Schweickert, Rainer

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Rainer Schweickert

Institut für Weltwirtschaft an der Universität Kiel

The Kiel Institute of World Economics

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Kiel Institute of World Economics
Düsternbrooker Weg 120, D-2300 Kiel
Department IV

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Rainer Schweickert

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Rainer Schweickert*

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I. Introduction

In April 1991 after years of hyperinflation and economic decline, Argentina implemented the convertibility plan, i.e. a stabilization program based on a fixed exchange rate vis-à-vis the US $ [EIU, a, 1991, No. 2, pp. 8f.]. The basic characteristics of the program are the mandatory full coverage of the monetary base by foreign exchange, the prohibition of fiscal deficits financed by the Central Bank, the full convertibility of the Peso for current as well as for capital account transactions, and the allowance for using of the US $ as a legal tender. This implies that the Central Bank acts as a currency board, i.e. the money supply is completely determined by foreign exchange flows, and there is no safeguard with respect to capital flows. Until early 1993, the fixed exchange rate has been sustained. It is highly interesting to analyse if it could be sustained in the future because of several reasons.

First, exchange rate based stabilization has been often tried in developing countries but there is no example of such a radical implementation of the concept. Hence, the Argentine case allows for an unbiased observation of macroeconomic adjustment in a fixed exchange rate regime.

Second, bad experience with fixed exchange rates is plentiful in developing countries [Schweickert, Nunnenkamp, Hiemenz, 1992]. The economic crisis in the Southern Cone countries Argentina, Chile, and Uruguay in the 1980s figures prominently. The typical pattern of the "stabilization blues" [Guidotti, Végh, 1992] was an initial success in an expansionary phase and a devaluation crisis in a contractionary phase. Argentina's experience in the 1990s can answer the question whether the concept or the less radical implementation can be blamed for the bad experience with fixed exchange rates in the past.

Third and irrespective of bad experience in developing countries, it has been claimed that a fixed exchange rate is the appropriate exchange rate regime for the transformation of formerly socialist economies in Eastern Europe into market economies [Bofinger, 1991; Schmieding, 1991]. The basic argument is that a nominal anchor in the form of a fixed exchange rate imports the anti-inflationary reputation of stable countries by tying the hands of domestic authorities. If disrectionary policy is ruled out and monetary policy is determined by the foreign Central Bank, the credibility of the reform improves and private agents adjust to the new policy at once. It is highly interesting for Eastern European countries to learn from Argentina if credibility actually improves or if bad experience is to be expected from fixing the exchange rate.

The basic hypotheses of this paper are that an exchange rate based stabilization program bears a high systematic risk, that credibility of stabilization can not be imported but has to be earned in a very short time if the exchange rate is fixed, and that a fixed exchange rate is not an optimal exchange rate regime for traditional as well as formerly socialist developing countries. The paper proceeds as follows: Section II introduces a model with traded and non-

traded goods, presents the theoretical implications of a fixed exchange rate regime and derives the conditions for avoiding a devaluation crisis. Section III shows Argentina's performance during stabilization and evaluates the adjustment measures in order to fulfill the conditions for sustaining the fixed exchange rate. Section IV gives a summary and draws policy conclusions.

II. The Theory of Exchange Rate Based Stabilization

II.1. The Model

The general implications of an exchange rate based stabilization policy can be shown by means of a simple graphical presentation [Schweickert, 1993a].[1] In Figure 1, the vertical axis measures the real exchange rate (s) defined as the price of traded relative to the price of non-traded goods (pt/pn). The horizontal axis measures real absorption (a), i.e. total domestic demand for domestically produced and imported goods. It is assumed that the planned level and the structure of domestic supply is constant in the short run.

The curve T shows all combinations of s and a with external balance, i.e. with balanced trade if no capital flows are observed.[2] This curve has a positive slope because, starting at any point on T, an increase in absorption would increase demand for traded goods. Therefore traded goods have to become more expensive, i.e. s has to increase, in order to reduce demand for traded goods to the previous level. With a constant real exchange rate an increase in absorption would lead to a trade deficit (points to the right of T) and a decrease in absorption would lead to a trade surplus (points to the left of T).

The curve Y shows all combinations of s and a with internal balance, i.e. with demand for non-traded goods equal to the supply of these goods. The curve Y has a negative slope because, starting at any point on Y, an increase in absorption would increase the demand for non-traded goods and these goods have to become relatively more expensive in order to maintain internal equilibrium. Points to the right of Y mark situation of excess demand, points to the left of Y indicate excess supply.

The adjustment in the case of disequilibrium differs between the two markets. If the domestic currency is convertible, the prices of traded goods (pt) are given by the world market prices (pt*) and the nominal exchange rate. With a fixed exchange rate and exogenous world market prices, the price for traded goods is fixed. Changes in domestic demand for tradable goods

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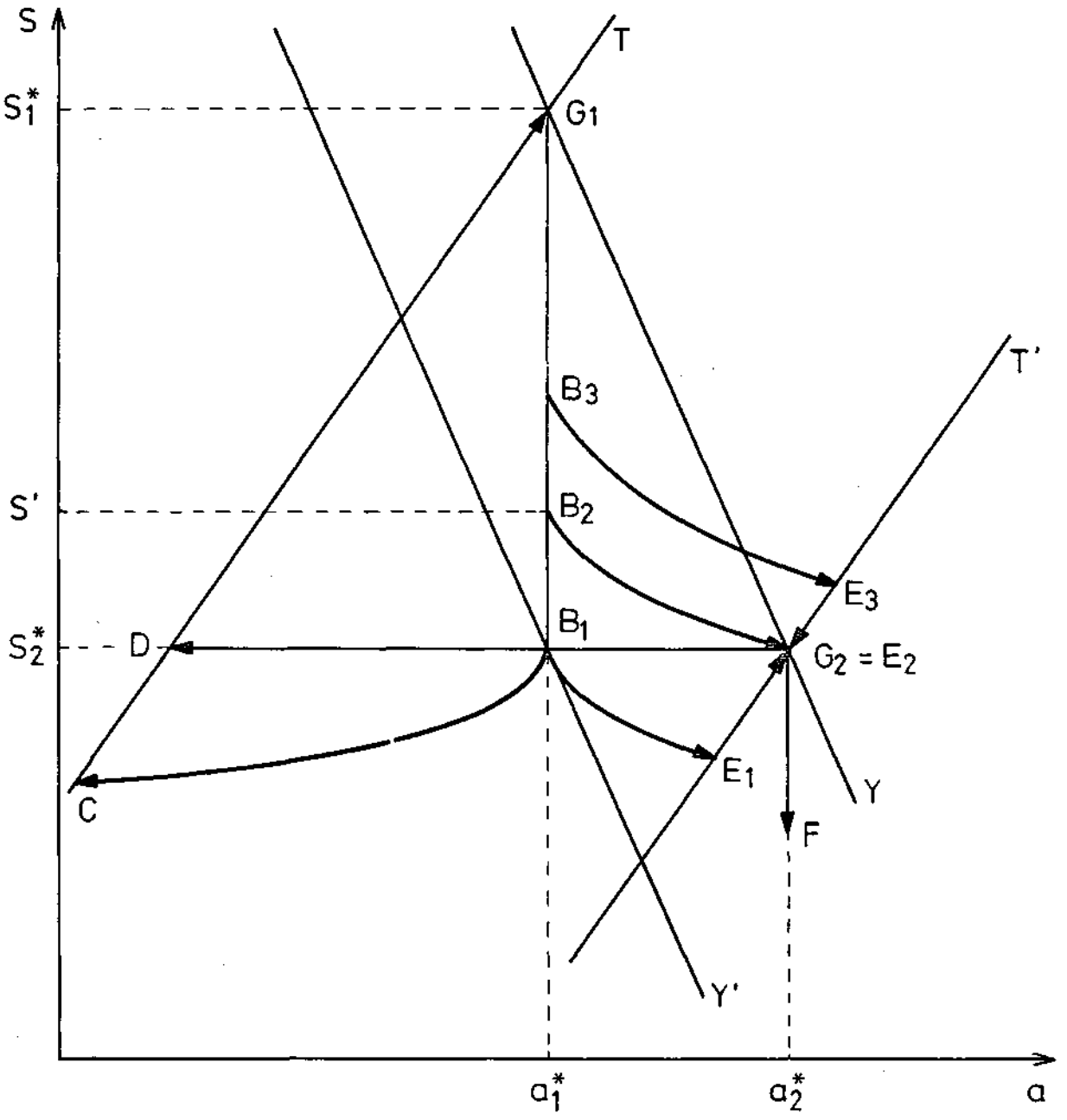
[1] For the underlying model, see Dornbusch [1980, pp. 100 - 103]. The graphical presentation is adopted from Corden [1991].

[2] The curves are assumed to be straight lines in order to simplify the exposition. The slope of the indifference curve and the transformation curve is neglected. Under the usual assumptions this would imply convex curves T and Y. The qualitative results, however, would be unchanged.

Figure 1 - Stabilization with a Fixed Exchange Rate



lead to changes in the trade balance rather than to price adjustment. Total demand for these goods always equals supply because the difference between domestic supply and domestic demand is always matched by external demand.[3]

By contrast, price changes are required in the case of demand shocks in order to maintain equilibrium in the market for non-traded goods. If downward adjustment of the prices of non-traded goods does not occur, supply has to adjust to a decreasing demand (a shift of Y to the left towards Y'). A shortfall of demand thus implies losses in terms of employment and income. Disequilibrium on the market for non-traded goods reflects the overall internal disequilibrium of the economy because the supply of traded goods is always demanded.

Due to the different signs of the slopes of curves T and Y, only one combination of s and a is consistent with internal and external equilibrium. This is shown by point G_1 in Figure 1. At point G_1, overall supply with full employment, a_1^*, is realized with balanced trade. Moving from G_1 along Y to the right implies an increasing trade deficit.[4] Moving along T to the left implies a decreasing overall supply.

II.2. The Case of Exogeneous Capital Flows

To see how a fixed exchange rate *can* stabilize an economy it is assumed that the economy is in macroeconomic equilibrium at point G_1 (Figure 1) and net capital flows are zero. The difference between domestic and foreign inflation is compensated by nominal devaluation so that the real exchange rate is constant at s_1^*, i.e. the real exchange rate is in equilibrium but inflation is significantly higher than abroad. If the real exchange rate is fixed in such a situation, inflation goes down immediately because the price increases for traded goods are curbed by world market conditions. But ongoing high inflation for non-traded goods will lead to an immediate real appreciation. The real appreciation is equal to the difference between inflation at home and abroad.

Let us assume that this difference is large enough to move the system to point B_1.[5] At point B_1, we have an excess demand for traded goods and an excess supply of non-traded goods because traded goods have become relatively cheaper and demand has shifted from non-traded to traded goods.

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[3] A small country faces a perfectly elastic supply of imported goods and a perfectly elastic demand for exported goods on the world market. This implies that the supply of traded goods is always demanded at world market prices.

[4] The trade balance is given by the difference between the actual absorption along Y and a*. This difference is smaller than the difference beween the curves T and Y because a reduced absorption in the case of a trade deficit would reduce demand for both non-traded and traded goods. Thus the reduction in absorption needed to close a trade gap is always larger than the trade gap if demand for non-traded goods is positive.

[5] It is assumed here, that the real absorption remains constant when the system moves from G_1 to B_1. This neglects the Pigou effect. With a decreasing nominal devaluation and an initially constant monetary expansion, real money supply and hence real absorption will increase. As will become clear from the presentation this will even increase the problems of a stabilization program with a fixed exchange rate.

Excess demand for traded goods implies a trade deficit, an outflow of foreign reserves, and - with a passive monetary policy - a monetary contraction[6]. As a consequence absorption decreases, the demand for traded goods declines and the trade imbalance is reduced. The decrease in absorption also expands the excess supply for non-traded goods. This exerts a pressure to reduce prices and the inflation of non-traded goods prices as well as the real appreciation slows down.

In Figure 1, it is assumed that trade becomes balanced and the real exchange rate becomes constant at point C. The remaining disequilibrium requires further decreasing prices of non-traded goods, i.e. an overall domestic inflation rate lower than abroad. Decreasing prices increase the demand for non-traded goods, real money supply increases, and the system moves along curve T to equilibrium G_1.[7] The new equilibrium is reached at the same real exchange rate s_1^*, and the same real absorption a_1^*, but with a domestic inflation equal to inflation abroad.

The process of stabilization has been divided here into separate steps. Stabilization could be instantaneous, if private agents have perfect foresight, the stabilization program is perfectly credible, and all steps are possible without a time lag. This, however, is very unlikely. In order to be successful a stabilization program has to meet two conditions:

- The program has to be consistent. In order not to stay at point B_1 with a trade deficit and excess supply of non-traded goods, the monetary contraction has to be allowed for, i.e. reserve flows must not be sterilised.
- Monetary discipline has to be credible. The speed and the extent of price adjustment in the market for non-traded goods depends on the expectations about the monetary discipline. The monetary discipline, in turn, depends on the incentives of the authorities to change the program and on the sustainability of a monetary contraction.

After the initial real appreciation (B_1) there are strong incentives to change the program. Supply has to adjust to the shortfall of demand for non-traded goods, i.e. point B_1 lies on a curve Y' indicating a lower total supply and hence a lower income level and unemployment. It may pay the authorities in the short run to increase demand by a monetary expansion.[8] This incentive is strengthened by the fact, that the automatic mechanism of the fixed exchange rate

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[6] In the following, monetary contraction means a decreasing real money supply. Correspondingly, decreasing domestic prices mean a lower difference between inflation at home and abroad.

[7] It is assumed, that prices move slowly so that reserve flows correct trade disequilibria and keep the system on curve T.

[8] The underlying general problem is analyzed in the literature on time inconsistency. See [Kydland, Prescott, 1977; Barro, Gordon, 1983] and for an application for reform strategies in developing and Eastern European countries [Funke, 1993].

would move the system to point C with an even larger fall in income and a larger increase in unemployment.[9]

If a monetary contraction is allowed for, problems with its sustainability result from two macroeconomic constraints: the stock of foreign exchange reserves and the government budget [Schweickert, 1993b]. With respect to the reserve situation a dilemma arises. If foreign exchange is plentiful, the reserve restriction does not tie the hands of the monetary authorities, i.e. a monetary expansion described in the last paragraph is possible because outflows of reserves could be sterilized in the short run [Aghevli, Khan, Montiel, 1991, p. 14]. Assuming rational expectations, it is reasonable for private agents to wait if the monetary contraction will actually occur because otherwise they will have no incentive to adjust their prices.

By contrast, the monetary contraction may not be possible if foreign exchange is scarce. The outflow of reserves could run down the stock of reserves before trade is balanced.[10] In this case a nominal devaluation will be expected and this expectation will lead to a devaluation even before reserves are actually depleted. Such a devaluation is typically avoided in the short run by increasing import protection, i.e. tariff and non-tariff barriers as well as convertibility restrictions, in order to achieve a balanced trade without changing the currency regime [Williamson, 1987]. The expectation of either a nominal devaluation or increased protectionism significantly diminishes the pressure on private agents to reduce prices to the level abroad. With an exchange rate adjustment trade would be balanced and no monetary contraction would occur. With restricted convertibility a basic condition for the stabilizing properties of a fixed exchange rate is violated because even the adjustment of the prices for traded goods would not be enforced by the competition between traded goods produced at home and abroad [Bofinger, 1991, p. 3].

The need to finance the government budget may also constrain the possibility for a monetary contraction. A monetary contraction would decrease the scope for inflationary finance and domestic borrowing. The collection of the inflation tax plays a significant role in financing government expenditure in developing countries. The government has to finance remaining deficits by directly borrowing from the central bank or by borrowing in thin domestic capital markets because of external credit constraints. Therefore, a monetary contraction needs fiscal discipline, i.e. expenditure has to be reduced and/or alternative taxes have to be raised. Otherwise a growing pressure on the central bank to increase money supply would be expected by rational private agents. Hence prices would not be adjusted.

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[9] The implications of a transitory equilibrium, e.g. at point G_2, will be discussed in Section II.3.

[10] See the literature on balance-of-payments crises, e.g. [Krugman, 1979; Dornbusch, 1987], and Aghevli and Montiel [1991, pp. 229ff.].

All in all, private agents will not adjust prices if they anticipate changes in the reform program and if they doubt its sustainability. The system then moves from point B_1 downwards with ongoing inflation, growing real overvaluation, and increasing internal and external imbalances. The analysis of a stabilization program with a fixed exchange rate so far suggests: (1) such a program needs rather than produces credibility, and (2) it works only if properly implemented. Convertibility is a basic precondition for success. This implies that capital flows have to be allowed for. The experience of developing countries shows that capital flows played a significant role in the course of stabilization programs based on fixed exchange rates. The next step is, therefore, to introduce capital flows into the analysis.

II.3. The Case of Endogenous Capital Flows

Increasing capital inflows are typical for the first phase of a stabilization program based on a fixed exchange rate. The most outstanding example is the experience of the Southern Cone countries in the early 1980s [Edwards, Edwards, 1987; Corbo, deMelo, Tybout, 1986]. There are basically three reasons for an increase in capital inflows:

- Commercial banks and official lenders honoring the macroeconomic reform efforts may grant access to new credit lines and increase foreign direct investment. Such capital inflows are of a permanent nature as long as the reform is sustained.
- Private agents shift their portfolio towards domestic assets if they expect an undistorted macroeconomic environment and a higher profitability of investment in the country undergoing a stabilization program. This type of capital inflow contains not only permanent but also temporary components such as repatriated capital flight.
- Private agents shift their portfolio further towards domestic assets because speculative windfall gains can be earned in the short run. Because of underdeveloped capital markets domestic and foreign assets are not perfect substitutes. Therefore, the nominal interest rate is normally higher than abroad. At the same time the exchange rate is guaranteed at least in the short run. This results in a higher real interest rate to be earned inside the country. This type of capital inflow is of temporary nature.

To see the impact of capital inflows on the course of stabilization, external equilibrium is now interpreted as the trade imbalance matched by voluntary net capital flows, i.e. without changes in the stock of foreign reserves. Curve T marks the situation of no capital flows and balanced trade as before. Starting from any point on T, positive net capital inflows allow for more absorption at a given real exchange rate and a constant stock of foreign exchange. This shifts the external equilibrium curve to the right. The new external equilibrium is indicated by curve T' (Figure 1).

At point B_1 capital inflows are larger than the trade deficit. Reserve inflows are to be expected which implies a monetary expansion and the system moves to point E_1 on the new

external equilibrium curve T'. From there on the new equilibrium at point G_2 could be reached if prices for non-traded goods are flexible downwards. This is the same problem described above without capital flows at point C (Figure 1). But contrary to the situation without capital flows, the downward flexibility is only required if the initial real appreciation is larger than s_1^* - s'. For a smaller real appreciation, e.g. at point B_3, the adjustment will result in an excess demand for non-traded goods. This would give some room for further price increases in order to equilibrate that market.

Compared to a situation without capital flows, the adjustment problems are significantly diminished in the first phase of a stabilization program. First, the need to adjust prices for non-traded goods downwards is less pronounced or non existent. Second, there is no need for a monetary contraction[11] so that problems with the sustainability of the program do not exist.

However, external equilibrium characterized by T' may not be sustainable:

- Capital inflows are of temporary nature at least to a substantial part. In the extreme case that total capital inflows are of temporary nature, the external equilibrium shifts back to curve T.
- The country may experience a negative terms-of-trade shock which shifts curve T' to the left as in the case of decreasing capital inflows. To see this, assume that import prices increase and export prices decrease so that the overall price of traded goods and thus the real exchange rate remains constant. Consumption shifts within the traded goods sector from exported to imported goods and the overall absorption has to be reduced in order to maintain a balanced trade (at T) or a deficit financed by a given capital inflow (at T').
- If the exchange rate is fixed against a single currency, e.g. the US $, an appreciation of the US $ against other relevant currencies, most importantly against the DM and the Yen, would imply a real appreciation for the domestic currency as well. This is because the vertical axis measures the effective real exchange rate which is calculated using a basket of currencies weighted according to their relevance for the external relations of a country.[12] In terms of Figure 1, an appreciation of the US $ moves the system from G2 downward, e.g. to point F.

All these shocks have qualitatively the same implication for the economy. The real exchange rate is overvalued, trade is in deficit and demand for non-traded goods short of supply. This means that all the problems described above for the case of stabilization without capital inflows emerge. The expansionary first phase is followed by a contractionary second phase with the need for downward price adjustment and monetary contraction. Moreover, the

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[11] Except for the extreme case that point B_1 will lie below curve T'.

[12] Normally, the relevance of a foreign currency is approximated by bilateral trade shares or trade shares in the world market.

problems are even more pronounced due to the initial expansion. If, e.g., capital inflows dry up again, the economy has to adjust from G_2 back to the old equilibrium at G_1 via point D.[13] Monetary contraction has now to be significantly larger than in the case of exogenous capital flows. This is why the reversal of capital flows typically marked the end of fixed exchange rate regimes. Monetary contraction was not sustained and a devaluation crisis emerged, i.e. the "blues" sets in.

II.4. How to Avoid a Devaluation Crisis?

A devaluation crisis could only be avoided if the credibility of the exchange rate system is high. This is the case if private agents expect that a contractionary phase will be successfully sustained without a nominal devaluation or convertibility restrictions. A contractionary phase emerges in the case of negative external shocks leading to an overvalued real exchange rate and a trade deficit (Section II.3.). If a negative external shock actually occurs, expectations of a nominal devaluation inducing capital outflows are likely to be self-fulfilling, because curve T' shifts further to the left than required by a real shock and a nominal devaluation becomes unavoidable. If private agents expect that the fixed exchange rate is sustainable, changes in capital flows are not likely to occur. This means that the shift of Curve T' to the left and, hence, the need for a real devaluation is limited to the extent required by the real shock.

The conditions for the sustainability of a fixed exchange rate system in a contractionary phase have been given in Section II.2. A monetary contraction has to be possible and the prices of non-traded goods have to be flexible downwards. The possibility of a monetary contraction is given if (1) the stock of foreign exchange is large enough to avoid a run on remaining reserves and (2) monetary policy is independent from the need to finance fiscal deficits. The first condition is certainly fulfilled in the case of a full coverage of the monetary base by foreign exchange reserves. The second condition requires that inflationary financing has to be substituted by an increase in the collection of (alternative) taxes and a reduction of government expenditure. In the case of a credit constraint, fiscal deficits have to be eliminated on a permanent basis. Privatization of public enterprises may ease the transition to a new fiscal regime by creating additional temporary income from selling these enterprises. The sustainability of the fixed exchange rate system is also improved if the economy is deregulated in order to ensure real exchange rate adjustments by price adjustment. Privatization is an important step in this direction. Another one is the deindexation of nominal wages. The most important contribution could be expected from a trade liberalization. Most non-traded goods do not belong to this category by nature but by prohibitive barriers to trade. If a protectionist trade regime is dismantled the share of non-traded goods decreases significantly. Hence the prices of goods implicitly controlled by world market prices

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[13] The adjustment path is now assumed to be a straight line because inflation inertia is ruled out in equilibrium G_2.

increases and the problem of a lagged price adjustment in the market for non-traded goods is reduced.

Even if sustainable, the "bluesy" contractionary phase should be avoided because of the possibility of significant temporary unemployment and strong political resistance against the reform program. An avoidable reason for entering a contractionary phase is the adjustment of capital flows. As argued in Section II.3., the extent of net capital inflows is likely to decrease if private portfolios have been adjusted. External credits may be still constrained or not desired in order to avoid a renewed debt crisis. The external equilibrium curve T' will then slowly move back towards T and the real exchange rate has to be devalued. This can be avoided if the supply of traded goods increases so that decreasing capital inflows are substituted by increasing exports and decreasing imports. A necessary condition for this to happen is that sufficient loanable funds are provided by the domestic financial system.

III. Argentina: the "Stabilization Blues" Again?

The analysis of Section II suggests that a country implementing an exchange rate based stabilization program should be prepared to fulfill the sustainability conditions before the "blues" sets in, i.e. before the need for contraction and real devaluation emerges. In this section, Argentina's economic performance during stabilization is analyzed to see how much time is left for fulfilling the sustainability conditions (Section III.1.). It follows a review of adjustment efforts made by Argentina to fulfill the sustainability conditions. Fiscal adjustment (Section III.2.a.) is needed to make monetary policy independent from fiscal policy so that a monetary contraction is possible. Real adjustment (Section III.1.b.) is needed to allow for a real devaluation if necessary and to avoid a real devaluation if possible.

III.1. Economic Performance

Table 1 reveals that the Argentine economy actually followed the adjustment path of an exchange rate based stabilization predicted by the model. Starting with hyperinflation in 1990, inflation came down to less than 20 per cent in 1992 and is still on a downward trend. But only inflation shown by the wholesale price index came down to a level comparable with inflation in developed countries. This reflects the way a fixed exchange rate works: it ties the hands of the producers of traded goods. Price increases for these goods are only possible if world market prices increase. The wholesale index contains a high share of traded goods so that inflation shown by this index adjusts quickly to the world market level if the exchange rate is fixed. Contrary to traded goods, the prices for non-traded goods included in the consumer price index are not tied by the fixing of the exchange rate. They are determined by internal demand and supply. This explains why the adjustment of the consumer price index is significantly slower.

Table 1 - Economic Performance of Argentina Before and During Stabilization, 1990-1992

	1990	1991	1992	1992 QI	QII	QIII	QIV
Inflation			*percentage change during period*				
Wholesale Prices	798	57	3	2.4	0.9	2.2	-2.4
Consumer Prices	1344	84	18	7.5	2.8	3.3	2.1
Exchange Rates			*period averages*				
Nominal (pesos/US$)	0.488	0.956	0.992	0.991	0.991	0.991	0.992
Real (Basket)	100	61	53	56	53	54	51
External Balance[1]			*millions of US dollars*				
Trade Balance	8628	4572	470	-65	300	n.a.	n.a.
Exports	12354	11972	12444	2592	3630	n.a.	n.a.
Imports	-3726	-7400	-11974	-2657	-3330	n.a.	n.a.
Current Account	1903	-2832	-6696	-2111	-1237	n.a.	n.a.
Capital Account	-2428	-2173	9190	2424	2171	n.a.	n.a.
Direct Investment	2008	2439	2732	1034	332	n.a.	n.a.
Other	-4436	-4612	6458	1390	1839	n.a.	n.a.
Change in Reserves	3075	1988	4352	688	1488	n.a.	n.a.
Exceptional Financing	3223	7954	1938	591	378	n.a.	n.a.
Central Bank			*millions of US dollars at end of period*				
Total Reserves	6170	8974	12987	9504	10092	11327	12987
Liquid Reserves	3242	5946	10067	6553	7949	8726	10067
Monetary Base	6413	7565	11016	8028	9270	9459	11016
Production,Employment and Growth			*period averages*				
Industrial Produc-tion (1988=100)	86	96	126	108	126	134	136
Manufacturing Capacity Utilization	56	60	77	67	77	82	83
Unemployment	7.4	6.5	n.a.	n.a.	6.9	n.a.	n.a.
Underemployment	9.0	8.2	n.a.	n.a.	8.3	n.a.	n.a.
Real GDP Growth(vH)	0.4	8.5[2]	n.a.	n.a.	n.a.	n.a.	n.a.

[1] Projection for 1992 based on the average of the first two quarters. - [2] Official Estimate.

Source: EIU [a, 1992, No.4], Fundación Mediterránea [a, 1993, No.1], IMF [a, 1992, Dezember]; own calculations.

The slower adjustment in consumer prices also indicates the appreciation of the real exchange rate. This is confirmed by the real exchange rate index shown in Table 1. The prices for traded goods relative to non-traded goods were nearly halved since 1990. In line with the convergence of consumer price inflation towards the US level, the real appreciation of the peso slowed down. The real appreciation has gone together with an accumulation of foreign exchange reserves by the Central Bank, as predicted by the model in the case of a strong increase in capital inflows. The nominal peso/$ exchange rate was below the 1:1 parity since April 1991. This means that there was an excess supply of dollars at this parity which was absorbed by the Central Bank. As implied by the convertibility law this was directly translated into an increase in money supply.[14] The monetary base nearly doubled in real terms since 1990. This has not been inflationary because monetary expansion was market driven, i.e. private agents offered dollars and demanded pesos. But in the same vain, the Central Bank was not able to limit the increase in money supply. This could have reduced overall demand and possibly helped a further decrease in consumer price inflation.

The data for production, employment, and economic growth in the period 1990-1992 reveal the expansionary effect of increased liquidity and increased demand in the first phase of stabilization. According to official estimates, real economic growth was at 8.5 per cent in 1991 after years of stagnation or decline. Industrial production returned to its 1988 level in 1991 and exceeded it by 26 per cent in 1992. Unemployment and underemployment were reduced during the last two years but the reduction slowed down during 1992. The figure for the second quarter of 1992 is equal to the corresponding value in 1991 in the case of unemployment and only slightly below in the case of underemployment.[15] Similarly, the improvement in industrial production slowed down during 1992. The data on capacity utilization suggest that the expansion in the last two years was mainly due to increases in capacity utilization rather than to new investment. But capacity utilization possibly reached its upper limit at the end of 1992 with more than 80 per cent.

The external balance situation also signals that the expansionary first phase of stabilization may have come to an end. The net inflow of foreign exchange became increasingly dependent on the trade balance and capital inflows other than exceptional financing or foreign direct investment (FDI). This has two consequences.

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[14] The data on the reserve position of the Central Bank and the monetary base reveals the high extent to which the monetary base is backed by reserves since 1991. The coverage by liquid reserves increased from 50.6 % at the end of 1990 to 91.4 % at the end of 1992. Starting in 1991 total reserves have always been higher than the monetary base.

[15] The figures for the second quarter of 1991 are not shown in the Table. The figure for 1991 is on average of the second and the fourth quarter. Figures are traditionally lower for the latter.

First, the recent expansion of foreign exchange reserves is unlikely to be sustainable. With ongoing real appreciation, a further increase of the trade deficit is to be expected. In this context, the recent accumulation of foreign exchange could not be maintained without a further significant increase of capital inflows.

Second, the reserve position becomes riskier. The decline of exceptional financing - mainly debt reschedulings and the accumulation of interest arrears will continue due to the Brady deal accepted by Argentina in 1992 (see Section III.2.a.). On the one hand, this is a positive development because Argentina will regain access to the international capital market and net imports could be financed by credits from commercial banks. On the other hand, the use of exceptional financing for stabilizing reserve flows is excluded in the future.[16]

The reserve position also becomes riskier because of the changing structure of capital inflows. Table 1 reveals the relatively stable development of FDI compared with "other" capital flows. It also shows that FDI became significantly less important in 1992. The share of the current account deficit financed by FDI was nearly 100 per cent in 1991, but only less than 50 per cent in 1992. With an increasing share of the current account deficit financed by less stable types of capital flows, the reserve position becomes less stable as well in a fixed exchange rate regime.

The economic performance of Argentina since the implementation of the convertibility plan in April 1991 has shown that the predictions of the model are correct and that Argentina approaches the end of the expansionary first phase of stabilization. In terms of Figure 1, the economy approached curve T' at the end of 1992. The country should be well prepared to deal with a significant slowdown of reserve accumulation in 1993. The present situation is characterized by significant reserve inflows. This situation is likely to change due to the temporary nature of capital inflows or an increase in the current account deficit due to ongoing domestic inflation or a negative external shock. Hence, the completion of fiscal and real adjustment necessary to avoid and sustain a contractionary second phase becomes increasingly important.

III.2. Adjustment Efforts[17]

a. Fiscal Adjustment

Since 1985 money creation had to finance public sector deficit in Argentina [Rodriguez, 1991]. Intensive borrowing in external and internal credit markets had not been sustainable. The Central Bank accumulated a large quasi-fiscal deficit because it became the lender of first

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[16] As can be seen in Table 1, Argentina would have lost US $ 6 bn of foreign exchange in 1991, if it had not refered to exceptional financing. It is safe to assume, that the convertibility plan would not have been sustainable in such a situation.

[17] If not otherwise cited, the following information has been derived from EIU [a, var. iss.] and Fundación Mediterránea [a, var. iss.].

resort for the government.[18] This quasi-fiscal deficit was financed by an increasing money supply. Due to the new convertibility law it is no longer possible for the Central Bank to accumulate public debt by increasing money supply. On the contrary, the money supply may even have to decrease, if the reserve position of the Central Bank deteriorates. With limited possibilities for the Argentine government to borrow on external and domestic capital markets, a monetary contraction is only expected to be sustainable, if no fiscal deficits are to be financed. Hence, the sustainability of the exchange rate based stabilization program requires the elimination of fiscal deficits and the reduction of uncertainty with respect to the fiscal balance.

Table 2 shows that the Argentine government has achieved a significant adjustment towards a balanced budget. The operational balance shows a surplus starting with the implementation of the convertibility plan in the second quarter of 1991. The total deficit of the treasury, including financial services, also shows a surplus in two quarters. However, the return to high total deficits during 1992 indicates that fiscal adjustment is not sufficient yet and that significant risks remain.

The surplus in the operational budget of the Treasury was achieved by increased revenues rather than by cutting down expenditure. Two main sources for the increase in revenue can be identified: additional capital revenues and the improved collection of the value added tax (VAT). The increase in capital revenue shown in Table 2 is due to the privatization of public enterprises since 1991. Up to June 1992, $ 6.6 bn were raised by selling the telephone company, the flag airline, TV-channels, petrochemical firms, an electric power station, a steel mill, a shipyard, hotels, buildings, concessions for roads and railways, and oil fields. In 1993 the radical privatization program will reach its final stage.[19] At the end, gas and water supply and the transport system will be mainly in the hands of private entrepreneurs.[20] The fiscal benefits and risks of privatization can be seen in Table 2. Although only the direct impact due to cash payments can be identified,[21] capital revenues accounted for more than 20 per cent of

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[18] There were several ways through which direct Treasury borrowing from the Central Bank was diverted in such a way that it did not show openly in the accounts. The granting of rediscounts to public enterprises or placing Treasury paper denominated in dollars were examples how direct borrowing in domestic currency by the Treasury from the Central Bank was avoided.

[19] The basic privatization strategy was to define supply conditions and price ceilings, to sell then at the highest price possible, and to keep shares of the privatized firm in the government portfolio. The case of the telephone company - one of the first public enterprises sold in 1991 - exemplifies the advantages of this privatization strategy. Besides the amount for the initial purchase, the government received $ 75 mn tax payments instead of covering losses in former years. Additionally the government was able to sell the remaining shares with a book value being four times the figure paid for the purchase.

[20] For a detailed overview over privatization efforts in Argentina see also FIEL [a, November 1992].

[21] In 1992 $ 6.7 bn were collected from privatization. Of this total, 2.6 bn were in cash, 1.5 bn in debt transfers, and 2.6 bn in redeemed public debt bonds at market values.

Table 2 - Fiscal Adjustment in Agentina During Stabilization, 1991-1992 (milions of september 1992 pesos)

	1991 QI	QII	QIII	QIV	1992 QI	QII	QIII
Expenditure							
Total Expenditure	3204.6	2870.5	3787.5	3752.3	3756.1	3589.3	3707.9
Financial Service	686.7	562.4	725.9	678.5	1097.3	975.6	1104.3
% of total expenditure	21.4	19.6	19.2	18.1	29.2	27.2	29.8
Operational Expenditure	2517.9	2308.1	3061.6	3073.7	2658.9	2613.8	2603.7
% increase		-8.3	32.6	0.4	-13.5	-1.7	-0.4
Payroll	840.7	845.1	905.6	979.4	944.6	893.7	900.7
% of operational	33.4	36.6	29.6	31.9	35.5	34.2	34.6
Enterprises	256.6	189.3	422.5	257.4	253.6	178.2	189.5
% of operational	10.2	8.2	13.8	8.4	9.5	6.8	7.3
Provinces	208.5	130.9	158.4	148.9	189.9	180.4	197.2
% of operational	8.3	5.7	5.2	4.8	7.1	6.9	7.6
Revenues							
Total Revenues	2048.9	2841.9	3612.6	4046.8	3942.0	3074.7	3252.4
Capital Revenues	136.3	363.4	870.9	893.8	888.9	132.6	108.2
% of total	6.7	12.8	24.1	22.1	22.5	4.3	3.3
Revenues excl. Capital	1912.6	2478.4	2741.7	3153.0	3053.1	2942.1	3144.2
% increase		29.6	10.6	15.0	-3.2	-3.6	6.9
Shared taxes	1059.7	1545.4	1802.5	2122.0	2100.4	2255.9	2134.2
% of revenue excl. capital	51.7	54.4	49.9	52.4	53.3	73.4	65.6
Value Added Tax	490.8	703.5	882.9	951.1	1008.6	1250.9	1252.6
% of revenue excl. capital	24.0	24.8	24.4	23.5	25.6	40.7	38.5
Income	87.9	129.0	134.1	143.4	178.0	174.6	199.2
% of revenue excl. capital	4.3	4.5	3.7	3.5	4.5	5.7	6.1
Non-shared taxes	372.6	476.9	388.3	348.2	482.0	489.2	618.2
% of revenue excl. capital	18.2	16.8	10.7	8.6	12.2	15.9	19.0
Surplus							
total	-1155.7	-28.6	-174.9	294.5	185.8	-514.7	-455.5
% of total revenue	-56.4	-1.0	-4.8	7.3	4.7	-16.7	-14.0
operational	-469.1	533.7	551.0	973.0	1283.1	460.9	648.7
% of total revenue	-22.9	18.8	15.3	24.0	32.6	15.0	19.9
operational exc. capital	-605.3	170.3	-319.9	79.3	394.3	328.3	540.5
% of revenue excl. capital	-31.6	6.9	-11.7	2.5	12.9	11.2	17.2

Source: FIEL [a, var. iss.]; own calculations.

total government revenue at the end of 1991 and the beginning of 1992. The peak of capital revenues was responsible for the total surplus of the Treasury in these quarters. But Table 2 also shows the temporary nature of privatization revenues. The amount collected declined drastically during 1992 while the transfers to public enterprises were still significant,[22] and the total deficit returned to high levels. The problem is that these high deficits now have to be reduced without the possibility to sell public enterprises.

In the medium and long run all government expenditure has to be covered by regular revenues. This requires an improved tax collection. In April 1992 a package of tax reforms including a tax on operational profits of more than 3000 pesos/month and a tax on distributed profits failed in Congress. As provisional measures the VAT rate was increased from 16 per cent to 20 per cent and the company profits tax was increased from 20 per cent to 30 per cent. Additionally, the VAT tax base was extended to cover interest payments and transport activities. As can be seen in Table 2, VAT and profit taxation accounted for about 45 per cent of revenue (excluding capital revenue) in 1992. Since the first quarter of 1991, revenues from both taxes increased significantly but the dominant role of the VAT is evident. Additionally, the increase in revenues from VAT - more than 150 per cent - was more pronounced. The increase in the tax rate and the good economic performance during 1991 and 1992 explain this strong performance of the VAT at least partly. Additionally, tax evasion was reduced significantly. First, the revitalized Dirección General Impositiva (DGI) was quite successful in identifying tax evasion. The well published efforts led to the closure of a number of enterprises. Second, tax evasion is not so easy with relatively low inflation as it is in the case of high inflation. This is due to the reversal of the Tanzi-effect. If inflation is high, the real tax burden can be reduced by simply delaying payments. If inflation is low, a significant reduction in the tax burden requires non-declaration which is more risky. The increase in VAT was even strong enough to result in an operational surplus of the Treasury when capital revenues are excluded.

Adjustment on the expenditure side was less successful. Efforts to reduce operational expenditure were successful in 1992 but could not compensate for the increase in 1991 and the financial service payments showed a strong increase in both years. With respect to operational expenditures, payroll expenditures figured prominently. Although the government announced early in 1991 that its staff will be reduced and wages will only increase if this happens, the payroll expenditure of the Treasury increased significantly during 1991.[23] Job reduction has obviously taken place only in public enterprises to prepare them for

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[22] A positive long term effect on fiscal balance will result from a reduced stock of public debt. A further decline in transfer payments to public enterprises can be expected if privatization is completed because a part of the transfers in Table 2 may be the result of consolidation activities.

[23] At the same time, public investment was kept at a low level. In 1992 after public investment increases somewhat, it was still only half of public investment in 1988.

privatization. The reduction of operational expenditure in 1992 was only possible because all education and health institutions were transferred to the provinces. This implied a decrease in central administration expenditure of about $ 1.2 bn while transfers to the provinces were raised only by less than $ 100 mn.[24]

This points to a problem still to be solved in Argentina: the organization of fiscal federalism and the consolidation of provincial government budgets. In the past, provincial governments financed their deficits by credits from the provincial banks which were owned by them. The provincial banks, in turn, refinanced themselves by rediscounts of the Central Bank [World Bank, 1990, pp. 75-79]. This procedure contributed significantly to the accumulation of the quasi-fiscal deficit of the Central Bank. This is no longer possible. Because the lending capacity of the provincial banks is now limited, the provinces have to finance expenditure mainly out of their own taxes - in most cases highly distortive commodity taxes - and out of taxes collected by the Treasury which have to be shared between central government and provinces according to a coparticipation scheme. But the coparticipation scheme is negotiable and the room for discretion allowed the central government to decrease transfers to the provinces in 1991 and to increase them only slightly in 1992 while shared taxes more than doubled over the two years (Table 2). If the convertibility plan is to be sustained, fiscal adjustment has also to take place at the provincial level, i.e. enterprises owned by provinces have to be privatized and payroll payments to be reduced. The consolidation of provincial government budgets is impossible without a formalized coparticipation scheme allowing for the calculation of future income.

With respect to financial service payments, the strong increase is due to the consolidation of internal and external public debt. The consolidation of internal debt started in 1991. A law was approved by Congress in August 1991 to consolidate all claims on and debt of the public sector outstanding on April 1, 1991, and to refinance it with a public debt title, a Bono de Consolidación, which has a grace period of six years for principal and interest payments. There are two types of bonus, one for creditors in general and another one for pensioners. The credits from pensioners stem from the fact that pensions are financed by the current contributions of the working population and the fact that these contributions have not been sufficient to pay the legally required level of pensions (70 - 82 per cent of the wage).[25] In August 1992 a reform was approved by Congress which introduces private pension funds. But

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[24] Based on the average of the first three quarters of 1991 and 1992 respectively.

[25] Some of these special schemes can be labelled political rents and were officially granted for premature retirement in declining sectors of the economy. Contributions decreased because of the economic downturn before 1991 and because of strong incentives to evade this type of tax in a purely distributive system. Legally required benefits increased because various special pension schemes were created. The deficit of the pension fund - a quasi-fiscal deficit as the former deficit of the Central Bank - was partly covered by Treasury transfers. The rest was financed by bonds which were given to the pensioners instead of cash payments. In 1991 the stock of this type of public debt amounted to $ 7.3 bn with an monthly increase of $ 200 mn.

it is not clear whether the government can afford to pay for the transition costs.[26] In the meanwhile, pensions were raised to the legally required level in order to stop the accumulation of public debt but at the cost of increasing Treasury transfers starting in 1993. Until the complete reform will be implemented the overall effect of reducing debt accumulation and delaying debt service on the one hand and increasing pensions and financing the transition period on the other hand is unknown and the development of the public sector deficit remains uncertain with a negative impact on the credibility of the convertibility regime.

The consolidation of external debt started in April 1992 with the Brady debt reduction agreement between the commercial banks' advisory committee (BAC) and Argentina. An interim treatment for 1992 was negotiated and creditor banks could exchange principal of old debt for either a par bond with a low and fixed nominal interest or a discount bond with 35 per cent discount but a flexible and market oriented nominal interest. Most banks opted for the par bond. This reduces the uncertainty of the development of total expenditure by fixing future debt service obligations. But at the same time, Argentina accepted high debt service obligations. Table 2 shows that in 1992 financial service payments already were at nearly 30 per cent of total expenditure. With the end of the interim treatment external debt service and total financial service will increase further.[27] It is crucial for the sustainability of the stabilization program that Argentina will be able to improve tax collection and to reduce operational expenditure in order to eliminate deficits of the total budget of the Treasury.

Argentina's fiscal adjustment, which is a necessary condition for the sustainability of a fixed exchange rate regime with full convertibility has been far-reaching and radical. This is not only true as compared to other developing countries but also with respect to developed countries. However, the remaining problems to distribute taxes, to force provincial governments to adjust, to eliminate quasi-fiscal deficits of the pension system, and -perhaps most importantly - to transfer the principal and interest payments accepted in the Brady agreement contain significant risks and require further adjustment efforts. Only if private agents expect that the government can solve the problems without changing the passive monetary policy, the credibility of the present exchange rate will remain high and speculative capital outflows will be prevented. This will only be the case when fiscal deficits are permanently eliminated.

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[26] All employees will have to make contributions to the new funds while the state run system will continue to cover payments to current retirees and will pay a basic pension to all those who have paid into the new system for a certain nomber of years and a compensatory pension to all members of the old system proportional to the number of years of contributions and the average wage in the ten years prior to retirement.

[27] Some help came from an agreement with official creditors grouped in the Paris Club in July 1992. The agreement covers $ 2.9bn in obligations falling due over the next the period 1993-1995. The amount was refinanced over 16 years with four years of grace. Argentinas total debt to the Paris Club is $ 8.7 bn.

b. Real Adjustment

Fiscal adjustment has to be complemented by real adjustment to make a fixed exchange rate regime sustainable. Prices have to become flexible downwards in order to allow for a real devaluation if necessary. If there is the need for real devaluation, decreasing prices for non-traded goods have to substitute for the use of the nominal exchange rate. The supply of traded goods has to be improved in order to avoid a real devaluation.

Three important measures have been introduced in Argentina to make domestic prices more flexible. First, the radical privatization process aimed at improving the efficiency of production. The list of privatized enterprises given in section III.2.a. includes so-called public utilities and the transport system, which are state-owned to a large extent in developing and developed countries. The important fact is that public utilities and the transport system belong to the non-traded goods sector. The higher efficiency gains resulting from privatization of firms in the non-traded goods sector, the higher the probability that the prices of these goods could be reduced, i.e. that the real exchange rate could be devalued without a nominal devaluation.

Second, deregulation started in the labour market. According to two decrees, wage increases were to be backed by productivity increases and wages were to be negotiated on a firm by firm level. However, these announcements are not binding and their implementation depends on the compliance of trade unions and employers. In reality, wage negotiations are still centralized to a significant degree. Basic wages are negotiated centrally, determining a floor from which additional wage increases may be negotiated. Table 3 shows that the development of real wages was in line with the development of the real exchange rate in 1991 but that real wages declined less than the real exchange rate in 1992. Wages increased in the traded goods sector relative to output prices impairing competitiveness of Argentine products if a uniform wage rate is assumed. The figures presented on industrial production indices provide some tentative evidence that wage differentiation was not significant.[28] The production of textiles, where domestic and external products are close substitutes, declined in 1992 whereas it was at the average of all industrial production in 1991 when the development of the real wage was still in line with the development of the real exchange rate.[29] This points to the importance of differentiated wage negotiations which have not been achieved so far.

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[28] Evidence is only tentative, because it has to be assumed that production decisions are dominated by wage cost developments.

[29] The increase of the overall index, which accelerated 1992 was mainly due to the increase in the production of durable consumer goods and especially in the production of automobiles which is still shielded from external competition.

Table 3 - Real Adjustment in Argentina During Stabilization, 1990-1992

	1990	1991	1992
Relative Price Indices	*October of each year*		
Real Exchange Rate (Basket)	100	84	75
Real Wage	100	84	82
Production	*percentage change, October of each year*		
Production Index	-	5.6	9.9
Automobiles	-	31.8	93.3
Textiles	-	5.2	-6.1
Capital Goods	-	-7.1	8.0
Foreign Trade	*per cent of total*		
Exports	100.0	100.0	n.a.
Agriculture	50.8	53.8	n.a.
Industrial Goods	18.5	16.0	n.a.
Non-traditional Exports	22.6	24.4	n.a.
Imports	100.0	100.0	n.a.
Consumer Goods	7.5	18.5	n.a.
Intermediate Goods	52.5	40.7	n.a.
Capital Goods	15.0	18.5	n.a.

Source: EIU [a, 1992, No. 2, p. 24], FIEL [a, var. iss.], Fundación Mediterránea [a, var. iss.]; own calculations.

Third, trade has been liberalized substantially. Import tariffs have been reduced since January 1991 from an average of 18.15 per cent to an average of 10.24 per cent with a maximum tariff of 20 per cent for final products and a zero tariff for capital goods not produced in Argentina. The shift from the import-substituting strategy to world market orientation includes also the abolition of export taxation and of non-tariff barriers. The introduction of a compensation scheme for exporters helps to equalize the incentives to produce for internal or external markets [FIEL, a, November 1992, pp. 42-45]. It can safely be assumed, that this shift in economic policy has increased to share of traded goods. An increasing share of domestically produced goods prices controlled by world market conditions and fiercer competition from abroad helps price flexibility and supply response. The changes in the composition of exports can be interpreted as a first result of the trade reform. The share of agricultural products and the share of non-traditional exports increased at the cost of (traditional) industrial exports. The composition of imports, however, reveals that the relatively high effective protection for final products due to the tariff escalation[30] has not influenced the import structure significantly. The share of consumer goods more than doubled while the share of capital goods increased only slightly.

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[30] Tariff escalation means that final products have to pay the highest import tariffs. In the case of Argentina the tariff is 20 per cent for final products and zero for capital goods not produced in Argentina. This increases the effective protection for final products.

The analysis of changes in government ownership, labour market regulations and trade policy has shown that a radical transformation of the Argentine economy is under way. However, the reallocation of resources and the change of habits still needs time. The sustainability of the reform program requires that the firms have access to financial funds to speed up the reallocation by new investment and to finance the transition period. This holds especially for firms in the tradable goods sector. Because of the relative decline of tradable goods prices, profits can be expected to decline in the short run thus limiting the internal resources for restructuring. Regaining access to international capital markets is only an option for larger firms and certainly not sufficient to improve the supply of tradable goods to a large extent - the bulk of financing has to be provided by the domestic financial sector.

Unfortunately, data for the amount and the structure of credit extension are not available. But the development of the monetary aggregates, the interest rates and the stock exchange may give first indications for the availability of financial funds for investment. The increase of the monetary base due to capital inflows (Table 1) resulted in a strong increase of the monetary aggregates M1 and M2.

Three characteristics of these monetary aggregates are revealed by Table 4:

- The dollarization of the financial system increased with the implementation of the convertibility plan to a level of above 40 per cent.[31] This is especially pronounced for interest bearing deposits because dollars were shifted from sight deposits to savings deposits.
- In domestic currency, a shift towards low liquid assets occurred as well. Sight deposits substituted for currency holdings. Time deposits increased significantly relative to savings deposits. The shift towards longer maturities may be due to a rising real interest on deposits.[32]
- As was the case for the monetary base, the increase in the higher monetary aggregates slowed down during 1992 with a slight decrease in M2 denominated in pesos in November.

With increasing deposits, lower spreads between active and passive interest rates, and longer maturities the availability of credit should have improved significantly. The increased availability of credit for productive investment seems to be confirmed by the rising share of capital goods in imports and the increase in the domestic production of capital goods in 1992.

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[31] Unfortunately only deposits can be compared because no data on the private holdings of dollar cash holdings are available.

[32] At the beginning of the convertibility plan almost 90% of deposits were for periods of 7 - 13 days. By October 1991 the proportion of these short-term deposits had declined to 47%, and 30 day deposits amounted to 37% of the total.

Table 4 - Adjustment of Financial Markets in Argentina During Stabilization, 1991-1992

	1991		1992			
	QI	QIII	QI	QIII	October	Nov.
Monetary Aggregates in Pesos			*millions of pesos of September 1992*			
M2	9279	12026	15320	19529	19647	19545
Interest Bearing Deposits	4614	4978	6079	8755	8818	8613
per cent in Time Deposits	51.73	62.67	63.98	69.13	68.43	68.30
per cent in Savings Deposits	48.27	37.33	36.02	30.87	31.57	31.70
M1	4665	7048	9241	10774	10828	10932
per cent in Sight Deposits	37.81	38.3	41.57	44.44	43.93	44.66
per cent in Currency	62.19	61.7	58.43	55.56	56.07	55.34
Monetary Aggregates in Dollars			*millions of Dollars*			
Time Deposits	2776	4137	5515	7573	n.a.	n.a.
Savings Deposits	253	868	1515	1596	n.a.	n.a.
Sight Deposits	657	716	868	817	n.a.	n.a.
Share of Dollar Deposits			*per cent of total*			
Time Deposits	0.53	0.57	0.58	0.55	n.a.	n.a.
Savings Deposits	0.10	0.32	0.41	0.37	n.a.	n.a.
Sight Deposits	0.27	0.21	0.18	0.14	n.a.	n.a.
Total Deposits	0.36	0.43	0.44	0.42	n.a.	n.a.
Real Interest Rates			*for 30 days; monthly percentages*			
Active (Documentos del B.N.A.)	8.4	1.2	0.4	1.2	0.8	n.a.
Passive (Libre Bancos)	-1.2	-0.3	-0.8	0.3	0	n.a.
Spread	9.6	1.5	1.2	0.9	0.8	n.a.
Stock Exchange						
Index of Bolsa de Comercio	6023	14221	20535	13325	11927	n.a.

Source: FIEL [a, var. iss.]; own calculations.

But there are two developments which could hamper such favourable investment effects.

First, banks face a strong demand for credit to finance either consumption or positions in stocks and the productive sectors are still forced to finance their financial needs themselves [EIU, a, 1992, No. 2, p. 17]. A measure which helps to change credit allocation in favour of investment was the extension of the VAT base to interest on credits (see section III.2.a.). Because only firms can deduct the VAT charged, credit costs for consumption purposes increased relative to credit costs for investment purposes. Another measure would be to privatize the banking sector. State-owned banks clearly dominate the Argentine banking sector. Privatization would increase competition and strengthen the incentives to evaluate credit risks properly. The chances for low-risk, productive investment to claim a higher credit share would be improved.

Second, the slowdown in expansion during 1992 underlines the dependence of liquidity and total credit supply on the development of the reserve position.[33] In order to tackle this problem, the Central Bank allowed the banks in late 1992 to hold their reserves either in pesos or in dollars and authorized the creation of dollar denominated checking accounts. Already in October 1991, the Central Bank had ruled that it will not guarantee deposits of more than $ 100 a year per depositor. This means that the Central Bank will not act as a lender of last resort for the banking system, as was the case during the banking crisis in 1980. It also means that the substitutability between pesos and dollars is nearly complete. It is hoped that deposits will be shifted from peso to dollar deposits rather than being withdrawn from the financial system in the case of a speculative attack. In the case of a permanent outflow of dollars, however, the monetary aggregates will have to contract substantially due to the high share of dollar deposits and credit lines will have to be cut dramatically.

To contain this risk, the favourable present credit conditions must be used to improve the supply of traded goods, otherwise the reserve position is likely to deteriorate and Argentina may enter the contractionary phase of an exchange rate based stabilization.

IV. Summary and Policy Conclusions

The theoretical analysis of exchange rate based stabilization and the actual performance of Argentina during the recent stabilization attempt have confirmed the basic hypotheses of this paper.

Anti-inflationary reputation can not be imported but has to be earned in a very short time if the exchange rate is fixed. It is high as long as private agents expect that a real devaluation is either avoided or sustained. This requires fiscal adjustment in order to make monetary policy independent and real adjustment to make relative prices flexible and to improve the supply of traded goods. Argentina has made substantial progress in that respect due to far reaching and radical reform steps. Internal and external public debt has been consolidated, the ambitious privatization program is on schedule, trade has been liberalized, and tax collection has improved as well as credit supply. But Argentina has to compete with time to complete adjustment because the economy is likely to approach the end of the expansionary first phase of stabilization in the near future. Fiscal deficits have to be eliminated without significant revenues from privatization and with full debt service, fiscal federalism has to be organized, and further deregulation of labour and goods markets has to be enforced as well as the allocation of financial funds into productive uses. If this - still ambitious - program will be implemented, Argentina has a chance to avoid or - if necessary - to sustain a moderate contraction.

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[33] As a first sign of lower liquidity, the increase in the stock market index during the boom, experienced until the beginning of 1992 and largely financed by dollar inflows, has been reversed during 1992.

An exchange rate based stabilization remains a high-risk strategy even in the case of strong adjustment efforts. Real exchange rate overvaluation can emerge because of too slow adjustment of domestic inflation, a growing trade imbalance, negative real shocks, an appreciation of the reference currency (US $ in the case of Argentina), and lower capital inflows. With a low level of inflation in the US this could imply a deflation in Argentina, reinforced by a loss in foreign reserves, a consequent monetary contraction and a credit crunch. The Great Depression caused by the gold standard in the 1930s [Eichengreen, 1992] clearly suggests that such a situation is hardly to be sustained.

Therefore, a fixed exchange rate is not an optimal exchange rate regime for a small, dependent economy. For developing countries and Eastern European countries a flexible exchange rate and a restrictive monetary and fiscal policy are more appropriate to solve stabilization problems and to avoid real exchange rate misalignment. For Eastern European countries this is even more valid because the sign and the extent of real shocks are even less predictable during a transformation process, speculative capital flows are even more distortive in rudimentary capital markets, and the adjustment requirements even more far reaching than in traditional developing countries.

Additionally, the switch from a fixed to a flexible exchange rate regime risks a destabilization of the economy if a sustainable equilibrium has not been reached. Devaluation expectations induce capital outflows and the non-compliance with the policy announcement would erode the credibility of stabilization. For Argentina this implies that inflation has to be reduced to the US level and the inflows of foreign exchange have to stabilize on a sustainable level before a safe switch to more exchange rate flexibility could occur. This is still a long way to go.

In accordance with Williamson [1991, p. 403] *the best advice for a developing country is "...to think hard and long before making a commitment to a fixed nominal exchange rate for the indefinite future...".* Eastern European countries should even think harder and longer.

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