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TRADE LIBERALIZATION WITH A FIXED EXCHANGE RATE

by

Elio Londero *

Abstract

When the nominal exchange rate is fixed (it cannot be devalued), trade liberalization would normally require a reduction in the absolute prices of non-traded goods in order to obtain the real depreciation needed. This paper analyzes the difficulties in achieving that real depreciation, and the effects of the persistent overvaluation that may result from labor market restrictions and capital inflows. Issues regarding stabilization *cum* trade liberalization, as well as sequencing with other reforms, are also explored.

* *Inter-American Development Bank*. Opinions expressed in this paper are those of the author and are not intended to represent the views of the Bank. Comments by Florencio Ballester, Fabio Giambiagi, Rodrigo Parot, Simón Teitel, Rob Vos and two anonymous referees, and valuable help from Adriana Maraviglia, are gratefully acknowledged. The author remains solely responsible for the final result. This is an Accepted Manuscript of an article published by Taylor & Francis Group in *The International Trade Journal*, Vol. 11, No. 2, pp. 247-76, 1997. Published online: 21 Jun 2007 and available at <https://www.tandfonline.com/doi/abs/10.1080/08853909708523881>

TRADE LIBERALIZATION WITH A FIXED EXCHANGE RATE

by *Elio Londero*

To begin with, ... great depression in the export industries ... will produce an atmosphere favourable to the reduction of wages. ... Nevertheless, ... the export industries will not be able to reduce their prices sufficiently, until wages have fallen in the sheltered industries. Now, wages will not fall in the sheltered industries, merely because there is unemployment in the unsheltered industries. Therefore, you will have to see to it that there is unemployment in the sheltered industries also....

We ought to warn you, though perhaps this is going a little outside our proper sphere, that it will not be safe politically to admit that you are intensifying unemployment deliberately in order to reduce wages. Thus you will have to ascribe what is happening to every conceivable cause except the true one."

J. M. Keynes, *The Economic Consequences of Mr. Churchill*

1. Introduction

A permanent reduction in used (non-redundant) protection will typically require, *ceteris paribus*, a real depreciation of the exchange rate, i.e. an increase in the prices of traded goods relative to those of non-traded ones in order to restore equilibrium to the balance of payments. The real depreciation will induce the additional exports and the import substitution needed to compensate for the additional imports generated by the reduction in protection. It is generally understood that such process takes place primarily through a devaluation of the domestic currency, i.e., an increase in the nominal exchange rate e (domestic *pesos* per unit of foreign exchange), accompanied by appropriate macroeconomic policies.

However, there are other manners of attaining a real depreciation. In some countries the nominal exchange rate is fixed, because it is the desire of the policy-maker (Argentina under the *convertibility plan*) or because foreign currency actually constitutes domestic currency (Panama).¹ In those cases, a reduction in the prices of non-traded goods, or a domestic inflation lower than the international, will have to be attained in order to obtain the same relative price effect of an increase in the nominal exchange rate. The difficulties inherent in complying with the above gives rise to the possibility of a significant overvaluation of the domestic currency.

In the recent past, cases of significant and prolonged overvaluation of the domestic currency have resulted from stabilization programs that resorted to the use of preannounced

¹ Note that in the case of these two countries, it is only the nominal exchange rate with the US dollar that is fixed. As the US dollar changes in value relative to other currencies, so do the two domestic currencies.

rates of devaluation, or of the exchange rate as a nominal anchor (Bruno, 1991; Corden 1990). Such were the cases of Argentina and Chile in the late seventies and early eighties. Of those two cases, the Chilean experience is the one that involved a true and lasting attempt to liberalize international trade in the context of a significant and persistent overvaluation resulting from the stabilization program (Corbo and Solimano, 1991; Agosin and Ffrench-Davis, 1993). However, a distinctive characteristic of both cases was that a devaluation was feasible without a severe disruption of the economy.

In contrast, recent discussions on trade liberalization attempts by Panama, and the current stabilization *cum* trade liberalization plan in Argentina under the *convertibility law*, have brought attention back to the issue of attaining a real depreciation when the exchange rate is fixed and cannot be devalued (i.e., a devaluation would require extraordinary measures).²

This paper analyzes trade liberalization under a fixed exchange rate that cannot be devalued, focusing on the long-run consequences of persistent overvaluation that may result from such a process when there are restrictions in the labor market that make nominal wages rigid downwards and firing very costly.³ While the analysis is conducted for the case of a fixed exchange rate, its implications are also relevant for that of a domestic currency that devalues at a rate lower than that needed to reach the equilibrium real exchange rate (*erer*) required by the less protected economy. Here, following Edwards (1989), the *erer* is defined as:

"... that relative price of tradables to nontradables that, for given sustainable values of other relevant variables --such as taxes, international prices, and technology-- results in the simultaneous attainment of *internal* and *external* equilibrium. *Internal equilibrium* means that the nontradable goods market clears in the current period, and is expected to be in equilibrium in future periods. ... *External equilibrium*, on the other hand, is attained when the intertemporal budget constraint that states that the discounted sum of a country's current account has to be equal to zero is satisfied. In other words, external equilibrium means that the current account balances (current and future) are compatible with long-run sustainable capital flows." (p. 16)

For analytical purposes, trade liberalization may be conceived as being carried out for two different objectives that need not be pursued simultaneously. The first objective is to increase productivity growth through increased competition; the second is to significantly alter the static allocation of resources. The productivity growth effects of increased competition may be attained by promoting exports (Keesing, 1967, 1979; Feder, 1982, 1986; Wade, 1990; Kim, 1993) and/or by one or more minor reductions in used protection along

² This issue was explored by Harberger (1985) in the context of analyzing Panama's fiscal and external debt situations.

³ The word wages is used to refer to labor cost to the employer, i.e. including all costs associated to employing one worker, such as health and other insurance, paid leave, retirement fund, etc.

time.⁴ Each reduction in used protection would require a relatively small real depreciation, and consequently have a minor impact on resource allocation. Instead, trade liberalization aimed at attaining a profound change in the static allocation of resources will require significant changes in relative prices and will have major consequences on productive capacity. In line with recent trade liberalization attempts in developing economies, in this paper it is assumed that a major static reallocation of resources between the production of traded and non-traded goods is an important objective of reducing the level and dispersion of protection. That objective, however, is not the subject of the paper. Only the consequences of pursuing it under a non-devaluable fixed exchange rate are analyzed.

According to the preceding definition of external equilibrium, analyzing the evolution of the *erer* requires that trade and long-run sustainable capital flows be considered simultaneously. In this paper, the analysis will be conducted under the assumption that trade liberalization takes place without affecting those long-run sustainable capital flows, which will be only briefly brought into the analysis.

The following section presents the definition of the real exchange rate, used in section 3 to explore alternative sources of real depreciation. The analysis is initially conducted under the assumption that there are no rents, which are later incorporated in section 4. Section 5 shows the potential for overvaluation that exists when significantly reducing used protection in an economy with a fixed exchange rate, and the consequences of overvaluation on the productive sectors are analyzed in section 6. The conflicts resulting from simultaneous attempts to liberalize foreign trade and stabilize the economy are briefly explored in section 7. Finally, some conclusions are reached in section 8.

2. The real exchange rate

Following our definition of the *erer*, the real exchange rate (*rer*) may be defined as the actual set of ratios of the domestic prices of traded to those of non-traded goods. However, for practical purposes, a more operational definition is required. For example, it may be defined as the ratio of a domestic (producer) price index for traded goods (p^{wd}) to one for domestically produced goods (p^{dd})

$$rer = p^{wd} / p^{dd} \quad [1]$$

Although an index as in [1] will be appropriate for following the actual path of the

⁴ Edwards (1993) provides a review of empirical studies on openness, trade liberalization and growth; also see Tybout (1992). Agosin and French-Davis (1993) provide a review of Latin American experiences.

rer over time, the analysis of the allocative effects brought about by policy measures leading to a more liberal trade regime requires a more detailed definition of the *rer*. For example, the numerator of [1] may be thought of as a weighted average of price indices for imported and exported goods

$$rer = \frac{\alpha p^{md} + (1 - \alpha) p^{xd}}{p^{dd}} \quad [2]$$

Consequently, [2] can be thought of as a weighted average of a real import and a real export exchange rates

$$rer = \alpha rmer + (1 - \alpha) rxer \quad [3]$$

where $rmer = p^{md}/p^{dd}$ and $rxer = p^{xd}/p^{dd}$. More simply, the *rer* could also be conceived as a weighted average of the relative prices of representative imported and exported goods, with respect to the representative domestically produced good.

The domestic (producer) price for the representative imported good (p^{md}) results from its border price p^m , assumed to be exogenous to the country, the nominal exchange rate e , and the *ad valorem* effect of import restrictions τ^m .⁵ So, the domestic (producer's) price of the imported good would be

$$p^{md} = p^m e (1 + \tau^m) \quad [4]$$

To simplify the presentation, it is assumed that in all cases the initial reduction in trade restrictions implies a reduction in used protection. Consequently, further changes in τ always imply changes in used protection (i.e., no water remains in the tariff).

Similarly, the domestic (producer) price of the exported good will be

$$p^{xd} = p^x e (1 - \tau^x) \quad [5]$$

where τ^x is the *ad valorem* equivalent of export restrictions (an export subsidy will be a negative τ^x).⁶

⁵ Henceforth, world prices refer to prices expressed in the foreign currency to which the domestic currency is tied.

⁶ In order to simplify the presentation, domestic export distribution costs have been omitted from the definition of the producer's price of the representative exported good.

The price of the representative non-traded good may be expressed as the sum of the corresponding total requirements of traded inputs, wages, and operating surplus:

$$p^{dd} = L w + F^m p^m e (1 + \tau^{mi}) + F^x p^x e (1 - \tau^{xi}) + s \quad [6]$$

where L and F are the total, direct and indirect, unit labor and traded input requirements of the non-traded good, respectively, w is the nominal wage, τ^{mi} and τ^{xi} are the *ad valorem* effects of trade restrictions on imported and exported inputs, respectively, and s is the total requirement of gross operating surplus. From [4], [5], and [6], the real import and real export exchange rates may be written as

$$rmer = \frac{p^m e (1 + \tau^m)}{L w + F^m p^m e (1 + \tau^{mi}) + F^x p^x e (1 - \tau^{xi}) + s} \quad [7]$$

$$rxer = \frac{p^x e (1 - \tau^x)}{L w + F^m p^m e (1 + \tau^{mi}) + F^x p^x e (1 - \tau^{xi}) + s} \quad [8]$$

Finally, for purposes of the subsequent analysis, gross operating surplus s may be thought of as

$$s = K(L^k, w, F^{mik}, p^{mik}, \tau^{mik}, F^k, p^{mk}, \tau^{mk}, \rho) + R + \pi \quad [9]$$

where $K(\cdot)$ is reproducible capital cost (i.e., depreciation plus normal return to reproducible capital), R represents rents (i.e., returns to non-reproducible capital, e.g. land), and π is excess profits.⁷ Reproducible capital cost $K(\cdot)$, in turn, is a function of total requirements of labor and traded inputs needed to domestically produce capital goods, their prices, total requirements of imported capital goods, their prices, and the market rate of return ρ .

3. Alternative ways of attaining a real depreciation

Measures to obtain the expected allocative benefits of a more liberal trade regime will typically include the reduction of import restrictions τ^m and export taxes τ^x , as well as the reduction of export subsidies (negative τ^x) that may have been used to compensate for the anti-export bias of the protective trade regime. While reductions in τ^m will unambiguously

⁷ For the sake of simplicity, it is assumed that no exported goods enter directly or indirectly into the production of capital goods, and that there are no domestically produced capital goods that are exported at the margin.

increase the demand for foreign exchange, the results of a reduction in the absolute value of τ^x are ambiguous, since the increase in the supply of foreign exchange resulting from lower export taxes may override the effects of the reduction in export subsidies. As a result, it is conceivable, although unlikely, that a reduction in both τ^m and τ^x may not require a real depreciation after trade taxes have been changed, i.e. it is unlikely that the increase in exports brought about by the reduction in export taxes would be enough to compensate for the increase in imports due to the reduction in tariffs and the decrease in exports originated in the reduction of export subsidies. Nevertheless, in this paper it is assumed that the increase in the equilibrium real exchange rate from $erer(\boldsymbol{\tau}_0)$ to $erer(\boldsymbol{\tau}_1)$ resulting from the reduction of trade restrictions from vector $\boldsymbol{\tau}_0$ to $\boldsymbol{\tau}_1$ will require for a real depreciation to take place after all trade taxes and subsidies have been reduced.

Equations [7], [8], and [9] allow the analysis to focus on the different ways of attaining the real depreciation required by trade liberalization measures (i.e., reductions in τ^m and τ^x). For a given e , p^m , and p^x , and excluding rents, that will be taken into account in section 4, the real depreciation may originate in one or more of the following sources: i) reductions in the domestic prices of traded inputs relative to those of other traded goods (a reduction in τ^{mi} and τ^{mik} relative to τ^m or τ^x , or an increase in τ^{xi} relative to τ^m or τ^x); ii) an increase in export subsidies; iii) a reduction in gross operating surpluses; iv) a productivity increase (reductions in labor or foreign exchange coefficients); v) a reduction in nominal wages.

Reductions in the domestic prices of traded inputs relative to those of other traded goods would increase the profitability of producing marginally traded final goods, leading to an increase in the net supply of foreign exchange from export-producing activities and to some reduction in net demand originating in import substitution of final goods. These reductions in the domestic prices of traded inputs would simultaneously lead to an increase in the demand for foreign exchange, since these inputs are also used in the production of non-traded goods. The increase in the supply of foreign exchange originated in traded sectors could be greater than that in the demand for traded inputs of non-traded goods, but the net effect is likely to be small and associated with an *increase* in effective protection to industries using these inputs.⁸

Moreover, under the protective trade regime tariffs on consumption goods are

⁸ This difficulty in ascertaining the effects on the foreign exchange market of changes in the *rer* defined as in equations [4] and [5], led Harberger (1986) to prefer the more traditional foreign exchange market definition of $rer = e p^w / p^{fd}$, where p^w is an index of world prices. However, the "domestic relative price of tradables" (Edwards, 1989) is more appropriate for the analysis of allocative effects.

generally higher than those for intermediate goods. As a result, a reduction in used protection aimed at reducing the dispersion in effective protection rates is likely to have reduced tariffs on inputs used in the production of intermediate and capital goods (τ^{mi} and τ^{mik}) less than the average tariff rate (τ^m), requiring a specific compensatory real depreciation effect from other sources. Similar reasons rule out the possibility of resorting to increases in taxes to marginally exported inputs (τ^{xi}). In practice it is likely that, cornered by the reality of persistent overvaluation of domestic currency, policy-makers will resort to increasing effective protection for final goods as a desperate move to reduce the trade deficit. However, this paper will not consider such option since it would contradict the allocative objectives of trade liberalization.

Increasing export subsidies with respect to the protected situation would run counter to the proclaimed objectives for their instauration, as well as to the objectives of a trade liberalization justified on allocative grounds. If the reasons for instituting export incentives included compensating for the anti-export bias of the trade regime, they are supposed to be *reduced* when import restrictions are brought down while the *rer* increases for *all* traded goods. A static allocation of resources closer to that corresponding to free trade would also require a *reduction* of export subsidies. Nevertheless, maintaining the existing export subsidies may be used as a means to reduce the appreciation resulting from tariff reductions, and postpone part of the adjustment. Export subsidies to be removed as other sources of real depreciation develop, would act as a temporary cushion similar to a step by step approach to tariff reduction. In practice, an initial reduction or elimination of these subsidies may later be followed by their increase or reinstatement in order to attain some (hidden) real depreciation. However, export subsidies would be difficult to finance under the fiscal discipline imposed by the need to attain a real depreciation (Edwards, 1989).

Reductions in s (gross operating surplus) are likely to take place as firms scramble for survival under greater competition and an overvalued domestic currency. These reductions, however, would be short-term and unlikely to be sustainable in the long run. When rents are negligible, reductions in s that become sustainable in the long run – i.e., those that do not result in the absence of net investment – are not to be expected but for the handful of sectors that were able to translate the lack of competition into a higher than "normal" profit rate. In other words, only reductions in π can be expected to be sustainable.

Consequently, it is likely that most of the real depreciation effect would have to come from a reduction in nominal wages, an increase in productivity, or both. In practice, if the required real depreciation can take place along time without seriously hurting the economy, it may be accomplished by nominal wages growing at a rate lower than that of international

prices p^w , by productivity growing at a rate higher than that of p^w , or both. More precisely, if from [1] and [6] we define the *rer* as

$$rer = \frac{p^w e (1 + \tau)}{L w + F p^w e (1 + \tau) + s} \quad [10]$$

then, for the *rer* to increase along time ($\dot{rer} > 0$) when gross operating surpluses s and trade restrictions τ are assumed fixed, it is required that

$$\dot{p}^w > \beta_1 \dot{w} + \beta_2 \dot{L} + \beta_3 \dot{F} \quad [11]$$

where the β_i are positive constants. That is, growth in international prices for traded goods has to be more than enough to compensate for growth in domestic wages net of the effect of productivity increases.

Productivity increases may come from three main sources: investment in more efficient techniques, greater operational efficiency, and higher intensity of work. Investment would only take place if foreseen by firms as profitable at the present cost to the employer, w . Consequently, very few investments in the production of exported goods would be made unless dramatic productivity increases are foreseen as resulting from such investment.⁹ The inconsistency between the lower protection level and the old unit labor cost will also deter investment in activities that are expected to remain domestically produced, but become marginally imported at the new protection level and its corresponding *erer*. Very little investment in the production of traded goods will take place unless a reduction in unit labor costs originating in lower wages or higher productivity is attained and perceived as sustainable. This level of investment would most likely represent only a fraction of the amount that would have been invested anyway in the without trade liberalization situation.¹⁰

While the overvaluation lasts, investments would be made primarily in the production of non-traded goods. Investment into the production of intermediate non-traded goods may carry some real depreciation effect by increasing productivity (reducing prices of non-traded

⁹ Investments in rent-intensive activities may be an exception (see section 6). Another exception may be that of exported goods whose export taxes are reduced. On the other hand, domestic producers of traded goods that use the previously taxed exported goods as inputs would be hit hard.

¹⁰ It is conceivable that the profitability effect on the production of traded goods of lower domestic prices of imported capital goods may exceed that of the overvaluation, but it is highly unlikely not only because the overvaluation affects 100 percent of the value of the output and inputs of capital goods are only a fraction of long-run marginal costs, but also because tariffs for capital goods tend to be among the lowest.

goods). Such an effect would be the unintended by-product of producing for the domestic market and may provide, *along time*, only a part of the real depreciation required, with minor effects during the first years of the overvaluation. More important, this productivity effect does not substitute for the results on the production of non-traded goods of deliberate actions prompted by competition in meeting the demand by producers of traded goods.

In summary, not only will investment taking place under an overvalued domestic currency not be distributed among sectors as required to attain the new resource allocation of the now more liberal trade regime, but it will do little to attain a real depreciation. The search for sources of real depreciation must be then in the direction of lower wages, greater operational efficiency and higher intensity of work.

Some reduction in the cost of producing traded goods may be attained by substituting traded for non-traded current inputs, now allowed by the trade liberalization. However, the net effect on the foreign exchange market generated by the substitution, and the associated reduction in the real depreciation required by the trade liberalization, are likely to be minor since: i) the potential reduction in the production cost of exports or import substitutes, is attained through an increase in imports; and ii) substitution also takes place in the production of non-traded goods generating an additional demand for foreign exchange.¹¹

Greater operational efficiency may help some industries only if a small real depreciation along a period of time is required. However, increases in operational efficiency are not reached overnight and may also require some investments, as well as changes in the way plant work is performed (e.g., intensity and lay-out). These changes may in turn conflict with existing labor regulations, which were perceived as viable under the more protective trade regime.¹²

The larger the real depreciation needed, and the shorter the period in which it has to be attained, the more important lower wages and higher work intensity will become as the main sources of real depreciation. Resorting to these two sources may require changing (or not enforcing) the prevailing rules that govern relations between labor and firms. The new relations should allow firms to lower nominal wages and reduce labor coefficients at a lower firing cost, as well as to continue adjusting employment levels and labor costs to changes in

¹¹ Corden (1992) seems more optimistic regarding the effects of substituting for non-traded inputs.

¹² For a discussion and further references on the role of increasing operational efficiency, see Schwartz (1991).

international markets.¹³ Thus, trade liberalization becomes an exercise in achieving a reduction in real wages in exchange for a promise of future real wage growth.

Unless preexisting rents provide some cushion, a more liberal trade regime requires that domestic labor practices move closer to those of competitors in international markets in order to lower unit labor costs as required by the new protection level. For a given productivity differential, the greater the reduction in used protection, the more stringent the alignment of domestic labor practices will have to be. This requirement, in turn, raises other questions regarding: i) how close to the labor practices implicit in international prices is it desirable to come; ii) when to start, and at what pace, the changes in labor practices relative to the overall changes required for reducing the distance between domestic and international productivity levels; and iii) since it is also likely that existing domestic entrepreneurial practices do not respond to the competitive model, it should also be asked when to start, and at what pace, the changes in labor practices relative to changes in the rules that govern entrepreneurial behavior.

4. The existence of rents

If the trade liberalization manages to reduce rents entering the cost of domestically produced goods, it may help in bringing about some real depreciation. Rents are residual incomes whose levels depend, for given productivity levels, on those of other prices and economic activity. Since both prices and activity levels are likely to be affected in the process, their effects on bringing about the required real depreciation will be explored in this section.

A recession may be the eventual consequence of the overvaluation, initially forcing the real depreciation by bringing down wages, rents, and, perhaps, profits in the production of non-traded goods. Rents may recuperate when (and if) the real depreciation finally takes place and economic activity returns to normal levels. The final level of those rents will depend on the extent to which the resumption of growth under the new relative prices implies growth for those rent-intensive non-traded products.¹⁴ While rents will accompany the reduction in the prices of non-traded goods during the recession, in the end only the final productivity and relative price effects of the liberalization may significantly affect the pattern

¹³ Agacino et al. (1992, p. 55) suggest that total factor productivity increase in Chile's manufacturing industry during the 1975-81 period is explained primarily by "rationalization of the work process". Romaguera et al. (1994) show the effects on employment and real wages, and refer to enforcement and changes of labor legislation.

¹⁴ The reduction in the profitability of traded goods may temporarily bring down some rents in the production of non-traded inputs used in the production of those traded goods, a subject explored further in section 6.

of rents (e.g., increasing rents in export-oriented sectors previously subject to export taxes, or reducing rents in previously protected resource-intensive products).

From the perspective of relative price changes, and contrary to what may be required in the long run, liberalizing trade with a fixed exchange rate is likely to initially translate into a reduction in the domestic prices of traded goods. These reductions in the prices of traded goods may lead to reductions in rents that help in bringing down prices of domestically produced goods. For example, when the main source of rent is used in the production of traded goods (e.g., agricultural land), and switching between traded and non-traded goods can be done at a low cost (e.g., annual crops), the initial overvaluation would induce such a switch, driving down domestic prices of non-traded goods and, consequently, rents. However, since the reduction in the prices of non-traded goods would be *attributable to the overvaluation*, it would be inherently temporary: the reduction would only last until the fundamental sources of real depreciation have adjusted the *rer* to the new protection level.

There may also be short and long-run effects combined. It is common for resource-intensive exports to be taxed under the protectionist trade regime. If, as expected, trade liberalization translates into the reduction or elimination of those taxes, the short-run relative price effect originating with these products would depend on the extent to which the allocative effects of eliminating the export taxes will be temporarily compensated by the overvaluation. In the short run, this compensation would dampen the relative price effects on the resource-intensive exports, as well as on those domestic producers, in many cases exporters, that use as inputs the previously taxed resource-intensive exported products (e.g., agroindustries). In the long run, the liberalization would lead to a significant *increase* in these rents.

The case of reducing protection for resource-intensive products is similar. Trade liberalization would result in a *reduction* of rents for the owners of the previously protected resources. This reduction in rents would carry price effects for other domestic producers, particularly if, as expected, resource-intensive products become marginally imported at the new lower tariffs. These are typical substitution effects of trade liberalization, already referred to in section 3, that force production switches in the use of the natural resource, if those switches are possible (e.g., agricultural land). In this case, the long-run relative price effect of the nominal price reduction will be magnified by the overvaluation in the short run, and that extra relative price reduction will be eventually eliminated when the real depreciation takes place.

From the above it appears that sustainable real depreciation effects originating in relative price changes should only be expected from a reduction in rents of physical inputs

(e.g., land and mineral deposits) when the liberalization reduces used protection for domestically produced, resource-intensive products. Instead, it may be argued that more competition in the domestic market would help in reducing other types of rents (normally associated with monopolistic or monopsonistic practices, bureaucracy, and corruption). These cost reductions may improve international competitiveness by raising overall productivity levels (like an overall increase in operational efficiency), thus increasing the profitability of producing both traded and non-traded goods. The productivity increase would reduce the required real depreciation by increasing the profitability of traded sectors for given prices of the non-traded inputs. Competition effects may also contribute to the real depreciation to the extent that they affect producers (reduce prices) of non-traded inputs. Since both types of productivity effects would take some time to develop, and those effects over producers on non-traded goods are largely not attributable to *trade* liberalization, measures to increase domestic competition and discourage rent-seeking behavior should precede trade liberalization.

5. The potential for a persistent overvaluation

Relations among economic agents take place according to rules that have been developed taking into account the particular constraints created by the trade regime, as well as incorporating the permissive elements that it allows. In particular, trade regimes where protection is in many cases prohibitive, converting many tradable products into non-traded ones, have provided a fertile environment for powerful labor unions. Those unions have developed suitable instruments to bargain for higher wages and improved working conditions, that translate into higher unit labor costs.¹⁵ Many of those instruments have been incorporated into laws and regulations that govern the relations between labor unions and firms.

In such an economic environment, trade liberalization attempts coupled with a fixed nominal exchange rate, may create particularly conflictive situations when reductions in nominal wages and other changes in labor regulations needed to reduce unit labor costs become a necessary condition for attaining the real depreciation required. The design of the trade liberalization process should take into account the timing with which reductions in

¹⁵ The existence of high rents that provide a source for the income transfer facilitate such an institutional arrangement.

labor costs can be attained.¹⁶

Moreover, while trade liberalization suddenly changes the rules for many producers of now traded goods, rules would initially continue to be the same for the producers of non-traded goods. Thus, even when "labor reform" may have created the *conditions* for reducing nominal wages, as long as activity levels remain in the normal range, the bulk of incentives for translating the new conditions into actual wage reductions would be for the producers of traded goods.

The reduction in used protection may require reductions in labor costs that prove to be unattainable, because they are socially undesirable or politically unfeasible. If that becomes the case, the current account deficit will grow and eventually send the economy into a balance of payments crisis (Edwards, 1988; Corden 1990). If this crisis takes place after only a brief period, there may be no major consequences to the productive sectors of the economy, in the sense that the eventual real depreciation would take place soon enough to allow traded sectors to recuperate. However, if foreign capital inflows allow for the financing of the current account deficit, and policy-makers decide to use those flows to finance a stalemate with the labor unions, a prolonged overvaluation will result.¹⁷ This ability of using capital inflows to finance the current account deficit generated by the real appreciation, delays the precipitation of the recessionary adjustment, and thus the real depreciation.

Capital inflows that finance a current account deficit generated by the overvaluation should be differentiated from those that are "long-run sustainable" (referred to in the definition of the *erer*), which may lead to reductions in the *erer*. For example, if liberalization of the capital account results in lower real interest rates, there may be an initial reduction in the *erer*. Lower interest rates, by means of making present consumption cheaper relative to future consumption, may lead to an increase in the demand for, and consequently the relative price of, non-traded goods (Edwards, 1989, sec. 2.5). Also, capital inflows that are invested in *increasing* the production of traded goods will result in an *erer* reduction. Such a reduction only anticipates what will be later confirmed by the effects of these investments in the structure of production. The ensuing increase in the production of traded

¹⁶ The extent to which traded goods are also wage-goods may play a role in the ability to attain lower nominal wages. Price reductions of imported wage-goods originating in tariff reductions may facilitate reductions in nominal wages, while the reduction of export taxes for the same type of goods may have the opposite effect.

¹⁷ Edwards (1984) analyzes the closely related subject of "the order of liberalizing the current and capital accounts of the balance of payments". Also see Corden (1987), Michaely et al. (1991), and Agosin and French-Davis (1993).

goods will change the equilibrium relative prices between traded and non-traded goods. What is significant about the preceding examples is that capital flows respond to changes in the basic determinants of long-run equilibrium¹⁸ that require a reduction in the *erer* to maintain it, instead of financing a temporary disequilibrium in the current account of the balance of payments.

6. Consequences of an overvaluation

An important stated objective of recent trade liberalization attempts in developing countries has been to attain a different allocation of resources. The resource reallocation required by the more liberal trade regime takes place mainly by changing the sectoral composition of investment from previously non-traded to now traded sectors. That change in composition, in turn, is induced by changes in the relative profitability of investments arising from the increase of the *erer*. A higher *erer* will partially compensate for the lower import tariffs, reducing the impact on marginally imported activities while increasing export revenues relative to domestic costs. An overvaluation of the domestic currency has the opposite effect. On the one hand, the overvaluation implies domestic prices of imported goods below their equilibrium levels ($rer < erer$) putting an extra burden on domestic producers of marginally imported goods. For many firms, that extra burden transforms what could have been productivity-increasing incentives from more foreign competition into destructive effects on production capacity. On the other hand, the overvaluation lowers the profitability of exported goods, making investment in those activities less attractive.

If foreign capital inflows are financing a trade deficit that results from the overvaluation, investment will take place mostly in the production of non-traded goods. The combination of the overvaluation and the tariff reduction for capital goods may stimulate the replacement of capital goods and some capacity expansion in non-traded activities, in anticipation of the forthcoming devaluation. A privatization program of non-tradable activities conducted under these circumstances may also attract investors. These events may create the false impression that the trade liberalization policy is successful. In fact, success should be measured by the acquisition of capital goods for *increasing* the production of *traded* goods.

Some investment in assets for the production of traded goods may take place when there are sizable rents. Since the market value of the asset that constitutes the source of rent would be determined by the present value of the flow of that rent, reductions in international

¹⁸ In Edwards (1989) terminology, the "real exchange rate 'fundamentals'".

rents that result from the overvaluation of the domestic currency will translate into price reductions of those assets. Those reductions will contribute to maintaining the profitability of the investment, and open the possibility of sizable gains when the real depreciation finally takes place. The reduction in rents may also encourage some investment into the production of traditional rent-intensive exported products (e.g., natural resource based goods).

If by the time foreign inflows eventually stop, the economy has not managed to generate a trade surplus by reducing unit labor costs and attracting investment into the production of traded goods, a capital flight would follow. The country may no longer be able to run a current account deficit and servicing of the foreign debt may have to be suspended. That result, in turn, would require a deep and costly recession in order to reduce absorption, force nominal wages downwards, restore the profitability of producing traded goods, and start the reallocation of investment towards those activities.¹⁹

A persistent overvaluation may exhaust the ability of domestic firms producing marginally traded goods to finance temporary losses, or to repay their debts contracted under the expectation of higher long-run equilibrium profit margins. Such an overvaluation may also make exporting firms come to ignore its temporary nature. This change of attitude will force them to abandon foreign markets where developing distribution networks, name recognition, customer loyalty, and other "invisible assets" made them incur significant fixed costs (Baldwin and Krugman, 1986) with a view towards a sustained flow of exports during a long period of time. Recuperation of those costs is made impossible during the overvaluation. These effects on the production of traded goods become particularly important for small, as well as for newly exporting firms, whose future performance in foreign markets is jeopardized by a misguided economic policy.

If nominal wages are inflexible downwards, at least for a prolonged period of time, and/or other labor regulations affecting the ability of firms to increase operational efficiency prove to be resilient, a destruction of capital may take place in activities that might have been (or become) profitable under the long-run equilibrium prices corresponding to the new level of protection. In general, the lower the proportion of traded inputs, rents and capital costs in the total value of a product in the "with trade liberalization situation", i.e. the higher the participation of wages in total costs, the more vulnerable an activity becomes to an overvaluation of the domestic currency ($rer < erer$). These activities are likely to be more affected by capital destruction since protective labor regulations prevent domestic producers

¹⁹ The consequences of running a persistent overvaluation when an economy has not yet completely recovered from a debt crisis, may be even more severe.

from shifting the reduction in profits to labor. The result will be increased political pressure for "labor reform". However, if those pressures cannot be translated into changes in laws and regulations leading to the reduction in unit labor costs in a timely manner, those industries would be the first ones to experience capital destruction, even though they might otherwise have remained or become exporting activities.

The capital destruction effects of persistent overvaluation would be costly in developing countries that have attained significant levels of industrialization. In these countries, too often capital destruction affects activities in which greater "learning by doing" is expected, e.g. fabricated metal products, machinery and equipment, electronics. Two additional characteristics of these industries make their survival particularly vulnerable to the combination of both the relative price and recessionary effects of the overvaluation: they are relatively more income elastic (e.g., appliances) and even worse, very sensitive to investment fluctuations (e.g., capital goods).

If the overvaluation of the domestic currency is long lasting, the later restoration of equilibrium relative prices may not lead to the recuperation of these industries as the new, lower protection levels may be insufficient to provide the production incentive required for relearning. As a result, the new composition of manufacturing output will have a higher total content of rents and traded inputs, and a lower content of manufacturing value added than it would have had, had trade liberalization taken place under an equilibrium real exchange rate.²⁰ It may also lead, at least until the expected productivity effects materialize, to a lower average wage due to the disappearance of more skilled occupations.

7. Stabilization and trade liberalization

Bruno (1991) has suggested "... the wisdom of using the exchange rate as a key anchor in the early stages of sharp stabilization but of moving in the direction of a more flexible exchange rate once credibility has been developed." However, the development of that credibility would only be undermined by the simultaneous liberalization of the trade regime. The level of overvaluation that typically accompanies a stabilization program that uses the exchange rate as a "nominal anchor" is significantly increased by reducing protection, because the *erer* is higher for a more liberal trade regime. That additional level of overvaluation reduces the chances for success of the stabilization program by undermining confidence in the recently

²⁰ In reviewing the Chilean experience, Agosin and Ffrench-Davis (1993) indicate that by 1992 the effects of the early trade liberalization with real appreciation manifested in exports "still concentrated in natural resource-intensive product lines" (p. 50).

acquired stabilization. As time passes, the concern for a sizable devaluation to generate the real depreciation required by the deficits in the current account of the balance of payments becomes dominant for individuals' formation of expectations.

In economies with long inflationary records, for simultaneous price stabilization and trade liberalization policies to be successful in attaining their targets, the fiscal restraint required by the anti-inflationary policy would have to be successful in shrinking the domestic market, precipitating and maintaining a recession. The ensuing unemployment would create the conditions for reducing wages and redefining the institutional arrangements between labor and firms, reducing expectations for a resumption of inflation, and generating the required real depreciation. Initially, the effects of the overvaluation on the destruction of production capacity would become difficult to discern from those of the stabilization induced recession and from those of the greater foreign competition associated with trade liberalization. As a result, consequences of the overvaluation may be erroneously attributed to stabilization or competition effects, and the incorrect diagnosis may prevent the adoption of appropriate compensatory policies. Nevertheless, these effects may last short if the program is successful in driving nominal wages down and redefining relations between labor and firms.

The key assumption in the above description is that the recession required to attain both targets is politically manageable. However, when the basic social conditions that manifest themselves as inflation are well entrenched, the recession required for lasting stabilization may be so deep that it is difficult to imagine a democratic government being able to carry out such a policy. In fact, not even non-democratic governments seem to have been able to do it (Edwards, 1991).

When the conflict between the required consequences of pursuing both targets simultaneously and political reality becomes apparent, the real appreciation becomes the unavoidable consequence of the preeminence of price stabilization (Corbo, de Melo and Tybout, 1986). An expansionary price stabilization program financed by capital inflows develops at the expense of the proclaimed allocative virtues of the more liberal trade regime (Canitrot and Junco, 1993). If the expansionary stabilization program is successful, it may dominate in capturing the attention of the economic agents in the early stages of its implementation, silencing the warnings about the production and trade effects of real appreciation. The increase in the equilibrium real exchange rate due to the reduction in protection may be initially overlooked as a result of an incomplete analysis, or be obscured by capital inflows, resulting in an underestimation of the extent of the overvaluation. Policy makers may also try to hide that incremental level of overvaluation fearing for its effects on

expectations, and betting on a real depreciation taking place before the precipitation of the balance of payments crisis. In the meanwhile, the perverse effects of real appreciation described in section 6 would take place. Moreover, if the program is not also successful in removing the constraints for a real depreciation, it would make adjustment to the eventual balance of payments crisis even more difficult.

The preceding arguments speak in favor of a sequence in which stabilizing the economy precedes a trade liberalization attempt that pursues a significant reallocation of resources. The conditions required to attain stabilization may not be able to prevent an overvaluation of the domestic currency that sends an economic signal contrary to that required by trade liberalization. The latter generates pressures to abandon the exchange rate as a "nominal anchor" or, alternatively, if the government adheres strictly to attaining both targets with a fixed exchange rate, a recession is required to drive nominal wages down and redefine relations between labor and firms.²¹

8. Conclusions

A persistent overvaluation while liberalizing trade will make otherwise competitive firms loose foreign markets, destroy otherwise productive capital, create a fertile ground for a debt crisis, and lead to a future costly servicing of an easily acquired foreign debt. Since imports are likely to be more price elastic in the short run, there is a strong argument for an *undervalued* domestic currency during the initial stages of trade liberalization.

If the nominal exchange rate is fixed and prices of non-traded products are inflexible downwards, the level of protection should not initially be set lower than that allowed by the unit labor costs determined by those labor policies already in place. If an even more liberal trade regime is desired, protection may be further reduced when: i) producers of marginally exported goods have started to respond to price incentives; ii) producers of marginally imported goods have adjusted to more (and different) competition; iii) measures to increase domestic competition and discourage rent-seeking behavior are starting to have an effect; and iv) more flexible nominal (and real) wages, and greater control by firms over working conditions, would allow for a depreciation of the *rer* through higher productivity and lower nominal wages. Productivity increases stemming from investments in new techniques will

²¹ That is Dornbusch's (1992, section 7.6) proposal for Argentina. In his review of the Israel experience, Bruno (1991) described the multiple anchor approach followed in Israel, that included setting the anchors by a negotiation in which the labor unions were involved. However, the Israeli approach allowed for nominal devaluations of an otherwise fixed exchange rate, a situation different from that of Argentina under the present *convertibility plan*.

only attain a significant level when firms perceive that they know the relative prices that have to be considered for their cash flow projections.

The path for attaining a more liberal trade regime should take the entrepreneurial practices and the institutional arrangements between labor and firms as constraints, and only when those constraints have been relaxed to the extent allowed by the current protection level, should trade liberalization proceed. Otherwise, significant costs in terms of unemployment and destruction of capital will result. The use of the *rer* as an instrument to change the entrepreneurial practices, or to achieve a different institutional arrangement between labor and firms, is very costly. It is costly because it will eventually require a recession to adjust the balance of payments, and because it will carry a sectoral bias against traded sectors with long-lasting consequences on their productive capacity.

Once protection has reached its desired (or feasible) level, and an equilibrium *rer* has been attained, for a given rate of profit equilibrium changes in labor costs will be determined by changes in productivity relative to the rest of the world, and by changes in wages (including benefits, as well as protection from occupational health risks) in competitor countries expressed in the foreign currency to which the domestic currency is tied. Consequently, institutional changes must have been put in place to ensure that labor negotiations will take place according to rules compatible with maintaining an equilibrium *rer*. That requires specific consideration of potential disparities in the outcomes of labor negotiations in non-traded sectors vs. those in traded sectors.²²

The simultaneous implementation of stabilization and trade liberalization programs are likely to complicate the implementation of both, because of the conflicting demands they place on the exchange rate as a key economic signal: in the former case, as a determinant of absolute prices; in the latter, as a determinant of relative prices. While stabilization will normally result in an overvaluation of the domestic currency relative to the *erer* for the more protected economy, trade liberalization requires a real depreciation with respect to the same reference value. When the exchange rate is fixed, this conflict can only be resolved by driving nominal, but sticky wages down, that in turn can only be attained at a high cost in terms of employment and production capacity. Stabilizing the economy should precede trade liberalization if some of these costs are to be avoided.

²² For a synthesis of this subject in the context of a price determination model see Aukrust (1970, 1977) and the references cited therein.

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