

# THE MODERNIZATION STRATEGY, CRISES AND ADJUSTMENT IN LATIN AMERICAN ECONOMIES

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**ABSTRACT** The objective of the paper is to analyze why the pattern of growth based on the Washington consensus, implemented in many Latin American semi-industrialized economies, has so frequently led to a fall in private savings and to foreign-exchange crises. Thus the author considers the underpinnings and consequences of the most important measures taken by those economies, by referring to financial liberalization and the opening of their domestic markets to import competition, as well as to the priority given to the foreign over the domestic market. The author shows that the adjustment package normally brings about a fall in output and employment, coupled with inflationary pressures and a worsening of income distribution. He also argues that output recovery, when it takes place, comes into being thanks to an improvement in external conditions and to an expansion of government demand. Thus, it is the government and not the market that leads the recovery.

**Key words:** macroeconomics, economic policy

## ESTRATÉGIAS DE MODERNIZAÇÃO, CRISES E AJUSTAMENTO NAS ECONOMIAS DA AMÉRICA LATINA

**RESUMO** O objetivo deste artigo é analisar a razão pela qual a trajetória de crescimento de muitas economias latino-americanas, baseada no consenso de Washington, tem resultado na queda da poupança privada e em crises no setor externo.

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Neste sentido, o autor considera as conseqüências das principais medidas tomadas por estas economias, associadas à liberalização financeira, à abertura das economias às importações e à prioridade dada ao mercado externo em detrimento do interno. É mostrado que o pacote de ajustamentos produz queda do emprego e do produto, junto com pressões inflacionárias e piora da distribuição de renda. Argumenta-se também que, quando há recuperação da economia, ela ocorre devido à melhoria das condições externas e aumento da demanda governamental. Portanto, é o governo e não o mercado que lidera a recuperação econômica.

**Palavras-chave:** macroeconomia, política econômica

## 1. INTRODUCTION

When Chile's socialist government under Allende was overthrown in 1993, the country began a steady process to overhaul its previous economic strategies, an example that was soon to be followed by other Latin American countries. The protection of domestic producers, support of the internal market, and government intervention were replaced by the opening up of the domestic market to imports, priority for external over domestic sales, and a retrenching of the economic role of the state. Simultaneously, the domestic financial sector was liberalized and deregulated and restrictions on capital movements were abolished.

These economies have, in fact, achieved growth under this new strategy of modernization, but this has usually led to increasing external imbalance and to crises that were followed by drastic adjustment packages.

The objective of this paper is to carry out a theoretical reflection on this particular modernization strategy on the basis of Latin America's experience, and especially to analyze why the new pattern of growth has so frequently led to a fall in private savings and to foreign-exchange crises. In order to do so, I will consider the underpinnings and consequences of the most important measures taken by those economies, by referring to financial liberalization and the opening of their domestic markets to import competition, as well as to the priority given to the foreign over the domestic market. In a second stage, I shall consider the rationale and the consequences of the adjustment packages implemented to cope with the crises.

Latin American semi-industrialized economies are far from homogeneous, and their economic policies over the last years and the results achieved so far have been disparate. There are particular aspects of the modernization strategy, however, that have been implemented in individual countries at various periods. I will try to detect the stylized facts of their common experiences by frequently referring to two national cases, Chile's during the 1977-1981 period and Mexico's during the 1988-1994 period,<sup>1</sup> because they show the most accomplished execution of the modernization strategy. Since the interest of the paper lies in the theoretical aspects involved, I shall not give a detailed account of the evolution of any particular country, nor bring the specificity or differences of Latin Ameri-

can economies to light, but rather emphasize the most common and outstanding features of their experience.

### **FINANCIAL MODERNIZATION, TRADE OPENING AND GROWTH**

The basic tenets of financial modernization stem from the idea that in order to stimulate higher growth rates of output, the level and rate of savings and investment should be raised, and the efficiency of investment should be improved.

In agreement with the strategy of financial modernization, asset and liability management was liberalized, compulsory reserves were eliminated, interest rates were freed, banks were permitted to borrow abroad without restriction, and non-residents were allowed to invest in domestic financial assets practically unencumbered. The deregulation of the financial domestic sector enlarged the banks' possibilities to manage assets and liabilities, to reduce their reserve requirements, and to innovate with new financial instruments. All these elements generated an enhanced capacity for the expansion of credit.

The liberalization of capital movements did not produce a massive surge of direct foreign investment to Latin America, but it did attract a large inflow of short-term financial resources, which was extremely helpful in the fight against inflation, though it contributed to a real appreciation of the currency.

The inflow of short-term capital and the consequent demand for financial assets raised the dollar value of shares, of equity of large firms, and of private wealth, and allowed real interest rates to be lower than they probably would have been otherwise. Larger real wealth and greater availability of credit stimulated higher private spending decisions.

A part of the "extra" spending decisions went into investment. The rise in the value of the firms' capital probably reduced the risk of new investments, and also left firms with an untapped indebtedness disposition, because the ratio of commitments to own capital declined when the value of the latter rose. An additional stimulus to private investment resulted from the appreciation of the domestic currency, which reduced the burden of the debt of firms indebted in dollars as well as the supply price of imported capital goods.

Financial modernization also revitalized consumption. Consumption of the higher-income-bracket groups skyrocketed due to the rise in the capital value of financial assets and to the availability of foreign sophisticated goods previously unavailable. But mass consumption was also encouraged since formerly very expensive imported goods became cheaper, and because the appreciation of the domestic currency intensified the pressure of foreign competition and domestic producers were obliged to lower their profit margins.

Credit rationing is pervasive in Latin America. Thus, given the high concentration of the banking system, real interest rates and the differential between the lending and the deposit interest rates rose considerably. However, credit expansion meant that some of the previously unsatisfied borrowers could now obtain finance through the formal credit market with real interest rates probably lower than in the informal market. In other words, a larger part of the latent demand for credit could now manifest itself as actual demand, with the supply of credit accommodating the increased demand.<sup>2</sup>

An outcome of the process was a massive rise in indebtedness of the non-bank private sector towards the banking sector. Thus a situation of domestic financial fragility developed together with a rise in the share of non-performing loans over total loans, which was mostly due to the substitution of private for government loans in the balance sheets of banks.

The underpinnings of trade opening, which was the second fundamental measure taken by these economies, are relatively well known. According to the underlying theory, trade opening would bring both static and dynamic benefits. Thus lower prices as well as competition of imports would tend to abate domestic costs, profit margins and domestic prices. Lower domestic prices would generate a real depreciation of the domestic currency, which would invigorate exports.

The change in the pattern of production according to comparative advantages would also result beneficial. Lower tariffs and elimination of import restrictions would tend to bring relative domestic prices closer to relative international prices. Relative prices and profitability of goods lacking comparative advantage would fall, while relative prices and profitability of goods with comparative advantage would rise, and new investments would

be channeled towards sectors and branches that enjoy comparative advantages.

Given factor endowment in these economies, characterized by the abundance of labor and scarcity of capital, the average capital-output ratio would decline while the level (or the rate of growth) of labor productivity would be reduced, so that labor absorption would be raised. Thus, the same growth rate of output would be achieved with a higher rate and level of consumption and a greater rate of employment increase; otherwise, a higher growth rate of output and employment could be achieved with the same level and rate of investment. Due to the higher demand for labor, the share of wages in output would be enhanced while the share of capital would be reduced (Stolper-Samuelson theorem).

Following the opening-up of the economy, there was indeed a dramatic increase in the weight of exports and imports in overall demand and supply. Tariff reduction and drastic decrease or elimination of non-tariff controls generated a liberalization of imports.

Some very important short-term objectives were in fact reached, thanks to the liberalization of imports. Thus, the free access to, and the lower cost of imported inputs whose tariffs were reduced helped foster the strong growth of exports, and contributed to increase the weight of manufacturing exports in total exports.<sup>3</sup> On the other hand, the pressure of competition from imports encouraged a reduction in profit margins, which brought about a rise in the share of wages in value added.

As previously mentioned, the process of opening-up was accompanied by a strong growth of the import coefficient and of total imports, and by a worsening of the current account deficit. Imports of consumer goods skyrocketed. However, the huge increase of imports of inputs and of capital goods was the most important factor behind the rise of the import bill.

The strong growth of the coefficient and the value of imports was partly due to the real appreciation of the domestic currency and the liberalization of imports. But two additional factors also contributed to that rise.

In the first place, the possibility of buying imported goods that were previously prohibited or excessive in price stimulated the consumption and import of those goods. In the second place, the opening-up of the economy stirred a process of modernization, which also encouraged imports. Indeed,

under the new scenario the domestic market became more exacting due to the competition of imports, even as new firms became exporters and had to compete in the highly demanding international market. In many cases the new requirements, such as e.g., utilization of inputs of higher quality, standardization of parts and pieces, security in the timely supply etc., could not be satisfied by domestic producers, and firms were compelled to increase their imports of capital goods and inputs.<sup>4</sup>

The processes of modernization and structural change also contributed to the rise of the growth rate of the average labor productivity. First of all, the change of the productive and commercial structure in favor of labor-intensive goods seems not to have taken place. In the Mexican economy, for example, where manufacturing exports led the export boom, the previous pattern of exports based on capital-intensive goods did not give way to a new one based on labor-intensive goods, but was in fact strengthened (López, 1997). In the second place, in order to confront more competitive markets, national firms had to raise their investment and adopt measures of modernization and organizational change (Barros, 2001). This created a rise in the growth rate of labor productivity at the level of each particular firm and of each branch of economic activity. In the third place, there was a change in the structure of demand that augmented the relative weight in production of the high-productivity branches and sectors. Simultaneously, numerous small firms in which labor productivity is lower than average disappeared, due to the pressure of competition from imports and from renovated national firms. Through a composition effect, the latter two factors also induced a rise in the rate of growth of the average productivity of labor.

We may now summarize the main macroeconomic effects of the modernization strategy.

The modernization strategy did contribute to a stimulation of the growth of demand. The growth rate of output, however, was relatively low, especially when weighted against the expansion of the autonomous components of demand. The reason lies in the increase in the coefficient of import, which leaked part of the domestic demand away from the internal market and reduced the multiplier of autonomous expenditure.

Growth of employment was also negatively affected during the modernization strategy, and was actually far below previous experiences of growth

renewal. The cause of this lies in both the insufficient growth rate of output and in the acceleration of the growth rate of average labor productivity. The open rate of unemployment did not grow much due to lack of unemployment insurance in Latin America, but disguised unemployment swelled. The fall in the rate of employment absorption in the formal sector of the economy contributed to a worsening of income distribution. In fact, its negative effect probably more than offset the positive effect of the rise in the share of wages in the value added consequent upon the fall in profit margins. Thus, income distribution worsened.

Lastly, growth was accompanied by an ever-increasing current account deficit, which finally provoked a foreign-exchange crisis. To conclude this section, it is important to emphasize that the deficit was to a large extent caused by the private sector, and specifically by an increase in private investment that was not matched by a rise in private saving. Generally speaking, the rate of private saving did not rise but, in fact, fell. Thus, in Latin America's recent experience, financial modernization did result in higher foreign savings, coupled with a fall in private saving. It is to this last issue that we will now turn.

## 2. SAVING AND INVESTMENT IN LATIN AMERICA'S CRISES

Nowadays, a dominant explanation for the underlying causes of the recent crises in Latin America is accepted by both the economic authorities and some of their critics. This explanation blames insufficient internal savings and investment as the ultimate cause of the growing current account deficit that has led to crises.

This dominant view on crises is based on accounting identity, whereby the current account deficit equals the surplus of private investment over private savings plus the budget deficit. In order to discuss the dominant view it seems useful to present this identity in full.

The Gross Domestic Product  $Y$  equals private consumption  $C^p$ , plus private investment  $I^p$ , plus the trade balance  $X - M$ , plus government expenditure  $G$ :

$$Y = C^p + I^p + X - M + G \quad (1)$$

Let  $T$  be personal taxes. Then:



$$Y - T = Y^P \quad (2)$$

$Y^P$ : Personal disposable income

$$Y^P - C^P = S^P \quad (3)$$

$S^P$ : Private savings

$$T - G = S^g \quad (4)$$

$S^g$ : Government savings

$$M - X \equiv S^f \quad (5)$$

$S^f$ : Foreign savings = Current account deficit<sup>5</sup>

Upon reordering terms:

$$S^f = -S^g + (I^P - S^P) \quad (5a)$$

Or:

$$S^P = -S^g + I^P - S^f \quad (3a)$$

From the above it would appear that if private savings had been higher, the external deficit would have been reduced — and the crises avoided.

However, this outlook is hardly helpful for the analysis of the evolution of savings, because it is based on an ex-post identity which does not reveal how savings come into being. It seems, therefore, more useful to once again consider the aggregate demand and the savings equations, which can be re-written as follows:

$$Y = Y(X, I^P, G, w, s, \tau, m) \quad (1a)$$

And:

$$S^P = G + I^P + X - \tau Y - mY \quad (3b)$$

Where  $w$ ,  $s$ ,  $\tau$ ,  $m$  denote the ratio of wages, total savings, taxation and imports, over GDP, respectively, and where it can be shown that:<sup>6</sup>

$$Y_1 > 0, Y_2 > 0, Y_3 > 0, Y_4 > 0; Y_5 < 0, Y_6 < 0, Y_7 < 0.$$

Let us now consider the effects of an increase in the overall savings coefficient  $s$ , on the basis of equations (1a) and (5a). It can easily be observed that this rise, *ceteris paribus*, would have allowed for an increase in private saving and a reduction in the current account deficit (a fall in  $S^f$ ). However, since private investment is given in any short-run and exports are indepen-

dent of  $s$ , the rise in private saving will exclusively arise due to the negative impact of the increase in the saving coefficient on effective demand and output.<sup>7</sup> Thus, a larger coefficient of savings would have reduced the demand for imports and the external deficit, because output would have been lower; the same goes for employment, profits, wages and the degree of capacity utilization. The current account deficit might have been avoided, but only because the macroeconomic situation would have been more depressed to start with.

The mainstream explanation of the determinants of the crises is thus flawed in the sense that private saving was diminished because the current account was in deficit, and not the other way around.

An alternative interpretation concerning the origins of the external deficit which avoids this inconsistency is rather Keynesian-Structuralist in character. It acknowledges the dependency of savings on investment, emphasizing the insufficient rate as well as the misallocation of investment.

The rationale underlying this interpretation seems to be the following (Ros, 1995). On the one hand, overall investment was discouraged because of the high interest rates that were needed to sustain the high value of the domestic currency. On the other hand, the real appreciation of the currency depressed the profitability of, and shifted investments away from, the tradable goods sector.

This argument holds that if the rate of investment had been higher, and the share of investment allocated to the tradable goods sector larger, the productive capacities would have been enlarged and, simultaneously, the rate of technical progress would have been raised. The former would have ensured a greater elasticity of supply and the latter would have reduced costs and enhanced competitiveness. Thus higher and better allocation of investment would have stimulated exports and helped reduce the import coefficient.

The above reasoning is, nevertheless, not entirely persuasive.

First of all, it does not seem to be convincingly supported by the facts. On the one hand, there is no evidence of a lack of productive capacity at the level of the whole economy, which might have hampered production. In fact, it is rather the opposite, for in both Chile in the 1977-1981 period and in Mexico between 1987 and 1994, the capital-output ratio either rose

(Chile) or remained at a higher-than-average level (Mexico), which suggests the existence of idle capacities (Hofman, 1997). Investment, on the other hand, did grow fast and there is no strong evidence that it was misallocated. In the period between 1988 and 1994, for example, Mexico's gross total fixed investment, machinery and equipment and private investment, all grew at relatively fast rates (7.5 percent, 11.2 percent and 9.2 percent annual rates respectively), all higher than the rate of growth of output (3.9 percent). At the same time, the share of investment allocated to the tradables sector rose (from 27.4 percent to 42.5 percent of total investment between 1987 and 1993) — and this in spite of the large appreciation of the peso. In Chile, gross total fixed investment grew at an 18 percent annual rate between 1977 and 1981 (with output growing 7.4 percent annually), while the share of investment in machinery and equipment in total investment grew from 5.9 percent in 1977 to 7.3 percent in 1981.

In the second place, given that the effects of investment on technical progress are rather delayed, it is doubtful whether a speedier investment growth would have ensured important gains in competitiveness in the short term.

Finally, Latin America has a relatively high coefficient of imports of investment. The average import coefficient would, therefore, probably have grown rather than diminished if investment had grown faster, due to a composition effect. Thus, as can be seen from equation (1a), *ceteris paribus*, if investment (and total savings) had been higher, output, employment, wages and profits would have been greater as well. This would, at the same time, have generated a bigger demand for imports and a larger external deficit. The trade deficit would then, in fact, have been larger.

There is, nevertheless, an important element of truth in the structuralist part of the previous argument, insofar as there actually was a lack of productive capacity which was not made up for by new investment. But this lack of productive capacity did not affect the overall economy nor the tradables sector in general, but, instead, only some specific branches and activities.

Indeed, I already mentioned that growth was generally accompanied by a strong increase in the import coefficient, which suggests that new investments lagged behind the requirements of the import-substituting factories

and branches. A certain growth of the import coefficient was probably unavoidable, but excesses could have been prevented with an adequate investment strategy.

I will now summarize the points stated above. Low private saving did not provoke the growing and persistent current account deficit nor caused the crises: low private saving was the consequence and not the cause of the foreign deficit. Nor would a higher rate of investment have prevented the current deficit from swelling, for if that rate had been higher, the deficit would have been so as well. The explanation for the deficit must, on the one hand, rather be sought in the opening of the domestic market to imports, and, on the other, in the appreciation of the domestic currency and the ensuing loss of competitiveness. An additional, structural factor was also very important: the paucity of investment in specific branches and firms capable of turning out the inputs and capital goods that were required in the novel context. The opening-up of the economy did not so much require a higher rate of investment, but rather a much more selective allocation of investment.

### **3. THE FOREIGN-EXCHANGE CRISES AND THE ADJUSTMENT PACKAGE**

Before the crises, neither governments nor the international financial agencies had shown any concern with regard to the persistent growth of the current account deficit.<sup>8</sup> The argument that foreign saving is safe and beneficial for growth when accounted for by the excess of private investment over private saving rather than by government deficit, partly explains this misapprehension. Another reason comes from the difficulty to evaluate the soundness or otherwise of foreign indebtedness, since the signs given by the market are normally far from clear and the fundamentals may seem satisfactory.

Indeed, on the one hand, investment and capacities usually expand. On the other, exports normally keep growing at a relatively fast rate, at least during a certain time, in spite of currency appreciation. Third, inflationary tendencies are controlled thanks to appreciation of the domestic currency. And finally, inflows of short-term foreign capital keep growing.

Besides, it may not be easy for economic authorities, for both economic and political reasons, to depreciate the domestic currency in order to re-

dress the foreign balance. Latin American economies are characterized by strong oligopolies in the banking sector and by a huge latent demand for credit. Thus, unless some controls are imposed on the inflow of short-term foreign funds — controls that are not accepted in the dominant view — a significant excess of the domestic over the international real interest rate may persist for quite some time. Thus the country's attractiveness to foreign investors and the swelling of the reserves with foreign exchange which tend to appreciate the domestic currency may be maintained.

In other words, institutional reforms and government measures allow the development of a situation of both domestic and external financial fragility, because private expenditure and debt rise fast, even when the weight of foreign-denominated liabilities in the balance sheets of private agents is increased. But in that case the government has very limited maneuvering ability to avoid the development of an external financial fragility, other than reverting to very restrictive demand policies. If the latter are implemented, the crisis may perhaps be avoided. But the cost would be a fall in the level of economic activity — milder than the one ensuing from a crisis, but very drastic nonetheless.

I shall now analyze the adjustment package used to confront the crises, by arguing that the economic policies implemented, even though instrumental in coping with the external deficit, cause a strong recession in combination with falling real wages and worsening income distribution, due to their contractionary impact on aggregate demand and supply. This leads to a large fall in the degree of utilization of productive capacities, even as the supply function of firms is also impaired.

#### **4. THE LOGIC OF THE ADJUSTMENT PACKAGE**

The crises have been confronted with the usual orthodox economic measures, such as:

1. Freeing the exchange rate.
2. Reducing public expenditure.
3. Capping on the growth of nominal wages.
4. Reducing bank credit.

Upon the implementation of an adjustment strategy, the economic authorities anticipate that the Central Bank's withdrawal from the foreign exchange market will unleash a currency depreciation due to the excessive current account deficit and to expectations of depreciation. The latter would eventually bring the external balance to its equilibrium level. Allegedly, it would also stimulate aggregate demand because exports would grow even if import substitution was stimulated.

Since the domestic supply is assumed to be at its potential level and imports are greater than those that can be financed, it is projected that demand would exceed supply and inflationary pressures would not be checked. In order to cope with inflation and redress the external sector, the authorities deem it necessary to contract aggregate demand by raising taxes and by reducing government expenditures and credit to the private sector, while simultaneously putting a cap on the growth of money wages.

By now, the main results achieved with this set of measures of economic policy are relatively well known. Output, real wages and investment all tend to fall dramatically, even as inflation soars. The external imbalance is redressed and exports rise, particularly when manufacturing exports weigh heavily in total exports and when it is basically the branches of multinational firms that make exports. However, the decline in imports results mainly from the drop in output, with little or no substitution of imports and hence without a fall in the coefficient of imports.<sup>9</sup>

These results surprise both the authorities and the international financial institutions that recommend and support this type of adjustment strategy. They should not surprise anybody, however, since they are the consequence of the deficiencies of the adjustment strategy. I shall now analyze these deficiencies, considering the side-effects of the strategy for both supply and demand.

##### **5. DEMAND AND SUPPLY OUTCOMES OF THE ADJUSTMENT PACKAGE**

As previously mentioned, the depreciation of the domestic currency is a basic component of the adjustment package. Depreciation — assuming wages are kept constant or rise moderately — makes domestic goods competitive and, if the Marshall-Lerner condition is fulfilled, will improve the trade bal-

ance. It is usually held that owing to that improvement, depreciation of the currency will also expand aggregate demand.

However, both theoretical arguments and empirical studies suggest that in Latin American and other semi-industrialized economies depreciation may affect domestic demand negatively, even as obstacles to expansion or to the redirection of supply limit its potential benefits for domestic producers. I shall first consider the demand aspects involved.

On the one hand, the initial price hike triggered by depreciation can provoke uncertainty concerning the future stability of prices and the exchange rate, which will probably depress private investment. This is particularly the case when drastic depreciation of the currency and accelerating inflation take place after a period of stability, and when on account of the rupture of the previous optimistic scenario a dramatic worsening of expectations predominates.

Investment can be further discouraged by the rise in the debt ratio of firms — especially when they are indebted in foreign currency — and by the rise in the interest rate. Unless banks are willing to expand lending and the monetary policy accommodates, firms will find it difficult to finance their extra needs of working and fixed capital. And finally, depreciation raises the supply price of imported capital goods, thus reducing expected profitability.

No wonder, then, that the common pattern for crises in Latin America has, above all, been characterized by a huge decline in private investment. This decline does not seem to follow a fall in capital profitability, but instead responds practically without delay to a sudden deterioration of financial conditions and expectations.<sup>10</sup>

On top of the above, private consumption is also depressed owing to devaluation. Higher-income bracket groups may not be terribly harmed by the inflation shock because they can reduce their savings rather than their expenditure. But since money wages are normally not completely adjusted to past inflation, consumption per worker will fall. The fall in real wages will prevent the wage-price spiral from fully developing into hyperinflation, but income distribution will worsen.

To sum up, both private investment and domestic consumption are reduced with the depreciation of the currency. Some evidence shows that these negative effects on internal demand are normally not offset by the trade balance improvement brought about by depreciation.<sup>11</sup>

In spite of this evidence, conventional adjustment packages take it for granted that currency depreciation will expand demand. To counteract this presumed result, the authorities reduce government expenditure and try to get rid of any budget deficit should it come into being.

Theoretical arguments as well as empirical evidence show that a reduction in public expenditure also depresses demand. But this effect has been magnified in the Latin American experience because the composition of government revenue also changes under the adjustment strategy. The common pattern in Latin America has been for taxes levied on the population to rise through increases in the Value Added Tax and through an augmentation of prices charged by state firms — which are ultimately passed on to consumers. But taxes levied on higher-income bracket groups and on business profits are kept constant or even reduced. Thus, the share of taxes that affect private savings falls and the share of taxes affecting private expenditure declines. As a result of this change in proportions, the multiplier of government expenditure drops.

I will now consider the effects of the adjustment package on aggregate supply.

Critics of orthodox economics sometimes downplay the importance of supply conditions when analyzing short-run changes in economic activity, instead only on concentrating demand (see, however, Laski, 1994). This emphasis, which stands in contrast to orthodox and neo-Keynesian economics (Blinder, 1987; Greenwald and Stiglitz, 1988), seems perfectly valid for a highly developed closed economy where ample supply exists in all branches, and where supply easily accommodates to demand under full employment. In fact, assuming that demand will fall less than supply during the downswing, or rise more than supply during the upswing, firms will see their stocks of finished and semi-finished products diminish and will be motivated to expand supply to replenish stocks. Also, when demand falls more than supply during the downswing, or rises less than supply during the upswing, stocks will pile up and supply will be decreased.

Semi-industrialized economies are different, however. These economies usually have large unutilized capacities in the manufacturing sector, but in specific industries or in other sectors such as infrastructure or agriculture capacities may be insufficient or inadequate and bottlenecks normally appear at early stages of output expansion.



Thus, in these economies supply may not easily accommodate to an abrupt change in the pattern of demand, and in particular it may be hard to substitute foreign for domestic demand when the latter contracts. Price elasticity of demand for exports and for import substitutes may be quite high, but capacities may be fully utilized in particular sectors, or exports and even substitution of imports may be limited because firms may not have adequate marketing channels to access potential customers. Domestic producers will then be incapable to take full advantage of the latent demand and higher profit margins ensuing from a currency depreciation.

Credit restriction further deteriorates supply conditions. Reduction in bank credit is prominent in the adjustment package. The Central Bank normally announces, immediately after the onset of a crisis, that domestic credit in real terms will be reduced and that the monetary policy in general will be tightened.

The announcement and implementation of a restrictive monetary policy would, by itself, lead to a curtailment of credit and a rise in interest rates. But this basic tendency is magnified because both lending capacity and the expectations of banks worsen due to the deterioration of their balance sheets ensuing from the rise of non-performing loans caused by the crisis, and from the increase in the service of their debt contracted in foreign currency. Thus credit restriction and credit rationing take place on a large scale. This not only depresses demand by contracting fixed investment and consumption of durable goods, but also decreases the aggregate supply, thus further intensifying the decline in output.

The worsening of the supply conditions of firms during the adjustment package can be explained as follows. In the first place, the rise in real interest rates deteriorates their equity position due to the higher service on debt. A second factor is credit restriction, because many small and medium-sized firms are credit-rationed. Last, but not least, production risks become higher. Thus, when managers face either productive or financial investments, they are likely to opt for the latter because these become relatively more profitable and less risky.

Deterioration of supply conditions generates a leftward shift of the supply function, which also induces a leftward shift of the demand function. This is a consequence of the reduction in output and the ensuing fall in employment, wages, and the demand for intermediate and wage goods.

Due to credit restriction, firms are unable, during the crisis, to take advantage of the competitive gains brought about by the depreciation of the currency and the rise in the price-cost ratio.

Exports may not be much affected. If they come from large and financially solid firms closely linked to foreign capital, these will have an easy access to credit and will have the marketing capacities to place larger sales abroad.<sup>12</sup> But firms that produce for the domestic market, usually smaller and financially weaker than those catering to the world market, will be greatly affected by the contraction of and the rise in the price of credit. This, on top of worsening expectations, will force them to contract supply, and since the latter type of firms weigh heavily in the industrial sector, overall supply is likely to shrink severely in the course of the adjustment process.

To sum up, if supply capacities are limited and if supply conditions further deteriorate during a crisis and a credit crunch, exports and substitution of imports will be lower than they might have been.<sup>13</sup> The trade balance will thus improve less and the drop in total output will consequently be larger, due to both the smaller trade balance and the diminished value of the internal multiplier of the trade balance.

## 6. THE MACROECONOMICS OF A CONTRACTING ADJUSTMENT

I will now summarize the macroeconomic effects of the adjustment package by specifying a simple model (López, 1998). I will distinguish actual output  $Y$ ; the output at external equilibrium  $Y^x$ ; and output at full utilization of productive capacities  $Y^k$ , which is given in the short run.

First, I reproduce equation (1a), where effective demand  $Y^d$  determines the level of output  $Y$ :

$$Y = Y^d = Y^d(X, I^p, G, w, s, \tau, m) \quad (1a)$$

$Y^x$ , the level of output at external equilibrium, can be expressed as follows:

$$Y^x = Y^x(Y^*, e, \delta, \psi) \quad (6)$$

with (by assumption):

$$\begin{aligned} Y^x_1, Y^x_2, Y^x_3 &> 0 \\ e &= E(p^*/p^l) \end{aligned} \quad (7)$$

$Y^x$  depends on world demand,  $Y^*$ , on the competitiveness of internal goods, which is established by the real exchange rate,  $e$ , on the supply conditions of domestic firms,  $\delta$ , and on a vector of other variables,  $\psi$ , which determines the sustainable current account deficit.<sup>14</sup> The real exchange rate  $e$  is defined as per equation (7) depending on the nominal exchange rate  $E$ , the index of foreign prices  $p^*$ , and the domestic price index  $p'$ .

We may now examine the processes determining internal prices  $p$ , profit margins  $\mu$ , and the share of wages in value added  $w$ . With respect to prices, two types of sectors are distinguished. In the “open” sector the price  $p^o$  is given and is equal to the world price in domestic currency  $p^*E$ . In the “closed sector” I simply posit that firms fix their prices by adding a mark-up to their unit prime costs:

$$p^o = p^*E \quad (8)$$

$$p = p(W, E, \mu, \pi, \bullet) \quad (9)$$

With  $p_1, p_2, p_3 > 0, p_4 < 0$

That is, internal prices in the closed sector depend on money wages  $W$ , the nominal exchange rate  $E$ , the unit profit margin  $\mu$ , labor productivity  $\pi$ , and a vector of other non-modeled variables  $\bullet$ . I also assume that unit profit margins depend on the supply conditions of firms  $\delta$ , on the level of output  $Q$ , and on the real exchange rate  $e$ . When demand and output are greater firms can charge a higher profit margin. A higher real exchange rate also tends to raise profit margins because higher import prices diminish the pressure of foreign competition in the domestic market. Thus:

$$\mu = \mu(\delta, Q, e) \quad (10)$$

With  $\mu_1 < 0, \mu_2, \mu_3 > 0$

If we assume that firms adjust prices immediately while wages are adjusted with a time lag, from (8), (9) and (10), the share of wages in the value added  $w$  can be expressed as follows:

$$w = w(e, \delta, Q) \quad (11)$$

With  $w_1, w_2 < 0, w_3 > 0$

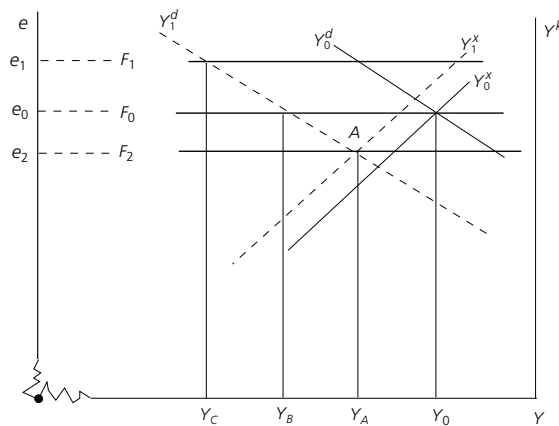
If we further assume workers demand a constant real wage, then it also follows that any shock which leads firms to raise prices will bring about a wedge between the real wages demanded and the real wages perceived. It

seems safe to assume that workers will struggle for higher money wages in the next round of negotiations. If wages are adjusted, a wage-price spiral will develop, but the wages will not recover the previous loss.

Following Carlin and Soskice (1992) I will now define the distributive equilibrium as the locus of points where workers are satisfied with the real wage they earn, and where capitalists are content with the profit margin obtained. The distributive equilibrium determines a situation in which the inflation rate is constant, since entrepreneurs are satisfied with their margins and workers with their real wages.

I will now present a simplified account of the effects of the external shock and of the adjustment package with the help of graph 1, where I plot the above relationships in the  $e$ - $Y$  plane. Output at external equilibrium  $Y^x$  is sloping upwards, and to the right of the curve the economy is in external deficit. The distributive equilibrium curve, denoted as  $F$ , is assumed to be horizontal.<sup>15</sup> Above the curve lies inflation, inasmuch as money-wage demands or profit margins are rising. The demand curve  $Y^d$  is sloping downward because a higher real exchange rate is associated with a lower share of wages in the value added.<sup>16</sup> Finally, output at full utilization of productive capacities  $Y^k$  is drawn as a vertical line, since it does not depend on the real exchange rate. Macroeconomic equilibrium is feasible at a level of output  $Y_0$ .

**Graph 1**



The external shock shifts the curve of output at external equilibrium leftwards, from  $Y^x_0$  to  $Y^x_1$ . It also worsens expectations. This would in itself generate a rise in profit margins and a fall in the share of wages in the value added, but this effect is amplified because of credit restriction. As a result, the  $F$  curve of distributive equilibrium shifts down from  $F_0$  to  $F_2$ : to maintain the distributive equilibrium the real exchange rate would have to fall. Finally, the aggregate demand curve shifts leftwards from  $Y^d_0$  to  $Y^d_1$ . This is, first of all, a consequence of the fall in private investment. But the shift is greater due to the contracting fiscal and monetary policies implemented to face the external shock. A new macroeconomic equilibrium would be possible at a lower level of output,  $Y_A$ .

If the government tries to defend the previous real exchange rate  $e_0$ , output would fall from  $Y_0$  to  $Y_B$ . If, instead, it tries to raise the real exchange rate to  $e_1$ , the fall would be to point  $Y_C$ . In either case, the result would be a decline in output and employment. The external imbalance will be redressed, and an external surplus can in fact be achieved. But the level of output and degree of utilization of productive capacities will be diminished.

The fall in output will be coupled with inflationary pressures.  $A$  is the new point where curves  $Y^d$ ,  $Y^x$  and  $F$  coincide, while above the  $F$  curve inflationary pressures predominate. These pressures will prevail for as long as workers bargain for, and achieve, rises in money wages.

If and when workers accept a fall in their real wages, money wages will stop rising. The  $F$  curve will shift upwards, and a lower real wage and a lower share of wages in the value added will allow for a rise in the real exchange rate and will stop inflation. As the Latin American experience shows, the period before inflation is controlled may be long-lived and real wages may have to fall dramatically in order for inflation to subside.<sup>17</sup> Furthermore, output, the degree of utilization of productive capacities, and employment will fall. The fall may be dramatic indeed, as in Chile in 1982 (where GDP fell 14 percent) or in Mexico in 1995 (where GDP fell 7 percent).

Supporters of the adjustment package sometimes accept that their policies will generate a decline in output, but they argue that the fall is, in any case, inescapable because the country was living “beyond its means”, or that the fall will be short-lived, or both. Growth of exports, so the argument goes, will rather sooner than later drag domestic and aggregate demand

with it, even as it lifts the external constraint. They also use to cite the cases of Chile and Mexico, where growth resumed after a dramatic downfall.

Without going into a deep discussion, it can simply be said that they are misinterpreting the above-mentioned experiences.

In Chile, for example, growth in fact resumed from 1984 onwards (with a pause in 1985) but only because both the external situation and the economic strategy changed. Between 1982 and 1987, the external constraint was lifted thanks to a dramatic increase in foreign lending from multilateral agencies, probably for political reasons.<sup>18</sup> The government could expand its gross external debt, which rose from 6.6 to 16.4 billions of US dollars. Furthermore, the servicing of the external debt was renegotiated in very favorable conditions, and the share of export revenues devoted to servicing the foreign debt fell from 83.8 percent in 1981 to 48.7 percent in 1986. Finally, a rather more expansionary fiscal policy was implemented, coupled with an increase in tariffs that enhanced the protection of domestic producers.

In Mexico, to take another example, growth also resumed after the dramatic downfall in output of 1995. During 1996 and until 1999, relatively high rates of growth of output, averaging about 7 percent on an annual basis, have been attained. But the recovery could only be achieved because of a rise in oil prices which dramatically swelled government revenues. Thus public expenditure could be raised without incurring a deficit (López, 2000).

In short, in both Chile and Mexico output recovery did not come as the result of a somewhat delayed but spontaneous working of the beneficial effects of the adjustment package. Rather, external conditions once again became favorable and, accordingly, the curve of output at external equilibrium shifted to the right. Government policies changed and government demand expanded, and the demand curve therefore also shifted to the right. In both cases it was the government and not the market that led the recovery.

It is not difficult to understand why government intervention is indispensable for recovery. Crises affect not only workers but firms as well. The fall in private investment and in the budget deficit tends to contract profits, and that contraction may not be offset by the rise in external surplus.<sup>19</sup> And even if export surplus rises enough for profits to increase, the degree of utilization of productive capacities will probably decline due to the shift to profits and the consequent expansion in the savings coefficient. Thus firms

will not be stimulated to enlarge their productive capacity with new investments. Mexico's experience between 1982 and 1986 shows that this scenario of stagnation, following a contracting adjustment package, is very likely, and that it may be long-lived indeed.

#### NOTES

1. Mexico also implemented adjustment packages in 1982 and 1983 that were very similar in nature to the more recent one.
2. A detailed study on Mexico found that between 1986 and 1993 the share of consumer credit (residential construction plus other consumer credit) in domestic bank credit rose from 10.8 percent to 27.6 percent (Danby, 1997). However, as this author acknowledges, large firms increasingly had access to foreign credit, which was much cheaper than domestic credit.
3. Manufacturing exports grew strongly in the case of Mexico. In the case of Chile it was mostly exports of primary goods that rose.
4. In the case of Mexico, for example, according to a recent estimate, the import coefficient of the export industry (excluding the maquiladora or in-bond sector), defined as the value of imports of inputs over the value of exports, grew from 8.6% in 1983 to 61% in 1994 (Vázquez, 1995).
5. We simplify the analysis by equating the current account deficit and the trade deficit.
6. Where  $Y_1$  stands for the first derivative of  $Y$  with respect to exports,  $Y_2$  for the first derivative with respect to private investment, etc. The sign of the partial derivatives follows from:  $C = Y(1 - w)(1 - \tau)(1 - s) + wY(1 - \tau)$ ;  $M = mY$ ;  $T = \tau Y$ . We assume workers do not save.
7. In a private and closed economy a rise in the rate of saving will not raise total savings in the short run. In fact, since profits equal investment plus capitalist consumption, it may even provoke a fall in savings in the medium and long run inasmuch as it causes profits to decline. By the same token, in an open economy, where saving is equal to capitalist expenditure plus the budget deficit plus the trade surplus, a rise in savings will raise total savings in the short run, but may depress savings in the medium and long run.
8. The following statement, made two weeks before the devaluation of December 1994 in Mexico by the Governor of Mexico's Central Bank, is typical: "The size of the current account deficit is, in a certain manner, a measure of the country's success, not of its failure (...) the greater the success of Mexico as an attractive country for investment, the bigger the current account deficit will be".
9. The results of the adjustment strategy in Brazil differ from the above description, especially because the 1999 devaluation did not provoke a great acceleration of inflation which is all the more remarkable given Brazil's pre-Real inflation experience. Also, the GDP did not collapse and a process of import substitution apparently took place. I do not consider the specificity of Brazil's experience in this paper.

10. In Mexico, private investment, which had grown almost 10 percent between 1993 and 1994, fell 31 percent between 1994 and 1995. In Chile, total investment grew 17 percent between 1980 and 1981, to fall 34 percent in 1982.
11. The Krugman and Taylor paper (1978), where these problems are formally analyzed, is still very much worth reading. See also Taylor (1988) and, on the Mexican experience, see for example J. López, 1991, and Castro *et al.*, 1997.
12. The different composition of sales and in the industrial sector is probably an important factor behind the different behavior of exports after the crises in Mexico and Chile. In the former, two years after the crisis (that is, in 1997) exports were 32 percent higher than when the crisis erupted, while in the latter, two years after the crisis (in 1983) they had practically not grown at all.
13. One should recall that price and income elasticities of exports and imports depend on the elasticity of demand and on the elasticity of supply.
14. The value of the sustainable current account deficit is mostly based on conventions.
15. This is a simplification, because it could be also upward — or downward — sloping.
16. A higher real exchange rate depresses  $w$  on two counts. First, the relationship between prices of raw materials and total wages rises (Kalecki). Second, profit margins rise with the real exchange rate.
17. In Chile, real wages fell 15 percent between 1981 and 1985. In Mexico, they fell 15 percent (seasonally adjusted) between the last quarter of 1994 and the third quarter of 1995.
18. From 1987 onwards an additional factor was the steady rise in the international price of copper, Chile's main export.
19. One should recall that profits are equal to the sum of private investment and capitalist consumption, plus the government deficit plus the trade surplus.

#### REFERENCES

- BARROS DE CASTRO, A. (2001) "A reestruturação da indústria brasileira nos anos 90: uma interpretação". *Revista de Economia Política*, jul./set.
- BLINDER, A. (1987) "Credit rationing and effective demand failures". *Economic Journal*, v. 97, jun.
- CARLIN, W., SOSKICE, D. (1992) "Macroeconomics and the wage bargain". Oxford: Oxford University Press.
- CASTRO, C., LORÍA, E., MENDOZA, M. A. (1997) "Eudoxio: modelo macroeconómico de la economía mexicana". México: Fac. Economía, UNAM.
- DANBY, C. (1997) "Financial liberalization in Mexico: 1989-1993". Dissertation submitted for obtaining the degree of Doctor of Philosophy in Economics. Graduate School of Economics, The University of Massachusetts, Amherst.
- GREENWALD, B., STIGLITZ, J. (1988) "Imperfect information, finance constraints, and business fluctuations". In: Kohn, Meier and S. C. Tsiang (eds), *Finance Constraints, Expectations and Macroeconomics*. Oxford: Oxford University Press.



- HOFMAN, A. (1997) "Standardized capital stock estimates in Latin America: a 1950-1994 update". Documento procesado. Santiago do Chile: Cepal.
- KALECKI, M. (1990 [1937]) "The principle of increasing risk", in "Essays in the theory of economic fluctuations". In: J. Osiatynsky (ed.), *Collected Works of Michal Kalecki*, v. I. Oxford: Oxford University Press, 1990.
- (1991 [1954]) "Theory of economic dynamics". In: J. Osiatynsky (ed.), *Collected Works of Michal Kalecki*, v. II. Oxford: Oxford University Press.
- KEYNES, J. M. (1936) *The General Theory of Employment, Interest and Money*. Nova York: Harcourt Brace.
- KRUGMAN, P., TAYLOR, L. (1978) "Contractionary effects of devaluation". *Journal of International Economics*, nov.
- LASKI, K. (1994) "An alternative economic policy for Central and Eastern Europe". In: M. Knell (ed.), *Economics of Transition. Structural Adjustment and Growth Prospects in Eastern Europe*. Edward Elgar. UK.
- LÓPEZ, J. (1991) "Contractive adjustment in Mexico". *Banca Nazionale del Lavoro Quarterly Review*, Sep.
- LÓPEZ, J. (1997) "Ventajas comparativas, crecimiento y el comercio exterior de México". *Investigación Económica*.
- (1998) "La macroeconomía de México. El pasado reciente y el futuro posible". México: Ed. Porrúa.
- (2000) "Mexico's economy: the crisis, the recovery and the policy options". *Economía*, v. 1, n. 2, jul./dez.
- MOTT, T. (1995) "The New Keynesian economics and the economics of Michal Kalecki". *Processed*, Department of Economics, U. of Denver.
- ROS, J. (1995) "Trade liberalization with real appreciation and slow growth: sustainability issues in Mexico's trade policy reform". In: G. K. Helleiner (ed.), *Manufacturing for Exports in the Developing World: problems and possibilities*. Londres e Nova York: Routledge.
- TAYLOR, L. (1988) *Varieties of Stabilization Experiences*. Oxford: Clarendon.
- VÁZQUEZ, H. (1995) "Medición del flujo efectivo de divisas de la balanza comercial de México". *Comercio Exterior*, v. 45, n. 8, ago.