion of increasing the external tariff of Mercosur. Many of the poorest countries of the world (mainly in Africa) remain closed to trade. The arguments in favor of an import substitution industrialization (ISI) strategy include the fact that national statistics show that the import substitution strategy followed by Latin America in the fifties and sixties delivered substantial growth.

We believe it is worth analyzing the strategy and discussing the political economics of the adoption of these policies, while at the same time taking a critical look of the national accounts that show these strategies as being at some point successful in delivering growth.

This paper discusses Chilean economic policy choices in the period 1950-1973, the period of the import substitution industrialization (ISI) strategy. The ISI model rested on two main pillars: a closed economy (high tariff barriers, quotas and exchange controls) and a strong role for the state (government expenditure as a large share of GDP, extensive regulations and an increasing presence of state-owned firms). Particular emphasis is put on trying to explain how the ISI strategy was sustained and what led to its demise. The framework of interpretation provided in the paper is also applied to

Uruguay, in an attempt to gauge its capacity to interpret what happened in another Latin American country ¹.

II. THE LITERATURE: IN SEARCH OF A POSITIVE THEORY OF ECONOMIC POLICY

This paper inserts itself in the topic of political economics models ². These models form part of a quest by economists to develop a positive theory of economic policy. In the specific topic addressed by this paper, the attempt would be to explain why the economic policy of the fifties, sixties and seventies in Latin America took the form it did. For some, the challenge is to explain why it was so irrational from the point of view of maximizing welfare. Of course, one could ask: who said governments maximize aggregate welfare? The belief that they do is an outdated remnant of the naïve belief of the old welfare economics literature that governments did maximize aggregate welfare (called in the literature “normative theory as positive theory”). Most Latin American governments did not do that. They behaved very much as predatory or rent seeking governments. The literature of political economics that deals with the institutions of such governments is a strand of institutional economics and transaction cost economics, where the assumption is that institutions have to be designed to prevent opportunistic behavior, and that if they permit opportunistic behavior by those in power, then this behavior will occur. Hence one cannot rely on the benevolence of actors, and irrational policy from the point of view of aggregate society is not only possible, but probable if there is inadequate institutional design.

This leads us to one strand of the literature in which political institutional design is analyzed as a principal agent problem. For example, the public choice literature (a recent summary is included in Mueller 1997) sees the relationship between society (the principal) and politicians (the agent) as one in which the key is the “social” contract signed, which is made explicit in the Constitution. To them, once the Constitution is

¹ Uruguay is a much better candidate for comparison with Chile than other countries that followed the ISI strategy as Argentina or Mexico, since one cannot compare in this respect large countries with small countries.

² See Alesina and Tabellini (1990); Barro and Gordon (1983); Drazen (2000); Persson and Tabellini (1995, 1999, 2000); Persson, Roland and Tabellini (1997, 1998, 2000); Persson (1998, 2000); Sapelli (2000) among others.

written, the evolution of economic policy is fully determined. The only way to make normative economic policy is through changes of the Constitution.

Another application of principal agent theory comes from the literature on transaction costs. An extremely interesting application of transaction cost theory to politics is included in Dixit (1998). In his book, Dixit models the relationship between politicians and society as a principal agent problem. In the parallel he makes, it is clear that this contract is extremely more complex than that normally considered in a firm. It actually approximates only the most complex of contracts, the one that attempts to resolve the question of how to monitor the monitors: the problem of how to provide adequate incentives to a CEO.

Institutions (incentives) determine the function that is maximized in the political market³. If opportunistic behavior is permitted, then the function is that of those in power. However, this is not necessarily the case, since the democratic system (or the political system in general) may constrain such behavior (directly or through the need for votes), and hence the function to be maximized may end up being a mix of the utility of those in power and social welfare.

Grossman and Helpman (1994) develop a theory of “Special Interest Politics”. In their AER article on “protection for sale” they show the optimal structure of trade policy when politicians maximize a function that includes both social welfare and contributions from lobbies. They find that the optimal structure of protection depends on factor endowment, product elasticities⁴, and which groups can solve the free rider problem and constitute an effective lobby. In many respects, this literature is associated to the “capture” theory of regulators, and to the idea that policy is determined by deep rooted aspects of the economy such as the nature of the goods produced in the economy and the market structure in which they are produced. In the section where we attempt to explain government policy we follow this line of analysis.

Then there is the issue of explaining policy changes. A part of the literature centers on the conditions under which deep reforms to economic policy are possible. The fact that it is difficult to do structural reforms should be expected: institutions are always

³ See North (1990); Williamson (1985); Lin and Nugent (1995).

⁴ Grossman and Helpman results coincide with those of Sapelli (1990, 1993), in the sense that all else equal, industries that have a high import demand elasticity or a high export supply elasticity (in absolute value) will have smaller ad valorem deviations from free trade.

designed to give inertia to current policy. This is the only way that the expectation of their permanence may have the desired effects. The question, then, is how to break this inertia. A long literature finds that a crisis triggers reform⁵.

All these strands of the literature will be used to answer the questions of how the ISI strategy was sustained and what led to its demise. A formal model is presented in the last section of the paper.

III. THE ISSUE: INWARD LOOKING DEVELOPMENT IN THE POSTWAR PERIOD

Perhaps what is most puzzling about economic policy in Latin America in the 20th century is the fact that after the Second World War, the ISI strategy was ratified. Whatever the merits for its adoption after the Great Depression, the decision to continue with it at that point in time, is difficult to understand. This is one of the decisions I will focus on. However, we first need to provide evidence that there effectively is a puzzle to be explained here.

By the beginning of the 1950s, and even more so by the end of the Korean War, small countries in Latin America were faced with the need for a policy change. At the time, the courses that were evaluated were: an intensification of the inward looking model of development, that according to its defenders, would reduce their vulnerability to external shocks; or an export model on the basis of some combination of export intensification and diversification.

The choice between these two courses of action was not made in a vacuum. Each option was favored by a different group within society. For a number of countries that had built up a significant industrial base (such as Argentina, Chile, Mexico, and Uruguay), the political decision was simpler, since there was a larger lobby in favor of increasing protection to industry. Moreover, since the crisis of the ISI strategy was triggered by the deterioration of the terms of trade (TOT) after the Korean War, the intellectual pendulum tilted toward intensifying import substitution industrialization (ISI). This TOT shock was an particularly strong, but came in the context of several such shocks suffered since the late twenties. These TOT shocks had generated a strong

⁵ See Haggard and Kaufman (1992); Lal (1998a).

opposition to export led growth and a broad measure of support for policies explicitly favoring industrialization, that was ratified in the fifties.

To its defenders, the ISI strategy had already demonstrated its ability to generate rapid growth of output and employment in the manufacturing sector. This may or may not be true (see below), but what was not said or noticed at the time, was that the path ahead had very little to do with the path that had been traveled already. Therefore, what could be gained through intensifying this strategy was much less than what had been gained beforehand. There were two reasons for this.

The first is that the easy stage of ISI had already been completed in these countries. Import suppression had reduced the share of consumer goods in total imports to modest levels, and there was little room to reduce it further. In the aftermath of the depression, Latin American governments had adopted a series of measures that included high import tariffs, multiple exchange rates, exchange controls and quotas. These measures increased substantially the import price of many goods and presented an opportunity for industrial growth. However, the protection given to industries was ad hoc, and often inconsistent. The design of a viable industrial sector was not the objective of these policies, but rather a byproduct of them. The policies were geared to reducing the large current account deficits. As a result, protection to the domestic industry was extremely high.

How inefficient the domestic industry can be and still be shielded from world markets depends on the effective rate of protection (ERP), which is a function not only of the level of tariffs, but also of the structure of protection (the relative tariffs of inputs and final goods). The ERP was often much higher than nominal tariffs due to the staggering of tariffs according to type of good. So high, that it made feasible the production of practically any product.

Behind this high wall of protection, grew an inefficient industrial sector, whose products had prices that were much higher than world prices. This generated another problem, since it lowered the purchasing power of wages. Protection drove a wedge between world and domestic prices, and imposed a heavy burden on consumers. This problem lead to other policy choices that are discussed below.

A second problem with the intensification of the ISI strategy was the need for credit. The easy stage of ISI did not require huge capital investment or technology. The shift to consumer durables and capital goods that was implied by the second stage of the

ISI strategy did require them. And the Latin American countries lacked enough foreign exchange, since they did not export enough.

For these two reasons, it did not make sense to pursue this strategy further, whatever its past merits.

However, it is also important to discuss whether these merits were real. Though it is true that behind this protective wall, the industrial sector grew significantly, that growth came at a high price. Shielded from international competition, much of the manufacturing sector was both high cost and inefficient in every sense. Inefficiency stemmed from the distortion in factor prices, the lack of competition in the domestic market, the tendency of markets to be oligopolistic since there were high entry barriers (it was difficult to obtain scarce foreign exchange to import inputs), and the lack of economies of scale. This was particularly true of the smaller countries, such as those analyzed in this paper (Chile and Uruguay).

One could say that this issue is not particularly relevant since GDP grew, implying the inefficiency was not that important. Since GDP effectively grew in this period, there would appear to be a contradiction here. Later in the paper I will question the fact that these countries enjoyed growth in the purchasing power of its population in the period 1950-1970. I will argue that the difference between domestic and world prices introduced by the ISI strategy distorts GDP figures. GDP figures at domestic prices are no indication of purchasing power at world prices, the only reasonable price structure by which to judge growth. GDP at world prices is the only measure which can be used to effectively measure and compare purchasing power across time or space. In the case of Chile and Uruguay this problem turns out to give a picture of apparent growth, but there is no growth at world prices⁶.

The case against further intensifying ISI points to three key problems of the ISI strategy: 1) the strong negative effect on exports, that deteriorates the ability to generate foreign exchange; 2) the exposure to TOT shocks because of the small export base; and 3) the macroeconomic policies that were followed to ameliorate the effects on the poor.

⁶ An example may help to understand this point. If the car industry in Uruguay produces cars at five times the world prices, when we replace imported cars by domestic cars, is the increase in GDP at domestic prices a measure of higher standards of living? Of course not. Only GDP at world prices, which in this case does not change, is the relevant measure of purchasing power.

Anti-export bias

The ISI strategy left no possibility for export led growth since⁷: i) the high cost of industrial production made it difficult for manufactured goods to enter into international trade; and ii) the high prices of these goods when they were used as inputs to traditional exported goods became a huge tax, on top of the tax implied by overvalued exchange rates. The inability of industry to penetrate world markets left export earners dependent on primary products. However, primary product exports were negatively affected by a host of factors. In addition to deteriorating TOT after the Korean War, the traditional export sector suffered from the anti export bias implied by the new structure of protection for industry. Forced by high tariffs to purchase inputs above world market prices, primary product exporters still had to sell their output in world markets at international prices.

In Uruguay beef producers were even paid below world market prices because of export taxes. This huge distortions meant export earnings were dominated by a handful of traditional exports (principally copper in Chile and beef in Uruguay). Only in these sectors absolute advantages were so large that production was feasible although they were subject to the equivalent of huge taxes (in Uruguay the percentage of world prices received by the producer was lower than 50% in some years, see Sapelli 1990).

In time, the lack of dynamism of export earnings became a key bottleneck to the ISI strategy since the industrial sector was import intensive. Foreign exchange was needed for payment of licenses, royalties, and the transfer of technology. Many non tradables (such as services) were also import intensive.

The issue is that a large sector (industry) is being sustained by transfers from traditional exports. As traditional exports fall in price and in quantity, the tax rate has to be increased to generate the same flow. However, this strategy has its limits from the economic point of view. The need to suppress imports because of the lack of foreign exchange produces larger and larger distortions, since the countries implement almost any scheme that promises to decrease imports, however inefficient. The room to continue adjusting by lowering imports and increasing the transfer becomes smaller and smaller. However, to backtrack is politically complicated since, at the same time as

⁷ As Bulmer Thomas (1994) puts it: "The bias against exports was so strong in Uruguay that the volume of export fell sharply in the 1950s, and the value of exports in the early 1970s was still below what it had been twenty years earlier" p. 284.

policy choices are boxing us into a corner, the relative size of the groups changes in favor of the industrial sector, making it ever more difficult to backtrack. Hence what could be obvious from the economic point of view, makes little sense from the political point of view.

Exposure to TOT Shocks

Export stagnation was a necessary consequence of the ISI strategy, but it was a defect that was not noticeable when TOT were high, and hence it became clear only after the TOT dropped in the fifties and seventies. It is the stagnation of exports that accentuated the exposure of these small countries to TOT shocks.

For Uruguay, for example, the shock after the end of the Korean War is probably worse than that suffered during the Great Depression. All shocks in between these two were managed through tightening the restrictions to trade, but these new restrictions were then kept when the TOT improved, in a kind of ratchet effect that leads constantly towards a more closed economy. The further closing of the economy increased even more its exposure to TOT shocks (for a discussion of the topic in the case of Uruguay, see Favaro y Sapelli 1986).

The economy, on the other side, becomes more sensitive to TOT shocks (TOT shocks of similar magnitude cause more and more disruption). This happens because the country imports less and less finished goods, but it still has to import many raw materials. As the capacity to import is reduced, all goods that continue to be imported are “essential” and so any new shock produces huge distortions in the economy.

The ISI strategy, originally seen as a way out of the BOP crisis of the depression, now revealed itself as a bottleneck. The net foreign exchange saved by these schemes was often close to zero because they were so import intensive. This led to an almost endless series of BOP crisis, crisis that were supposedly going to be prevented by the ISI strategy.

Macroeconomic policies

Since protection imposes costs, not only on exporters, but also to the population at large, through higher prices, the two countries tried to compensate the groups that were adversely affected through government expenditure, usually financed by an expansive monetary policy. The management of macroeconomic policy generated a

curious vicious circle, in which expenditure financed by monetary expansion generated excess demand for imports, that was handled by increasing protection, that created the need for further subsidies, and son on. In the Chilean case, all the episodes when protection was increased (1952-54, 1958, 1961, and 1971-73) where preceded or coincided with expansionist macroeconomic policies, as shown by the following table.

Exchange rate, Central Bank credit, fiscal policy and international reserves

Year	Changes in the internal credit of the Central Bank (%)	Inflation (%)	Fiscal Policy (Expenditures as a percentage of revenues)	International Reserves (millions of dollars)	Average Tariff	Ratio max/min	Capacity to import (per capita)
1950	27	15	110	53	22,9	25,8	137
1951	35	22	105	55	19,4	25,8	143
1952	43	22	110	72	24,7	25,8	163
1953	45	25	130	65	20,6	25,8	136
1954	48	72	124	37	17,1	15,4	139
1955	43	75	125	83	18,9	28,6	180
1956	50	56	112	76	17,5	1,2	176
1957	56	33	113	27	17,6	1,1	135
1958	19	20	101	30	15,4	1,3	118
1959	87	39	116	105	19,9	1	151
1960	47	12	128	73	23,6	1	157
1961	32	8	126	-5	25,9	1	152
1962	96	14	133	15	28,0	1,5	170
1963	14	44	129	-24	24,2	1,6	152
1964	47	46	125	-17	19,7	2	170
1965	49	29	123	35	22,2	1,7	193
1966	45	23	115	77	17,9	1,5	244
1967	38	18	109	54	17,2	1,3	223
1968	24	27	109	125	18,1	1,4	239
1969	31	31	103	285	17,5	1,6	305
1970	40	33	113	394	18,5	2	267
1971	193	20	147	163	18,6	4,4	216
1972	196	78	170	76	32,6	11,2	178
1973	714	353	219	167	25,6	6,1	230
1974	415	505	144	94	10,5	3,3	269
1975	393	375	113	-129	12,4	1,8	158

Source: De la Cuadra and Hachette (1992).

If one does a correlation of the series in the table, one finds that the size of the fiscal deficit is positively associated to the increase in Central Bank credit (.78), and also to inflation (.48), and inflation is positively correlated to the deficit (.86). Also the deficit is positively correlated to the level of tariffs. All this comes to show that effectively, increases in tariffs coincided with lax fiscal and monetary policies.

The capacity to import increases reserves (.69); and lowers tariffs and the index of trade policy (-.24 and -.34, respectively). Positive shocks in this period imply lower

protection. In other words, in terms of the model posited below, growth generates an increase in the base and hence the government lowers the rent extraction rate (RER). As is discussed below, this should have happened at high levels of the RER, as it effectively was true for most of the 1950/75 period. A regression also shows that increases in the capacity to import effectively decrease the index of trade restrictions.

Hence, on top of the lack of foreign exchange generated by the ISI strategy, there was an inadequate handling of macroeconomic policy. Monetary expansion, used to finance budget deficits, increased the demand for foreign exchange and imports. To solve this problem, this excess demand would be repressed by tariffs, quotas, etc.. When repressed, the excess demand for imports would be transformed into an excess demand for domestic goods and high rates of inflation. There is a connection between anti export bias and the need to control the fiscal deficit. To solve the budget deficit problem, governments resorted to all possible sources of tax revenue, including explicit taxes on exports.

Evaluation of the ISI strategy: conclusion

During the application of the strategy, the recurrence of BOP crisis, budget deficits, supply side bottlenecks was endless and appeared to lead nowhere. There were two possible logical ends to this otherwise endless combination: taxes would go up and up until tax rates were 100%, implying expropriation of assets; or tax rates were substantially lowered which implied the selection of an entirely different growth strategy (such as export led growth). Actually these countries went a long way in the first path. The key assets were principally mines in Chile, and farms in Uruguay (the principal sources of foreign exchange). In Chile there was a deep agrarian reform and copper mines were nationalized.

From what has been said above, the ISI policy, especially in the turn it took after the Korean War, was an aberration: the distortions associated with the model were so huge that they are difficult to believe, and its achievements were short lived. Even though it is true that many of the distortions were far in excess of what was required, the model can not be defended. In these two small countries in particular, import suppression never made sense. Moreover, the timing was awful, since the deepening of the ISI strategy was adopted just when the world economy and international trade were embarking on their longest and fastest period of secular expansion.

The ISI strategy did not solve one of the key problems it was designed to eliminate, BOP problems, and vulnerability to external shocks remained acute. The very small export base made any response to a TOT crisis impossible. In this context, the oil crisis of the early seventies faced these economies with a challenge of a magnitude they could not handle.

Why did the strategy last so long?

So we end up with the question, why did the strategy last so long? Some say because it delivered growth. Others that the political system was blocked (the issue about the difficulty to deliver structural reform mentioned earlier).

Even if analyzed through National Account data, the post depression growth in Chile, based on an ISI strategy, was hugely dependant on copper prices and quickly lost its speed due to the small domestic market and the increasing inefficiency of import substitution. Its failure is shown by the timid attempts to liberalize adopted in the fifties and sixties, that in turn failed. Three episodes of liberalization 1950, 1956-61, 1966-70, and 1974-79 (see Hachette 1988). Uruguay also had a period of liberalization in the late fifties and one in the seventies. Why did these attempts occur if the economy was growing? If the economy was not growing, why did these attempts fail? I will try to answer first the dilemma: which is the relevant question here (short answer: the second), and leave the question itself for the last section of the paper, which explores the answer with the aid of a political economic model of the export tax rate or rent extraction rate.

Regarding the success of the ISI strategy, it did succeed in lowering imports: while in the twenties imports in Chile were 27% of GDP, in 1930-70 they remained at one third of that level. But regarding growth, even using “distorted” national accounts we observe that by the mid fifties the easy phase of ISI had been completed, and further efforts did not give the economy enough dynamism.

The data on growth at domestic prices appears to show prolonged periods of growth that make the assertion that the ISI strategy was exhausted somewhat puzzling. In Chile the average rate for the 1960-1970 period is 2.7%.

As was argued before, I claim this is misleading. National accounts are distorted because many of the policies of the ISI strategy implied something akin to immiserizing growth (see J. Bhagwati or H. Johnson), that is, a policy that implied growth at domestic prices (hence growth) but destruction of wealth at international prices (hence

immiserizing). Hence, the economy can be growing at domestic prices and be decreasing or stagnated at international prices.

If statistics are to mean anything and are to be able to be used for comparison purposes with other countries, they need to use international prices (the PPP adjustment the World Bank does routinely, is an attempt to do exactly this). A better idea of what was happening with the capacity of the population to purchase goods is given by a measure of purchasing power at world prices.

What can we do, so many years after the facts, to get a handle on this problem? I suggest that a useful proxy is given by the per capita capacity to import.

My proposal is to use the purchasing power of exports (per capita), also known as the capacity to import (per capita). This statistic is, I believe, a better indicator of the overall productivity of the economy at international prices, and includes the volume of exports and the terms of trade (being basically the volume of exports expressed in terms of the imports it can generate, hence the purchasing power of exports). This statistic, used in many empirical trade papers, is usually known as the capacity to import (and I will use this term from now on).

Figures 1 and 2 (at the end of the paper) show the (per capita) capacity to import of Chile and Uruguay. The Chilean data show that the 20th century started with a huge spurt of growth, but after the first decade of the century the level of income suffered huge swings. The series has a peak in 1929, and then a long period of stagnation. Growth is resumed in earnest only in the eighties. The level of 1929 was not reached until 1992 (that is 63 years to reach the starting point of the ISI strategy). Even the level of 1930, a level that had been reached in 1905, is not reached again until 1969, and only to fall precipitously during the oil crisis (leading to the most dramatic fall of the capacity to import, after the Great Depression).

The data for Uruguay show something very similar for the first decades of the 20th century. A huge spurt of growth (with a more marked fall in the post First WW crisis). But after the Second WW the similarities are more difficult to find. The TOT boom of the Korean War is more marked in the case of Uruguay, leading to the peak of the series in 1950. Then there is a fall that is the most dramatic of the series, following the end of the Korean War (this fall is more mild in the case of Chile). Hence, the proxy for income levels shows that the ISI strategy implied stagnation in Uruguay only after 1950, while in Chile stagnation is longer lived, and starts in the Great Depression.

The crisis following the Korean War in Uruguay leads to the first change of the party in government in the 20th century, since the Colorado Party had won all the elections since the turn of the century). The Blanco Party took over, and attempted to change the ISI policy (but failed). By the time the ISI strategy is discarded for good both in Uruguay and Chile (during the last half of the seventies), the level of the capacity to import per capita (or the purchasing power of exports) was at the level of the first decade of the 20th century⁸.

Hence, not much true growth accompanied the ISI strategy. This explains why there was so much turmoil in both countries in the sixties, leading to urban and rural terrorism (the Tupamaros in Uruguay).

This also explains why there were so many attempts at changing the strategy. However, these attempts at reform failed; the one that succeeded is the one following the oil crisis.

So the relevant question is why only in the 70s was it possible to change the strategy. The relevant question *is* why did the strategy last so long.

One could argue that when a crisis of the magnitude of the fall in TOT that followed the oil crisis occurs, it creates an opportunity for change. Specially when the ISI strategy had been “sold” as a way to isolate the country from external crisis, and the effects of this crisis proves this is not so. This surely should imply that the support for the model collapses. But was this crisis different from others since the Depression? The next section tries to answer this question.

It is true that a crisis generates an opportunity for change. For many years the ISI strategy had been supported by those groups favored by the strategy (like the industrial sector and unionized workers). During many years these groups were apparently able to convince many people of the concurrence of their interests (protect the industrial sector), with those of society. However, when some of these arguments fly in the face of reality, the defense of those policies becomes impossible. Something of the sort could have occurred in the early seventies.

⁸ The level of 1979 is the level of 1905 in Chile, and the level of 1979 is the level of 1909 in Uruguay.

History of the TOT

Given the stagnation of the export base, the story of the Chilean and Uruguayan economy during the 20th century is intimately linked to the evolution of TOT. During 1900-1930 Chile experiences TOT that are markedly higher than those of the rest of the century, and that also show a markedly higher variance. The average TOT is in the order of 75% more than in the period 1930-75. During the period 1930-60, the TOT fall to a level similar to that of the 19th century, which represents a fall to half its level (from 1926 to 1933 the TOT drop from 100 to 40). It is only towards the end of this period, in the late sixties, that TOT rise significantly, only to fall again brusquely due to the oil crisis (the TOT fall from 100 to 55 between 1970 and 1975). Hence in the case of Chile it is true that the oil crisis is of a magnitude that had not been seen since the depression.

If we look at the data with care, we can see that the fall of the TOT during the thirties and forties ends in the mid fifties, and then starts a slow rise that continues through the sixties. In the case of Chile, this gives some “air” to the ISI strategy. But then the fall of the TOT during the early seventies is brutal, comparable to that of the Depression (this is the biggest drop in a three year period since the Depression).

The oil crisis leads to a successful policy reaction. The policy choices at the time were: further increase of the rent extraction rate, and further redistribution. This dilemma was the same as had been faced in the fifties. However, there were two differences: the crisis was much larger and at that stage to intensify the ISI strategy required nothing less than nationalization and/or expropriation (a process towards that goal had already started in Chile), or a change to a different strategy. An alternative that had been discussed for two decades was the export led model. This strategy depends, for its success, on the volume of exports, which can be said is a variable out of the control of the country. However, that is not true; at the least it is a variable that is *more* in control of the country, than the TOT that, as was argued earlier, ends up being the key variable in an ISI strategy. However, it is also true that the productivity of the economy as a whole is shown by its capacity to export (see Sapelli 1987). With exports taxed as heavily as they were during the ISI strategy, plus the acute misallocation of resources, the economy was dependant on the TOT and on very few export goods. The economy grew or stagnated according to the evolution of the TOT, where an increase in copper or beef prices was redistributed to the industrial sector. However, this economy lacked an autonomous source of growth: the economy in volume of goods produced, cannot grow

if the volume of copper exports or beef exports has stagnated and foreign exchange bottlenecks constrain all other sectors. Hence, the capacity to import (that we are using as a proxy of living standards at international prices) fluctuates during the period of the ISI strategy in a similar manner than the TOT.

History of the Capacity to Import (per Capita) in Chile

The capacity to import wildly fluctuates in the 20th century. It has a remarkable rise, beginning towards the end of the 19th century and continuing, with wide fluctuations, up to 1930. The capacity to import in the period 1930-65 is the same as at the end of the 19th century (that is, the Great Depression and the policy reaction to it wiped out 30 years of development, and stagnated the country for 35 years).

The level of 1929 falls to one seventh of its level in 1932. In the case of the oil crisis, the level of 1969 falls to half its level in 1975. One can imagine the frustration in the early decades of the 20th century, when countries were doing things well, and then the world hands them a dramatic fall in income levels. But the strategy chosen to prevent this from happening again failed. Ex post, the ISI strategy could be considered, at best, an attempt to tradeoff a lower growth rate, for a more stable growth path. However, it did have the cost of a lower growth rate, but not at the benefit of a more stable path. This was one of the issues that was made clear by the oil crisis.

See Figures (at the end of the paper).

Why did the ISI strategy survive for so long?

Hence, it is possibly true that the oil crisis was of such a magnitude that a change in strategy was necessary. However, this does not answer the question, of why would a country maintain the ISI strategy for so long, since results were so poor. Using export volume as a measure of the productivity of the economy at international levels, the Chilean and Uruguayan economies, did not reach the level of the twenties until the eighties (and then with much worse TOT so the purchasing power was not as large). In the middle was a very long period of export stagnation. In the 20th century, these countries had two periods of genuine growth: 1900-1930 and 1980-2000. The lack of productivity growth during the ISI strategy led eventually to the loss of macroeconomic

prudence, after the second world war in the case of Chile and after the Korean War in the case of Uruguay.

The puzzle is that even a predatory state should maximize the rent (tax) it can extract (for itself or for its friends), by maximizing the tax base (in this case, GDP). This should occur because this is the most efficient way to extract rents, in the same way as a monopoly is also efficient and minimizes costs.

However, this is only the case if the group in power sees itself as the owner of the flow of income. In a democracy this is not usually the case. However, in some periods, a political party exerts such predominance that it can start behaving as if it “owned” these flows. This could be the case of the Colorado Party in Uruguay, that governed for more than half a century without interruptions (there is a similar period in Chilean history, with three successive radical governments).

In general, the possible ownership of the future stream of income by a political group depends on the political system. In a democracy nothing guarantees that the party currently in power will continue in power. The present government may not be in power in the future, so it will discount all future income streams at a rate different from the social discount rate (at a much higher rate). In other words, it is not very interested if its policies decrease the income level in the future, so long as they generate benefits in the present. Hence, if the institutions make it is feasible for a party to adopt a predatory strategy, that could result in a rent extraction rate that is not optimal for society; it is too high.

This should not be read as an argument for dictatorship. Dictatorships do not solve this problem. They suffer from the same problems as any other political system (e. g. factions within the military acquire and lose power as often as political parties; and they do not know how long they will govern). What is interesting for economists is that this problem is akin to the Coase Theorem. If property rights on income streams were well defined, then they would be maximized. If they are undefined, allocation of resources is not optimal. Possibly a better comparison is to the principal agent problem between the CEO and the shareholders. There is a problem of incentives that political institutions need to solve: they need to impose constraints on what governments (the agent) can do.

In any case, if the incentive problem is not solved, and it was not in this period, since the prevailing ideology did not believe in constraining the government, then many

policy measures that have small benefits in the present but much larger costs in the future will be adopted. Conversely, many measures that have costs in the present but much larger benefits in the future will be postponed.

The political party system is key in this respect. Some systems give some guarantees that parties may stay or may return frequently to power. Others make a proliferation of small parties feasible, between which there is always a random chance of achieving power. In Uruguay the Colorado Party ruled for half a century and the country followed a prudent macroeconomic administration, prudence that disappeared at about the time it lost power for the first time in the century. Something similar may have happened in Chile when, after politics was divided into the “three thirds”, with each third having a random chance of coming to power. Actually Coppedge (1997)⁹ argues that the Chilean party system can be better characterized as one of “four fourths” between 1915 and 1945, and a further fragmentation of the party system together with a striking surge of personalism during the fifties. This last period was characterized by volatile shares, implying something as random chances of access to power.

A model of the optimal tax to the export sector

The ISI strategy taxed the export sector to finance the development of the industrial sector. Criticism to the strategy focused on the fact that it overtaxed the export sector, leading to stagnant GDP growth. To help in understanding what could be considered to be an irrational behavior by the political parties that implemented the strategy, I will develop a model of the optimal tax on GDP (as a simplification of a model to explain the optimal tax on the export sector). This model justifies the attention placed on two features that were emphasized in the previous analysis: the elasticity of supply of exports (countries with very low short term elasticities of supply will tax their export sectors more and go further in an ISI strategy), and the characteristics of the party system (party systems that are fragmented and volatile will lead to higher rates of taxation).

⁹ Michael Coppedge, “The Dynamic Diversity of Latin American Party Systems”, *LASA*, 1997. See pages 5 and 12.

Following Lal (1998) and Sapelli (1990, 1993) I will assume the government has a rent seeking behavior, and its utility is directly proportional to how much rent it can obtain, either to keep it or redistribute it to friends, voters and partners. In this setting the government maximizes its utility that is a function of the tax rate it imposes and the tax base, in this case, the rent extracting rate (RER) and the level of GDP (or the level of that part of GDP subject to the RER, in this case, the export sector). The instrument is the RER.

Hence the problem is to maximize the rent extracted, using the rent extraction rate as instrument. I treat it here as a two period problem. The government maximizes the flow of rent, that depends on the rate, and the level of GDP at each point in time. The level of GDP in the future depends on the growth rate (g). There is also a probability (p) that the present government will still be in power at that time.

$$\text{Max } U = \text{RER} \cdot \text{GDP} + \text{RER} \cdot \text{GDP} \cdot g \cdot p$$

Subject to: 1) $g=g(\text{RER})$; 2) $p=p(g)$

The first restriction implies that GDP is a function of the RER (with possibly a positive derivative over a narrow range, because rents finance public goods, and a negative derivative from then on). In equilibrium the government will always be located in the decreasing part of the curve, where there is a negative derivative. This is so because, since the rents extracted represent a benefit, it will extract rent until it faces a marginal cost that is similar to the marginal benefit. And there is only a cost if we have exceeded the tax rate that maximizes GDP.

The second restriction implies that the probability of being reelected depends on the growth rate. The higher the growth rate, the higher the probability of reelection.

The government is faced with an intertemporal problem since the growth rate depends negatively on the level of the RER. Moreover, the government has a probability less than one of continuing in power, so it discounts future costs and benefits. When will the government accept lowering the RER, to increase g ? When its horizon lengthens, when the losses are huge if it continues high (losses are higher the higher the elasticity of supply of exports and the higher the world price of exports now and in the future). Conversely, it will increase the RER, decreasing the growth rate, when its

horizon diminishes (the party system becomes more fragmented or more volatile) or the losses decrease (the world price of exports decreases).

The form of the functions that are the restrictions to this maximization problem is key to determine whether the optimal RER is higher or lower. On one side, how much the RER affects growth (determined by the elasticity of supply of GDP (or exports), principally the short run elasticity, since the long run elasticity matters only if p is large), and how much growth affects the probability of election (that depends on the structure of the political party system).

I have done the maximization exercise in two possible situations. First, if $p=1$ and the government continues in power for the two periods. In that case the FOC to this problem says that the government will extract rent up until the elasticity of the growth rate with respect to the RER is minus two. The more inelastic is the growth rate to increases in the RER, the higher will be the equilibrium level of the RER. In the second exercise, I bring elections into the picture; in this case the FOC is more complicated and depends also on how the RER affects the probability of reelection through the growth rate.

A more complicated formulation with two sectors, the export and the industrial sector, is also possible (Sapelli 1990). In this case, the only addition to the previous formulation is that the size of both sectors is important, and the *relative* elasticities of supply matter. Given that redistribution of income is behind the policies being discussed, it is not surprising that the relative size of each sector (the taxed sector, exports, and the benefited sector, import substitution industry) is key. It will be optimal to benefit the larger sector. This is also true in the Grossman and Helpman model and in the Sapelli model.

Both copper (or nitrates before) and beef, the principal export products of Chile and Uruguay, respectively, have a very small short run elasticity of supply. In both cases it can be argued that the short term elasticity can even be negative. For the case of beef, see Jarvis 1974, the reason is that cows are both a consumption and an investment good, hence if a policy measure diminishes the expected price of cattle, the desired level of investment in machines that produce cows (i.e. cows) falls, and they are slaughtered, and hence supply increases: a negative elasticity of supply, supply increases when prices fall. This is an extreme case, where clearly the RER will be much higher than in other countries. For the case of copper the threat of expropriation could very well increase the

rate of extraction beyond the optimal rate. Also, mining is an activity with large sunk costs, where the exploitation of the mine will continue for some decades even if profits are very low¹⁰.

From the point of view of the grandsons of those who made the decisions, the problem is that it is the *short run* elasticity of supply that is small or negative, but the *long run* elasticity may be positive and large, and hence these taxes have large costs. This is the reason for the big contraction in the export sectors of Chile and Uruguay.

Since exports are the base of the tax that is being redistributed to the urban-industrial population, if exports contract, how does the government continue to distribute to its favored groups? It has either to make policy changes that increase exports, or to increase the tax rate. A possible attractive feature of doing the latter, is that it may face another short run increase in supply due to a negative short run supply elasticity. So an incentive to substantially increase the tax rate is present.

However, the grandsons that live in the “long run”, will face a reduced export base and a smaller room to continue this strategy. There will come a time when the base is so small that even a large rate may not assure a big enough transfer, and the strategy becomes terminally ill, since the industrial sector is not viable without this transfer. It is at this point where you either take the tax rate to one, and expropriate or nationalize, or accept you have reached a dead end, and start to back off. But this can only be done by a government with a long enough horizon, since the short run costs of reform may be much larger than the short run benefits, as it could take years before the reforms provide benefits¹¹.

Another problem for reform is that piecemeal reform almost never works. The regulatory apparatus behind the ISI strategy was much bigger and more complex than a simple high import tax (it included credit rationing, inflation financing, direct and

¹⁰ Curiously, this situation, that justifies large taxes on the export sector was argued by ECLAC when discussing the ISI strategy. ECLAC claimed that TOT would secularly decline for commodity producing countries, and argued that the supply elasticity of big land owners and multinational mining companies was low because of structural problems that would only be solved by an agrarian reform or by nationalization. This arguments gave intellectual validity and permanence to the policy stance of high taxes on exports.

¹¹ One can think of the military governments that take power around the oil crisis in the southern cone countries, as governments that had two functional objectives (plus possibly many non functional ones): one functional to a pressure group, that was to prevent the model to reach its logical conclusion of a tax rate of one (or the state property of the means of production of export goods). The second was functional to society at large, and that was to expand the horizon, and make possible reforms that the political system was unable to do.

indirect subsidies, price controls, exchange controls, quotas, export taxes, etc.). The changes required are large, and are interlocked. Hence the consensus and coordination in the government needs to be large. If this is not present, one runs the risk that the political opposition may stop the reform process (i.e. if one does not change the equilibrium enough, one is “sucked” back to the previous equilibrium).

It is not surprising in this respect that where the export led model was applied for the longest period and more coherently (Chile), the conditions of the economy were changed in such a way that the new policy was sustainable (as an example of this, it survived the TOT crisis of the early eighties).

Protection has a self perpetuating feature to it, since it enlarges the imports substitution sector and diminishes the export sector, making it optimal to increase the tax. That is, when conditions are such that the optimal RER increases, after the economy adapts to the change, the optimal RER is even higher, and so on. In time, there is also a change in the way the growth rate reacts to the RER. At first the growth rate can be very sensitive to the tax rate, but as the tax increases, the marginal cost may not be as large (the second derivative of the function is negative)¹².

Since the economy is exposed to shocks, those shocks will change the optimal RER. The FOC of the problem posed above says that when the RER is small, and g falls exogenously because of an external shock, then the optimal reaction is to increase the RER. However, if the shock occurs when the RER is large, then the optimal reaction is to decrease the RER¹³. But this change can be difficult due to political opposition and there may be a tension between what is optimal and the costs to make it feasible.

In sum, the framework of a predatory government maximizing utility is able to understand this puzzling period of Chilean and Uruguayan history. It gives insights as to how to rationalize what occurred. The characteristics of the export goods that survive the first phase of rent extraction is key (in particular the dynamics of its supply reaction

¹² Though I will not elaborate on the issue, it is possible that as the export base contracts, the function that represents the way the growth rate is affected by the rent extraction rate (RER) changes. It changes form and size, hence the marginal effects change and the optimal RER changes too.

¹³ If the RER is small, then the first derivative of g with respect to RER is small, and we need a very small g or a big RER for equilibrium. Hence we have to increase the RER to increase the elasticity and lower g to reach the minus two equilibrium. In this equilibrium if g falls, then I will increase the RER. However, at some point an increase in the RER only lowers revenues and is not a viable alternative (there are no rents to extract in the export sector). If the RER is large, then the first derivative of g with respect to the RER is large, and so I need a large g or a small RER to have an equilibrium of -2 . Then I lower RER to lower the derivative and increase g for equilibrium. In this situation if g falls, then the optimal RER falls.

to rent extraction), the evolution of the shares of GDP of both sectors is also important, the TOT cycles, and, finally, the evolution of the political party system and its fragmentation and volatility¹⁴.

Summing Up: Explaining Government Policy and Reform

A key issue in explaining why ISI policies are adopted and why they remain for long periods is the elasticity of supply of the key export products. In general many natural resources (beef, mineral resources) have a low supply elasticity or even a negative short run supply elasticity). Moreover, heavy taxation is capitalized in the price of land and does not drive producers out of business, however, it tends to bias production technology to land-intensive technologies.

As Bates (1979) says: “Ironically, the stronger their relative advantage in production, the weaker their political position. For the stronger their relative advantage, the longer they will persist in growing a crop under conditions of falling prices,...”. In Uruguay, Sapelli (1990) estimated that 50% of the production at world prices was taxed away. Given the magnitude of the transfer (mainly to industrial and urban groups) it is clear why it was difficult to reverse these policies.

No policy recommendation to increase the income of export producing sectors will have a serious chance of becoming government policy unless the equilibrium of the political system is changed. There are several alternatives for this. It can occur because of the change in the external environment, as discussed above; because of the change in how the political system operates, or lastly, as will be discussed below, because of the intervention of International Institutions. Policies are the result of an equilibrium that will not be broken by appeals to rationality.

Sapelli (1990) discusses the determinants of the optimal tax to the export sector, developing a model of the percentage of the export prices received by the producer during the ISI strategy in Uruguay. Such a model proves that between 90 and 95% of the variance of the tax can be explained by the party in power, lagged values of the tax, the current international price of meat, and the prediction of the growth in the

¹⁴ This is not the main topic of the paper, but in the case of Uruguay two features of the political party system should be studied: the domination of the Colorado Party during 50 years and the fragmentation permitted by the “ley de lemas”. In the case of Chile, the system was much more fragmented to begin with, and suffered a sharp increase in fragmentation and volatility in the key period of the fifties.

international price of meat during the next four years. The idea is that governments did take into account the intertemporal redistribution of income implied by their policies: when prices were expected to be high in the future, to benefit a future government, then the current government would “advance” such revenue by increasing the tax to the sector, hence consuming more today. This turns out to be a pretty poor way to consume against future income. A loan would serve the same purposes without the inefficiencies of higher taxes. However, during most of these years the international capital markets were not an option for poor countries. One has to consider that the development of international capital markets must have had an important effect on the development of more rational policies during the latter part of the twentieth century.

In the case of Uruguay, the government was lured again and again by the short run gains of reducing the producer price due to the negative short run elasticity of supply. Long run losses were highly discounted due to the possibility of losing elections. How can this be solved? Actually there are two choices for a change in constraints that may result in an incentive compatible contract between the people and politicians. The first could be reform to the political system. However, there is a strange conundrum here. If the reelection possibilities were equal to one, then the government would internalize the long run costs. But if reelection possibilities are low, due to high competition and/or possibilities of a coup or a civil war, then the optimum is to maximize short run income. However, collusion or monopoly are not the solution because they increase the size of the tax that the government charges to distribute among its clientele. And as was said before, competition lowers the probability of reelection and hence increases the optimal tax to increase reelection possibilities. These problems are huge if government intervention in the economy is large. However, if it is small the magnitude of these distortions are small. Hence there is a relationship between government size and openness to trade. Sapelli (1992) estimates the size of this interaction for Uruguay: the effect can be determined as that a more open economy makes it difficult to expand the public sector, because that normally diminishes the average productivity of the economy. Alternatively this can be interpreted as that a government that is large makes it difficult to open the economy. So, these policies come hand in hand, and it is not by chance that the ISI strategy is characterized by both.

The second choice for incentive compatibility is the capital market, and if that is not a possibility, a loan from an IFI. In the end, given all the difficulties discussed, there

is an argument here against the possibility of liberalization, unless there is an exogenous change or unless reforms are accompanied with money from donor agencies, for example, as when IFIs intervene. Then the loan of the IFIs can produce, if well designed, an incentive compatible contract where a government will, in its own interests, liberalize in exchange for the receipt of money (money that once disbursed should have no strings attached), and open the possibility to start a virtuous circle.

For example, in the situation described before, if the government would have been able to get a loan against future increases in prices, it would have done it, instead of increasing the tax (i.e. indebtedness is a substitute to an increase in the RER). But once the RER is high, how can this be reversed? A loan from an IFI that is conditional on a reduction in the tax to the export sector would permit to liberalize without the problem of lowering income today and hence reducing chances of reelection, or reducing present income for the political elites. This is an argument for a cash transfer, conditional on policy changes.

The role of IFIs

In Rodrik's (1989) paper, he works with a world with two types of possible governments: a liberalizing government and a redistributive government, and the key issue is to sort between both. In this process of sorting, the donor agency adds to the confusion since it provides an incentive to the redistributive government to liberalize. However, the position taken in this paper is that, if all governments are redistributive, then donor agencies have a positive role to play, by providing incentives for it to be in its interest to liberalize. One key issue in liberalization processes is the lack of credibility of the process, and hence the low investment rate that it generates which ends by crippling the liberalization process.

In this context, a liberalization process (reduction of the tax on the export sector and of the size of the state) can be interpreted as a reduction in the rent extraction rate of the redistributive government. Unless the elasticity of supply of exports is quite large in the short run, a redistributive government will usually not do that, since liberalization imposes a cost on this type of government.

We introduce donor money to the two period maximization problem set up above. In this case the government has to evaluate whether to reduce the rent extraction rate

(RER) in exchange for donor money. For this we need to add a loan to the problem, that can be constructed as occurring in period one, or two, or both. What is important is that this loan permits the government to bring to the present the benefits of the liberalization process, independent of who is in government to reap the fruits of this process in the future. It is a loan given by an institution that believes in the benefits of the project and is willing to finance it. In this case the key issue is the credibility of the donor agency, in actually imposing liberalization, since the best outcome for the government would be to receive the loan and not liberalize. A second key issue is the size of the loan. Given the credibility of the donor agency, if the size is not correct then investors can rationally predict liberalization will not be for real. And our model actually can give us an indication of which factors determine the optimal size of the loan, something the IFIs have not adequately investigated.

The model says that the optimal loan is a function of the size of the reduction in the RER, a function of the elasticity of GDP growth to that reduction in the tax rate, and a function of the effect of all this on electoral possibilities. The loan needs to be conditional on the reduction of the RER if not it will not produce the desired effects. However, we face the end period problem. What prevents the government from reversing the reforms once the loan is disbursed? That again affects investment and the possibility that the elasticity of growth to the RER may be lower than expected, making the size of the loan too small to assure compliance. If the contract between the country and the donor agency is sufficiently extended, then one could expect that the period involved is sufficiently long to change some structures and make a reversal non optimal. This implies a long term commitment by donors, until that change occurs: a succession of conditional loans. Once the economy is more open, the optimal RER is lower, since the elasticity of output to RER is higher in an open economy.

We will now formalize that above discussion and prove that the optimal RER is lower with conditional loans.

$$\text{Max } RER(t).GDP(t).[1 + s(RER(t))] + p. RER(t+1). GDP(t+1) .[1 + s(RER(t+1))]$$

Where $s=L/GDP$, the size of the loan in relation to GDP and the derivative of loan size with respect to the RER s' is negative (implying conditionality: the amount of money received is larger the lower the RER). The FOC now says that the more sensitive s is to the RER, the lower the RER, and the higher growth.

Also, $GDP(t+1) = g \cdot GDP(t)$, where g is the growth rate, g is a function of the RER, with g being higher the larger the RER.

P is the probability of reelection, we assume p is a function of g , and hence of the RER.

We estimate the FOC with respect to the RER, and find that the optimal RER, if the RER is the same in both periods is:

$$RER^* = -(1+s)/[s'+(1+s) \cdot (p' \cdot g + p \cdot g')]$$

This implies that if $s'=0$ (no conditionality) then the loan is irrelevant, it does not affect optimal policy. The optimal RER is lower if s' is different from zero and negative. Without a loan, the optimal RER depends on the sensitivity of both the probability of election and the growth rate, to changes in the RER. If there were no elections, then $p=1$, $p'=0$, and the optimal RER is a function of the inverse of the sensitivity of the growth rate to the RER. Hence if the elasticity of production with respect to (wrt) the RER is low, the optimal RER will be higher. Hence countries where this elasticity is lower, will have higher RER. This is compatible with what was said above, regarding the effect of the elasticity of supply of exports on the optimal tax rate on exports. It also implies a kind of Ramsey rule: countries with lower elasticities of supply of production to taxes will have a higher tax rate. If elections are introduced, then lower probabilities of reelection act as if they would lower the elasticity of supply of production, increasing the optimal RER. But then there is also a trade off since with a high g , and a large elasticity of p wrt g , it will be optimal to lower the RER. Hence it is true that once liberalization brings growth, the optimal RER is lowered in a permanent fashion.

The FOC without loans and without elections is: $RER^* = -1/g'$

The FOC without loans and with elections is: $RER^* = -1/(p'g + pg')$ where all variables with “'” are first derivatives wrt the RER.

This model implies it is optimal for a liberalizing government to signal its commitment by signing a “contract” with a IFI, which may make it credible that

reversals are not in the interest of the government. This is in opposition to the skepticism shown by Rodrik (1989).

However, what Rodrik says is true if IFIs do not invest in credibility, i.e. investors are not sure whether conditionality will be upheld or not.

As was discussed above, the optimal size of the loan that assures this can also be obtained from the analysis made above.

$$S^* = \{-RER \cdot (1+pg) / (1/s') \cdot [1+pg+RER \cdot (p'g+pg')]\} - 1$$

This ratifies that the optimal loan has to be higher, the higher the initial RER, the lower the elasticity of supply of production, the lower the reelection probability, and the lower conditionality (the sensitivity of disbursement to the RER). If conditionality tends to zero, the optimal loan tends to infinity.

CONCLUSION

Policy is endogenous, and hence reform is endogenous. Credibility can affect the chances of reform to succeed. According to the reasoning presented here, a key issue is to study the factors that affect the equilibrium rent extraction rate. There are many incentives to announce and then reverse a liberalization program. If investors believe and invest, then there is a short run boost to GDP, and then investors are partially expropriated by the reversal (since without the liberalization their project was not profitable). Hence announcements are not credible unless signaling of commitment is present. This paper argues there is a role for IFIs in this process but that the loan size and the amount of conditionality are key in making the liberalization process credible. If the size is too small or there is not enough conditionality, then the rent seeking government will fool both the investors and the IFI by getting the investment, the loan, and not reforming. Investors know this moral hazard problem and hence invest less than expected initially, making the elasticity of supply to the RER lower, and making the optimal RER higher. The signaling of commitment is key to triggering investment. But if IFIs get into the problem and are unable to sustain conditionality or estimate the adequate size of the loan, then IFIs will lose credibility and this signaling device will be devoid of utility. IFIs can solve the time inconsistency problem faced by rent seeking governments that results in very low investment (as shown by Solimano 1992).

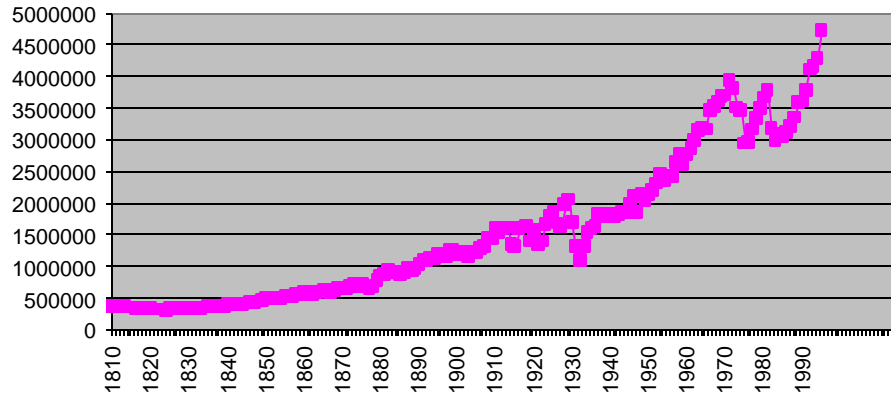
However, if the donor agencies become unreliable in enforcing conditionality, they will result in countries free riding on the signal, the signal losing credibility, and IFIs will lose the ability to perform the role. This is a common property problem: each country individually would rather the IFI enforce the conditionality for all other countries and not for itself. If the negotiation process in the IFI permits this to occur sufficient times all are worse off since then a signaling device is lost.

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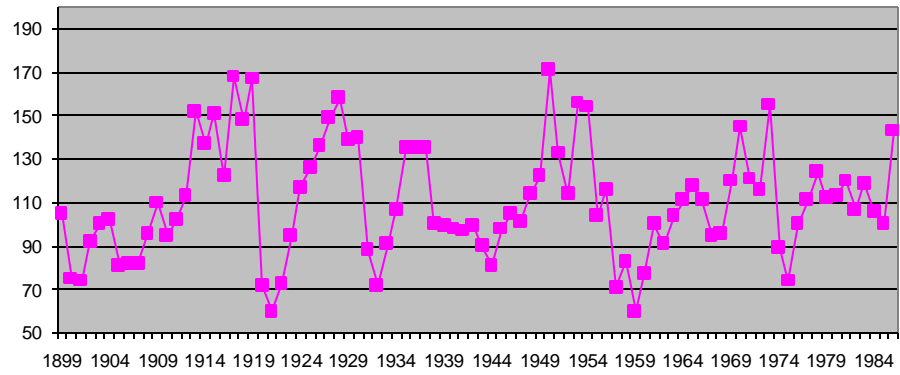
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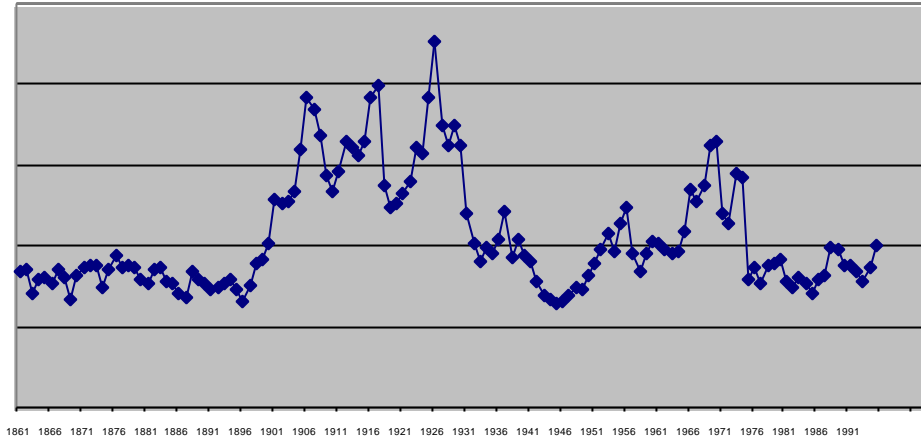
Chile, a Mirage: Productivity at Domestic Prices



Capacity to Import: Level, Uruguay



Chile: Terms of Trade



Chile: Per capita capacity to import

