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Rainer Schweickert*

Stabilization and Real Adjustment in Emerging Market Economies

Lessons from Macroeconomic Reforms in the Southern Cone

Based on theory and on evidence from the Southern Cone the following paper concludes for emerging market economies (1) that fiscal reform is of utmost importance for macroeconomic reforms, (2) that credibility cannot be imported via a fixed exchange rate but has to be established by internal reforms and (3) that an exchange rate based stabilization remains a high-risk strategy even in the case of strong adjustment efforts.

The eighties have been a lost decade for many developing countries. Macroeconomic mismanagement significantly contributed to this development. To a large extent, real exchange rate overvaluation and the lack of fiscal and monetary discipline can be blamed for low growth, high unemployment, and persistent debt problems.¹ In the same vein, post-socialist economies – after several lost decades – show the same indicators for monetary instability and macroeconomic disequilibrium:² unsustainable fiscal deficits, excessive money creation, high and volatile inflation rates, and overvalued exchange rates.

Therefore, macroeconomic policy faces the same challenges in both sub-groups of emerging market economies,³ i.e. developing and post-socialist economies: inflation and real exchange rate disequilibrium has to be reduced by an appropriate monetary and exchange rate policy. Recently, a concept which has often been tried in developing countries was proposed for post-socialist economies as well: exchange rate based stabilization.⁴ The basic argument is that a nominal anchor in the form of a fixed exchange rate imports the anti-inflationary reputation of currencies by tying the hands of the home monetary authorities. If discretionary policy is ruled out and monetary policy is determined by the foreign central bank, the credibility of the reform would improve, private agents would adjust at

once, and inflation would decrease to the level of the stable currency.

In view of the bleak experience with exchange rate based stabilization in developing countries,⁵ the persistent attractiveness of the concept is rather surprising. For emerging market economies considering the concept, the relevant question is whether the concept itself or its inconsistent implementation is to be blamed for its failures in reality. This paper argues that it is the concept rather than the implementation. Consistent implementation is a necessary precondition to sustain the fixed exchange rate and to improve performance effects but – even in this case

* Institute of World Economics, Kiel, Germany. The paper draws on research financed by the Fritz Thyssen Stiftung. It was presented at a seminar of the Centre for the Study of African Economies at the University of Oxford and at the Ninth Annual Congress of the European Economic Association, 3-5 September 1994 at Maastricht.

¹ Cf. Jeffrey D. Sachs: Introduction, in: Jeffrey D. Sachs (ed.): *Developing Country Debt and Economic Performance*, Vol. 1: *The International Financial System*, NBER, Chicago 1989, pp. 1-35; John Williamson (ed.): *Latin American Adjustment. How Much has Happened?*, Institute for International Economics, Washington D.C. 1990.

² Cf. Peter Nunnenkamp: *Critical Issues of Macroeconomic Stabilization in Post-Socialist Countries. What Can We Learn from Past Failures?*, in: Krzysztof Kaczynski (ed.): *Re-integration of Poland into the West European Economy*, Warsaw 1992, pp. 33-47.

³ In labelling developing and post-socialist economies as emerging market economies the paper follows the classification adopted by *The Economist* (see, e.g., *The Economist*, Vol. 331, No. 7860, p. 120).

⁴ Cf. Peter Bofinger: *Options for the Payments and Exchange Rate System in Eastern Europe*, Centre for Economic Policy Research, Discussion Papers No. 545, London 1991; Holger Schmieding: *Lending Stability to Europe's Emerging Market Economies. On the Potential Importance of the EC and the ECU for Central and Eastern Europe*, in: *Kiel Studies*, No. 251, Tübingen 1992; Volker Hofmann, Friedrich L. Sell: *Credibility, Currency Convertibility and the Stabilization of the Ruble*, in: *INTERECONOMICS*, Vol. 28, No. 1, 1993, pp. 11-16.

⁵ Cf. Rainer Schweickert, Peter Nunnenkamp, Ulrich Hiemenz: *Stabilisierung durch feste Wechselkurse: Fehlschlag in Entwicklungsländern – Erfolgsrezept für Osteuropa?*, in: *Kiel Institute of World Economics, Kiel Discussion Papers*, No. 181, Kiel 1992.

—the concept contains a high risk because real exchange rate overvaluation is provoked and real exchange rate devaluation becomes a demanding task. The paper derives this conclusion on the basis of theoretical considerations and the evidence from the Southern Cone countries Argentina and Chile.

A Model with Traded and Non-Traded Goods

The general implications of exchange rate based stabilization and real exchange rate adjustment can be shown by means of a simple graphical presentation.⁶ 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.⁷ 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*).

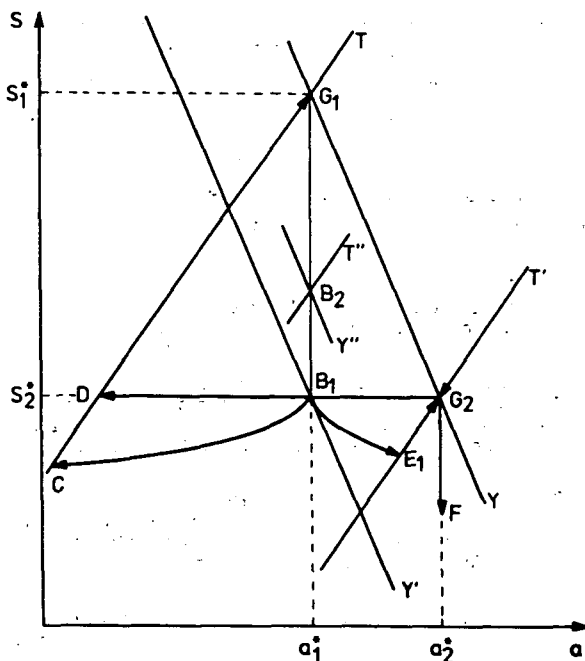
The curve *Y* shows all combinations of *s* and *a* with internal balance, i.e. with demand for non-traded goods equal to the supply of these goods. The curve *Y* has a negative slope because, starting at any point on *Y*, an increase in absorption would increase the demand for non-traded goods and these goods have to become relatively more expensive in order to maintain internal equilibrium. Points to the right of *Y* mark situations 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 are given by the world market prices 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 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.⁸

By contrast, the prices of non-traded goods are flexible. In the case of a negative demand shock, they have to decline in order to maintain equilibrium. Otherwise, demand falls short of supply (a shift of *Y* to the left towards *Y'*). This 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

Figure 1
Exchange Rate Based Stabilization and Real Devaluation in a Model with Traded and Non-Traded Goods



⁶ Cf. Rainer Schweickert: Implikationen alternativer geld- und wechsellkurspolitischer Regeln im Transformationsprozeß, in: Kredit & Kapital, Vol. 26, 1993, pp. 205-229; Rainer Schweickert: The Nominal Anchor Approach to Stabilization – Lessons from Argentina, in: Claude Auroi (ed.): Latin American and East European Economies in Transition in a Comparative Perspective, Papers presented at the EADI, Berlin General Conference, 15-18 September 1993, forthcoming. For the underlying model, see Rudiger Dornbusch: Open Economy Macroeconomics, New York 1980, pp. 100-103. The graphical presentation is adopted from Max W. Corden: Exchange Rate Policy in Developing Countries, in: Jaime de Melo, André Sapir (eds.): Trade Theory and Economic Reform, Cambridge/Oxford 1991, pp. 224-245.

⁷ 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.

⁸ 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.

and external equilibrium. This is shown by point G_1 in Figure 1. At point G_1 , overall supply with full employment, a^* , is realized with balanced trade. Moving from G_1 along Y to the right implies an increasing trade deficit.⁹ Moving along T to the left implies a decreasing overall supply.

Exchange Rate Based Stabilization

To see how a fixed exchange rate *can* stabilize an economy, assume that the economy is in macroeconomic equilibrium and net capital flows are zero (G_1 , Figure 1). The difference between domestic and foreign inflation is compensated for by nominal devaluation so that the real exchange rate is constant, i.e. the real exchange rate is in equilibrium but inflation is significantly higher than abroad. If the exchange rate is fixed in such a situation, inflation decreases immediately because the price increases for traded goods are curbed by world market conditions. But ongoing inflation for non-traded goods will lead to an immediate real appreciation ($G_1 \rightarrow B_1$).

Real appreciation creates an excess demand for traded goods and an excess supply of non-traded goods. This is because traded goods become relatively cheaper and demand shifts from non-traded to traded goods. Excess demand for traded goods implies a trade deficit, an outflow of foreign reserves, and – with a passive monetary policy – a monetary contraction ($B_1 \rightarrow C$).¹⁰ As a consequence absorption decreases, the demand for traded goods declines and the trade imbalance is reduced. But the decrease in absorption further increases the excess supply of non-traded goods. This exerts a pressure to reduce the prices of non-traded goods. Domestic inflation must be even lower than abroad in order to remove the real overvaluation and the excess supply of non-traded goods caused by the initial real appreciation ($C \rightarrow G_1$).¹¹

A necessary precondition for private agents to adjust prices is that they expect the monetary contraction to

⁹ The trade balance is given by the difference between the actual absorption along Y and a^* . This difference is smaller than the difference between 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.

¹⁰ 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.

¹¹ In the absence of real shocks, the equilibrium of the real exchange rate remains constant and the actual real exchange rate has to return to its initial level.

¹² Contrary to a stabilization programme with flexible exchange rates, the extent of the monetary contraction is unknown at the beginning of the programme. This makes the credibility of the monetary contraction a challenging precondition in a fixed exchange rate regime. On the advantages of stabilization with flexible exchange rates, see Rainer Schweickert et al., op. cit. and Rainer Schweickert: Implikationen alternativer ..., op. cit.

occur. If this is not the case, ongoing inflation, growing real overvaluation, and increasing internal and external imbalances will soon end the stabilization programme. Therefore, the credibility of the monetary contraction becomes a basic precondition for the flexibility of prices and for the success of the exchange rate based stabilization.¹² Problems with its credibility result from three macroeconomic constraints: the government budget, foreign exchange reserves, and employment.¹³

The need to finance the government budget may constrain the possibility of a monetary contraction in developing countries because the collection of the inflation tax and borrowing on thin domestic capital markets play a significant role in financing government expenditure. Therefore, a monetary contraction requires fiscal discipline,¹⁴ i.e. expenditure has to be reduced and/or alternative taxes have to be raised. Otherwise growing pressure on the central bank to increase the money supply would be expected by rational private agents. Hence prices would not be adjusted.

The outflow of foreign exchange reserves could run down the stock of reserves before trade is balanced. In this case a nominal devaluation will be expected and this expectation will lead to a devaluation even before the reserves are actually depleted.¹⁵ 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.¹⁶ The expectation of either a nominal devaluation or increased protectionism significantly diminishes the pressure on private agents to reduce prices. These problems could be avoided by a full coverage of the monetary base by foreign exchange. In this case the central bank acts as a currency board and the foreign exchange constraint is eliminated.

If the monetary contraction is possible, the question arises, as to whether it actually occurs. The fall in demand ($B_1 \rightarrow C$) provides strong incentives for the authorities to

¹³ Rainer Schweickert: Alternative Strategies for Real Devaluation and the Sequencing of Economic Reforms in Developing Countries, in: *Kyklos*, Vol. 46, Fasc. 1, 1993, pp. 65-85.

¹⁴ Of course, the collection of the inflation tax could improve because of an increasing demand for money. This implies that a monetary contraction, i.e. a decrease in real cash balances, does not occur at all. However, the question addressed here is if a monetary contraction could be sustained.

¹⁵ See the literature on balance-of-payments crises summarized by Bijan B. Aghevli, Peter J. Montiel: Exchange Rate Policies in Developing Countries, in: Emil-Maria Claassen (ed.): Exchange Rate Policies in Developing and Post-Socialist Countries, San Francisco 1991, pp. 205-237.

¹⁶ Cf. John Williamson: Exchange Rate Policy for Developing Countries, in: *Journal of Foreign Exchange and International Finance*, Vol. 1, 1987, pp. 39-46.

change the programme and to avoid temporary unemployment via monetary expansion ($B_1 \rightarrow D$). This means that the announcement of a fixed exchange rate is time-inconsistent and private agents have an incentive not to adjust prices but to wait for the policy switch.¹⁷

If private agents judge macroeconomic constraints to be irrelevant, monetary contraction is credible and guarantees pressure to reduce the prices of non-traded goods. Whether these prices are actually adjusted depends on price setting behaviour in the real sphere of the economy. The fall of non-traded goods prices will not occur in the presence of indexation and inflationary inertia¹⁸ and a low level of competition. In this case, the monetary contraction will lead to higher unemployment rather than to a real exchange rate adjustment.

The adjustment towards a new equilibrium becomes easier if the country is able to attract capital inflows ($T \rightarrow T'$). There are basically three reasons for capital inflows. First, commercial banks and official lenders honouring the macroeconomic reform efforts may grant access to new credit lines and increase foreign direct investment. Second, private agents may shift their portfolio towards domestic assets if they expect an undistorted macroeconomic environment and a higher profitability of investment. Third, speculative gains can be realized in the short run due to slowly declining nominal interest rates and the fixed exchange rate's resulting in temporarily high real interest rates for foreign investors.

Large capital inflows finance emerging trade deficits (B_1) and increase foreign exchange reserves ($B_1 \rightarrow E_1$). Hence, the money supply grows and the prices for non-traded goods do not have to be adjusted downwards. However, such an equilibrium (G_1) may not be sustainable. First, capital inflows are of a temporary nature at least to some extent. Second, the country may experience a negative terms-of-trade shock. Third, if the exchange rate is fixed against a single currency, e.g. the US dollar, an appreciation of the US dollar against other relevant currencies would imply a real appreciation for the domestic currency as well.

All these shocks have qualitatively the same implication for the economy. They shift external equilibrium back towards T . The real exchange rate becomes overvalued, the trade deficit has to be financed by an outflow of foreign exchange reserves, and the demand for non-traded goods

falls short of supply. This means that all the problems described above for the case of stabilization without capital inflows emerge. Moreover, the problems are even more pronounced due to the initial expansion. Monetary contraction must now be significantly larger than in the case of exogenous capital flows ($G_2 \rightarrow D$). This is why the reversal of capital flows typically marks the end of fixed exchange rate regimes. Monetary contraction is not sustained and a devaluation crisis emerges.¹⁹

To sum up, two phases of exchange rate based stabilization have to be distinguished: an expansionary first phase and a second phase in which the economy faces the same problems as in the case of a negative real shock's shifting the *equilibrium* real exchange rate from s_2^* (G_2) to s_1^* (G_1), i.e. devaluing the *actual* real exchange rate. The two basic strategies for real exchange rate devaluation are monetary contraction or nominal devaluation. In terms of an exchange rate based stabilization programme this implies either sticking to the fixed nominal rate and allowing for reserve outflows or ending the programme by a nominal devaluation. The relative advantages of the two strategies in a situation of real overvaluation are relevant in two respects. First, it is optimal to end the fixed exchange rate regime if the advantages of a nominal devaluation weigh strongly. Second, if this is the case, the credibility of monetary contraction will be rather low and even a modest negative shock could induce a speculative attack.

Real Exchange Rate Adjustment

Differences in efficiency determine the relative advantages of the two strategies for real devaluation: monetary contraction and nominal devaluation.²⁰ The efficiency of a strategy depends on its effectiveness, its sustainability, its potential costs, and on complementary liberalization policies. The superiority of one strategy can hardly be assessed on the basis of theoretical arguments. On the one hand, the monetary contraction strategy has disadvantages, which have already been discussed: fiscal, foreign exchange and employment constraints on monetary contraction as well as a lagged impact on relative prices. On the other hand, the disadvantages of nominal devaluation and the advantages of monetary contraction over nominal devaluation have to be considered:

□ the inflationary impact of a nominal devaluation

¹⁷ For an application of time-inconsistency arguments for reform strategies in developing and Eastern European countries, see Norbert Funke: Credibility of Government Policy: Lessons for Economies in Transition, in: INTERECONOMICS, Vol. 28, No. 2, 1993, pp. 73-78.

¹⁸ Cf. Sebastian Edwards: Exchange Rates as Nominal Anchors, in: Weltwirtschaftliches Archiv, Vol. 129, 1993, pp. 5-10.

¹⁹ Cf. Pablo E. Guidotti, Carlos A. Végh: Losing Credibility: The Stabilization Blues, IMF Working Paper, WP/92/73, Washington D.C. 1992.

²⁰ Cf. Rainer Schweickert: Alternative Strategies ..., op. cit.

reduces the initial real devaluation effect and hurts the inflation target;

- in the case of fiscal constraint, the scope for nominal devaluation is limited because it increases debt service obligations (denominated in foreign currencies) and decreases revenue from trade taxation (assuming a strong decline in import values);
- a nominal devaluation may deteriorate the current account and can put additional strain on the foreign exchange position in the short run due to the J-curve effects;
- contrary to a nominal devaluation, a monetary contraction mobilizes domestic savings, stimulates private investment and raises the efficiency of financial intermediation by disinflation and higher real interest rates;
- a monetary contraction also avoids a strong rise in the prices of imported inputs, which could weaken the incentives to raise the production of tradable goods in countries with strong import dependence.

These arguments suggest that – at least in the cases of a modest overvaluation and a high inflation rate – it is of

advantage to stick to the fixed exchange rate and to allow for a monetary contraction. The efficiency of both monetary contraction and nominal devaluation could be improved by complementary liberalization policies.²¹ However, the conclusions are different for the liberalization of goods and capital markets.

The most prominent issues in the liberalization of goods markets are trade liberalization and privatization of state-owned enterprises. The arguments against a simultaneous implementation of trade liberalization and macroeconomic reform claim that such a policy exceeds the capacity for real adjustment. There are, however, strong arguments in favour of a simultaneous implementation.²² First, the production of exports is encouraged by lower prices for imported inputs shifting trade balance from T towards T' (Figure 1). This reduces the need for real devaluation and relaxes the foreign

²¹ For an overview of the debate on the sequencing of macroeconomic reforms and liberalization policies, see Sebastian Edwards: On the Sequencing of Structural Reforms, NBER Working Papers, 3138, Cambridge/Mass. 1989.

²² Cf. Alain Ize: Trade Liberalization, Stabilization, and Growth: Some Notes on the Mexican Experience, IMF Working Paper, 90/15, Washington D.C. 1990.

Peter Behrens (Ed.)

EEC Competition Rules in National Courts (II) • Les règles de concurrence de la CEE devant les tribunaux nationaux (II)

Part Two: Benelux and Ireland • Deuxième Partie: Bénélux et l'Irlande

The competition rules of the EC-Treaty are directly applicable in the Member States. Therefore, the national courts play an important role in the implementation of European competition law. The editor of this volume has initiated a research project which will analyse the national case law. A first volume published in 1992 contained the national reports from the United Kingdom and Italy. This volume contains the national reports from Belgium, the Netherlands, Luxemburg and Ireland. Further national reports will follow.

The project is designed to make the national case law accessible to lawyers practicing in the field of European competition law. The Community organs get an overview over the implementation of Community law in Member States. Those, interested in research find the materials for further comparative studies.

The authors are competition law experts from the different Member States.

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exchange constraint. Second, intensified competition raises the efficiency of domestic production, allows the reduction of prices, and thus speeds up real devaluation in the case of a fixed exchange rate ($C \rightarrow G_1$, Figure 1). In the same vein, the privatization of publicly owned enterprises – especially if they belong to the non-traded goods sector – makes prices more flexible and speeds up real exchange rate adjustment if an appropriate regulation provides incentives for competition and enhances efficiency in areas where competition is not possible.

With respect to capital controls, the problem is to measure the temperature of capital flows.²³ The flow of cold money, i.e. long-term capital, is difficult to avoid in the case of capital outflows and is highly welcome in the case of capital inflows because it reduces the need for real devaluation. The flow of hot money, i.e. speculative, short-term capital, could destabilize real exchange rate adjustment. In terms of Figure 1, fluctuating capital flows imply that external balance fluctuates, e.g., between T and T' and that price signals for adjustment become unreliable. Therefore, exchange controls are advocated for the flow of hot money in the first place.^{24, 25} It can be expected that private agents will adjust more quickly to changes in relative prices if they regard them as more stable. The real devaluation policy may become more effective and sustainable if private agents favour capital controls as a safeguard against destabilization. Moreover, a higher stability of real exchange rate adjustment improves investment conditions and growth prospects.^{26, 27}

Financial market regulations such as fixed nominal interest rates negatively affect real exchange rate devaluation. A contraction of loanable funds may occur leading to or expanding a demand surplus (e.g. at point B₁ in Figure 1) if interest rates are not allowed to rise in order to mobilize private savings and to relax credit constraints.²⁸ This not only refers to the monetary contraction strategy but to the nominal devaluation strategy as well. In this case, real interest rates decline due to the fixed nominal interest rate and increasing inflation.²⁹ By relaxing credit constraints, a liberalization of domestic

capital markets improves real adjustment to overvaluation in two respects. First, efficiency enhancing investment in the production of non-tradables eases the decline of prices for these products. Hence a real devaluation will be quicker and temporary unemployment could be avoided. Second, investment in the restructuring of domestic supply in favour of tradable goods shifts equilibrium from G_1 towards B_2 ($Y \rightarrow Y''$; $T \rightarrow T''$). The larger this supply response, the less the need for real devaluation.

The arguments on the appropriate sequencing of macroeconomic reform and liberalization policies show that liberalization of goods markets, of the domestic capital market and of long-term capital flows can be expected to improve rather than to overstrain the capacity for real adjustment. However, as was the case for the use of monetary and exchange rate policy for macroeconomic reform, liberalization policies may overstrain the capacity for fiscal adjustment. Trade liberalization declines trade tax revenues; privatization declines the possibility of implicit taxation via public enterprises; free capital flows exclude the collection of the inflation tax via foreign exchange premia; the liberalization of the domestic capital market increases the cost of borrowing. These effects stress the need for fiscal reform in order to sustain fiscal control over the economy and to improve the credibility of the reform programme.

The following conclusions can be drawn from the theoretical discussion of exchange rate based stabilization and real devaluation:

- the preconditions for sustaining an exchange rate based stabilization are rather demanding: the independence of monetary policy from macroeconomic constraints – fiscal balance, foreign exchange, unemployment – and a high flexibility of domestic prices;
- if these preconditions are fulfilled, sticking to the fixed exchange rate in a situation of an overvalued exchange rate and a high inflation rate has advantages with respect to the inflation target and economic performance and disadvantages with respect to the speed of relative price adjustment;

²³ Cf. Rudiger Dornbusch: Flexible Exchange Rates and Interdependence, in: IMF Staff Papers, Vol. 30, 1983, pp. 3-30; Ronald McKinnon: The International Capital Market and Economic Liberalization in LDCs, in: The Developing Economies, Vol. 22, 1984, pp. 476-481.

²⁴ The effects of speculation can be expected to differ according to the exchange rate regime adopted. But both fixed and flexible exchange rate systems are vulnerable to destabilizing speculation.

²⁵ It is of course possible to circumvent capital controls by overinvoicing of imports and underinvoicing of exports. But the controls raise the costs and limit the extent of currency speculation.

²⁶ Cf. Dani Rodrik: Policy Uncertainty and Private Investment in Developing Countries, NBER Working Papers, 2999; Cambridge/Mass. 1989.

²⁷ Generally, overvaluation cannot be avoided or reduced by strict capital controls because it is due to inconsistent domestic policies and distortions in capital and goods markets in the first place. However, the relevant question here is whether or not free capital movements support the real devaluation policy which tries to remove such inconsistencies.

²⁸ Cf. Uwe Corsepius: Liberalisation of Capital Markets in Developing Countries, in: INTERECONOMICS, Vol. 24, No. 5, 1989, pp. 220-226; Ronald I. McKinnon: Money and Capital in Economic Development, The Brookings Institution, Washington D.C. 1973, here pp. 84ff.

²⁹ Contrary to a nominal devaluation, a monetary contraction can improve real interest rates because of decreasing inflation.

□ the liberalization of goods and capital markets – with the exception of short-term capital flows – helps macroeconomic reform because it improves adjustment capacity;

□ fiscal reform is of utmost importance because fiscal constraints limit both the use of monetary and exchange rate policy for macroeconomic reform and the liberalization of goods and capital markets which help macroeconomic reform.

It has to be analyzed in the following if these conclusions fit the experience with macroeconomic reforms in the Southern Cone countries Argentina and Chile.

Argentina and Chile in the 70s and 80s

The experience of Argentina and Chile in the seventies and eighties shows that two countries starting with comparable conditions and applying comparable macroeconomic concepts can end up with strikingly different economic performances.³⁰ Table 1 shows the four parallel phases of macroeconomic policy in the two countries. Phase I (PI) was characterized by socialist governments which left the countries with accelerating inflation rates and overvalued exchange rates.³¹ The first phase of reforms (PII) was characterized by numerous devaluations. This fits to the nominal devaluation strategy for macroeconomic adjustment. At the end of the seventies both countries switched from the nominal devaluation to the monetary contraction strategy, i.e. to exchange rate based stabilization (PIII). Argentina introduced the *Tablita* by which nominal devaluation was reduced progressively. Chile fixed the nominal exchange rate immediately. At the beginning of the eighties this exchange rate policy was no longer sustainable and both countries had to switch to the nominal devaluation strategy again (PIV).

The consequences of macroeconomic policies on inflation, real exchange rate adjustment and economic

performance (Table 2) were exactly those predicted by the model. In both countries, inflation declined during exchange rate based stabilization in PIII. The real exchange rate appreciated because inflation was still significantly higher than in the USA. Net capital inflows increased tremendously, even overcompensating the import surge. Due to the increase in domestic absorption, average GDP growth rose to 4.3 per cent in Argentina and 6.7 per cent in Chile. In terms of Figure 1, the economies were in the expansionary phase of stabilization approaching a new equilibrium G_2 . The external shock which ended this expansionary first phase was the debt crisis and the consequent turnaround in the direction of net capital flows. This shift in external equilibrium meant that the real exchange rate suddenly became grossly overvalued. Both countries had to give up the fixed exchange rate and to limit a balance-of-payments crisis and a run on the central bank. As a consequence of this crisis, the growth of real GDP deteriorated.

There are, however, significant differences between the two countries. First, Table 2 shows that Chile implemented the strategies according to the theoretical concepts shown above: in PIII the nominal exchange rate was kept constant while monetary expansion was reduced (the monetary contraction strategy). In PIV monetary expansion was kept constant while the nominal exchange rate was devalued (the nominal devaluation strategy). This was not the case in Argentina. Monetary expansion increased during devaluation periods and decreased only modestly during the monetary contraction period. As a consequence, Chile reduced the inflation rate substantially and permanently whereas Argentina's inflation rate reached record levels in PIV.

Second, exchange rate devaluation in PIV was rule-based in Chile and discretionary in Argentina. After a short period of floating, Chile implemented a passive crawling peg with a band, i.e. the exchange rate was devalued to compensate for the difference in inflation at home and abroad plus a small additional devaluation to allow for an inflow of foreign exchange. Exchange rate policy in Argentina, on the contrary, was highly discretionary with continual changes between fixing and floating. As a

Table 1
Macroeconomic Policy in Argentina and Chile, 1970-1988

Phase	Policy	Years ¹	
		Argentina	Chile
PI	Initial situation	1970-1975	1970-1973
PII	Nominal devaluation	1976-1978	1974-1979
PIII	Monetary contraction	1979-1980	1980-1981
PIV	Nominal devaluation	1981-1988	1982-1988

¹ PI ends with the military coups. PIII includes only the years in which the fixed exchange rate (Chile) and the *Tablita* (Argentina) were implemented during the whole year.

Source: See text.

³⁰ Cf. Rainer Schweickert: Geld- und Wechselkurspolitik in Entwicklungsländern – Eine Analyse alternativer Stabilisierungs- und Anpassungsstrategien, in: Kiel Studies, 256, Tübingen 1993, here Ch. E.

³¹ Cf. José M. Fanelli, Roberto Frenkel, Carlos Wino-grad: Argentina – Stabilization and Adjustment Policies and Programmes, Helsinki 1987, here p. 1; Roque B. Fernandez: The Expectations Management Approach to Stabilization in Argentina during 1976-82, in: World Development, Vol. 13, 1985, pp. 871-892, here p. 871; Vittorio Corbo: Reforms and Macroeconomic Adjustments in Chile during 1974-84, in: World Development, Vol. 13, 1985, pp. 893-916, here p. 893.

consequence, Chile was able to smooth real exchange rate adjustment and could even improve her reserve position in PIV while reserves declined substantially in Argentina.

Third, real devaluation in PIV was obviously less contractionary in Chile than in Argentina. The averages for the growth rate of real GDP shown in Table 2 (Argentina:

-0.81 per cent; Chile: 1.5 per cent) even underestimate the difference. While both countries experienced negative growth rates at the beginning of PIV, the Chilean economy grew at 9.3 per cent in 1989 while the Argentine economy shrunk at 4.5 per cent.

These remarkable differences can be explained by the different intensity of macroeconomic restrictions – above all the fiscal balance – and the different efforts to liberalize the economy. With respect to the fiscal balance, Chile already implemented reforms in PII, i.e. before monetary contraction in PIII. A broad based value-added tax was introduced³² which allowed for the substitution of inflation and trade taxation as well as for an overall elimination of fiscal deficits and domestic credit financing (Table 2). Fiscal constraints on monetary and exchange rate policy were relaxed and the policy instruments could be used as implied by theory. Chile was even able to keep its monetary and exchange rate policy on track after the foreign interest payments rose dramatically in the eighties. In contrast, Argentina did not implement any significant fiscal reform³³ and relied heavily on revenues from inflation and trade taxation and domestic credit financing. Hence, the use of policy instruments was restricted by the need to keep fiscal balance. As a consequence, monetary contraction in Argentina could not be as strong and was not as sustained as was the case in Chile during PIII and PIV and nominal devaluation was often delayed in PIV.

Fiscal reforms also allowed for strong liberalization efforts in the case of Chile. In PI import tariffs, (negative) real interest rates and foreign exchange premia show that the trade and capital market regimes were even more restrictive than in Argentina. This picture changed dramatically during PII and PIII. Chile reduced average import tariffs and real interest rates became positive whereas in Argentina average import tariffs increased and real interest rates remained negative. It was only with respect to capital flows that liberalization was more far-reaching in Argentina than in Chile. While Argentina dismantled foreign exchange controls completely, Chile always maintained control over short-term capital flows. As argued above, Chile's emphasis on trade and domestic capital market liberalization was more appropriate than Argentina's emphasis on capital account liberalization

Table 2
Macroeconomic Reforms in Argentina and Chile, 1970-1988

		Periods ¹			
		PI	PII	PIII	PIV
A. Monetary and exchange rate policy					
Money supply M1 (growth in %)	ARG ²	120.37	182.91	117.05	287.44
	CHI	194.24	167.98	25.39	22.32
Nominal devaluation ³ (in %)	ARG	49.75	128.54	44.09	203.20
	CHI	102.68	158.56	-5.23	22.19
B. Economic performance					
Inflation (in %)	ARG	62.40	265.20	130.20	309.63
	CHI	122.2	209.40	27.40	20.30
Real devaluation ³ (in %)	ARG	3.93	-10.25	-29.89	12.19
	CHI	13.27	9.60	-16.80	12.29
Net capital flows (in % of imports)	ARG	4.77	12.62	43.33	-2.21
	CHI	0.68	21.19	67.79	-28.54
Foreign exchange reserves (% of imports)	ARG	84.90	94.80	130.80	78.90
	CHI	58.00	36.30	70.80	89.90
GDP (growth in %)	ARG	3.80	0.70	4.30	-0.81
	CHI	1.90	3.80	6.70	1.50
C. Fiscal reform and liberalization					
Fiscal balance ⁴ (% of GDP)	ARG	-4.82	-4.40	-3.13	-6.19
	CHI	-7.68	-0.05	4.00	-1.41
Domestic credit financing (% of expenditure)	ARG ⁵	37.02	20.39	14.61	20.62
	CHI ⁶	33.18	3.01	-11.52	-0.45
Inflation tax ⁷ (% of expenditure)	ARG	36.31	45.26	27.40	24.53
	CHI	40.29	12.70	4.90	3.14
Trade tax (% of expenditure)	ARG	9.65	12.27	9.21	9.18
	CHI ⁸	8.47	6.62	5.18	8.05
Foreign interest payments (% of expenditure)	ARG	2.97	3.37	2.70	12.94
	CHI	2.21	5.24	5.59	16.33
Average import tariffs ⁹ (in %)	ARG	24.39	35.89	28.26	32.46
	CHI	36.40	11.96	8.04	13.96
Premium on foreign exchange (in %)	ARG	48.60	31.30	1.40	44.00
	CHI	573.40	15.40	8.00	25.00
Real interest rates ¹⁰ (in %)	ARG	-21.71	-29.15	-3.83	1.43
	CHI	-29.01	-3.27	16.88	5.64

¹ For the definition of the periods, see Table 1; all values are period averages. – ² PI: 1973-75. – ³ Own calculations; effective rates according to a trade weighted basket. – ⁴ Negative values for fiscal deficits. – ⁵ PI: 1974-75. – ⁶ PI: 1972-73. – ⁷ Own calculations. Real values for M1 multiplied by inflation rate. – ⁸ PI: 1972-73. – ⁹ Calculated using actual tax revenue. – ¹⁰ Deflated by consumer price index. Due to data constraints and different regimes, different interest rates for bank deposits have been used.

Sources: International Monetary Fund: Balance of Payments Statistics, Direction of Trade Statistics, Government Finance Statistics Yearbook, International Financial Statistics, Washington D.C., various issues; Banco Central de Chile: Boletín Mensual, Santiago de Chile, various issues; World Bank: World Development Report, New York, various issues; Banco Central de Argentina: Información estadística sobre tasas de interés. Separata del Boletín Estadístico, Buenos Aires 1990; Philipp P. Cowitt (ed.): World Currency Yearbook, New York, various issues; UNCTAD: Handbook of International Trade and Development Statistics 1990, New York 1991.

³² Cf. Ronald I. McKinnon: The Order of Economic Liberalization: Lessons from Chile and Argentina, in: Economic Policy in a World of Change, Carnegie-Rochester Conference Series on Public Policy, Vol. 17, 1982, pp. 159-186; Patricio Meller: Chile, in: John Williamson: Latin American Adjustment: How Much has Happened?, Institute for International Economics, Washington D.C. 1990, pp. 54-85, here pp. 77ff.

³³ World Bank: Argentina. Tax Policy for Stabilization and Economic Recovery, World Bank Country Study, Washington D.C. 1990.

in order to improve the economic performance effects of a real devaluation.³⁴

To sum up, the comparison of Argentina and Chile shows that the same strategies for stabilization and real exchange rate adjustment can have completely different results depending on fiscal policy and liberalization policies. Chile was able to reduce inflation permanently and to adjust the real exchange rate relatively smoothly because fiscal restrictions to the use of monetary and exchange rate policy were already relaxed in PII by fiscal reform. Additionally, Chile was able to put her economy on a stable growth path because the liberalization of trade and the domestic capital market improved adjustment incentives and adjustment capacity.

However, Chile's experience shows that even under such favourable conditions exchange rate based stabilization is hardly sustainable if a huge negative external shock requires a strong devaluation of the real exchange rate. Possibly the fixed exchange rate regime in Chile could have been sustained in the case of a modest or slow deterioration of the external environment.

Summary and Policy Conclusions

The theory of exchange rate based stabilization and real exchange rate adjustment as well as the comparison of macroeconomic policies in Argentina and Chile in the seventies and eighties have confirmed the basic hypothesis of this paper. Even if implementation is perfect, the strategy is highly risky due to the concept. Theory shows that a proper implementation requires demanding efforts with regard to fiscal reform and the liberalization of the economy. Theory also shows that an overvalued exchange rate is likely to occur and that a real devaluation via monetary contraction provides the decisive test for the sustainability of the fixed exchange rate.

These theoretical considerations explain why Argentina and Chile performed so differently but could both not sustain exchange rate based stabilization when the debt crisis broke out. Argentina completely failed to implement the concept properly and lost control over the economy during the real devaluation process in the eighties. Chile implemented the concept properly, could also not sustain the fixed exchange rate but maintained

control over the economy after switching to a passive crawling-peg regime.

Three lessons can be offered for other emerging market economies:

Fiscal reform is of utmost importance. Any macroeconomic reform but especially exchange rate based stabilization depends on fiscal reform. Fiscal balance has to become independent of monetary, exchange rate, and liberalization policies. Only if this is case, can policy instruments be used in line with the macroeconomic reform programme.

Credibility cannot be imported but has to be established. The argument that credibility is imported via a fixed exchange rate is misleading. Credibility requires fiscal consolidation and the liberalization of the goods and capital markets in order to allow for monetary contraction and real devaluation. Hence, starting with high fiscal deficits, an unfavourable structure of fiscal revenue and expenditure, and a high degree of regulation, credibility has to be earned by internal adjustment in a very short time.

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 a too slow adjustment of domestic inflation, a growing trade imbalance, negative real shocks, an appreciation of the reference currency and lower capital inflows. There are advantages in sustaining the fixed exchange rate and adjusting via monetary contraction in the case of modest shocks. However, the chances of sustaining in the case of large shocks are rather low. The more inflation converges towards the level of the reference currency, the more likely it becomes that large shocks require a deflationary process which can hardly be sustained.

These lessons suggest that exchange rate based stabilization is not an appropriate strategy for emerging market economies. Especially for the post-socialist, but also for many Latin American and African economies, it is rather unlikely that the ability and the willingness to introduce fiscal reform and to liberalize the economy are strong enough. Even if this were the case – like in Argentina's recent attempt at macroeconomic reform³⁵ – emerging market economies should think long and hard before making a commitment to a fixed exchange rate. At least in the medium run a switch to a more flexible exchange rate regime is necessary in order to avoid a deflationary process in the case of an overvalued exchange rate.

³⁴ The different attitudes towards trade also reflect the differences in the overall regulation of goods markets. Most importantly, the privatization policies followed the same lines. It has to be acknowledged that this was rather a disadvantage for Chile because of the de facto unregulated privatization of state-owned banks which allowed conglomerates ("grupos") to buy their own banks and to build up bad external credits. The debt service for these bad credits contributed to the net capital outflows in PIV. Hence, privatization increased overvaluation and the consequent adjustment crisis.

³⁵ Cf. Rainer Schweickert: Exchange Rate Based Stabilization – Lessons from a Radical Implementation in Argentina, in: The World Economy, Vol. 17, 1994, pp. 171-189.