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FIGHTING INFLATION IN LATIN AMERICA

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ABSTRACT

Inflation seems to be a chronic problem for Latin American economies ever since the Second World War. In the 1980s, inflation ran out of control in many countries. This paper analyzes the causes for these high inflation rates and discusses the experiences of Latin American countries in fighting (hyper-) inflation in the 1980s and 1990s. Particular attention is given to the relative merits of orthodox versus heterodox approaches, and to the use of the exchange rate as inflation stabilizer. Among other things, the paper concludes that achieving fiscal balance is crucial in whatever method used, and that a fixed exchange rate can help to stabilize inflation but contains many risks, in particular, with open capital accounts.

1. INTRODUCTION

Inflation seens to be an inherent characteristic of Latin American economies, at least since the Second World War. Somehow, inflation in this continent seems to be more severe, more permanent and more difficult to fight than in other regions of the world (table 1). Until the 1980s, the most severe cases of inflation had occurred in Europe just after the two World Wars, in countries that were in acute political and economic crisis. In the 1980s, no less than six Latin American countries experienced hyperinflation or almost hyperinflation:[1] Argentina, Bolivia, Brazil, Mexico, Peru and Nicaragua. Many other Latin American countries had high inflation rates in this period, too (table 2). Gradually, at the end of the 1980s and in the early 1990s the inflation in the continent came down. Brazil was the last country to achieve some degree of stabilization. Until August 1995, the price increase on an annual basis was 33% (IMF 1995). Now, the most serious cases of inflation are again in Europe, in particular in the countries in transition in Central and Eastern Europe.

Table 1. Average annual inflation in different regions, 1951-1993

	1951-60	1961-70	1971-80	1981-89	1990-93
Industrialized countries	2.1	3.3	8.7	4.9	3.9
Asia	3.3	5.8	9.1	7.4	8.6
Middle East	3.6	3.8	19.6	19.0	11.5
Latin America	7.9	21.2	39.4	149.0	218.0
World	2.4	4.4	11.0	12.7	21.4

Source: IMF, *Yearbook of International Financial Statistics 1993* and *1994*. Washington DC.

[1] Somewhere between annual inflation rates of around 100% and of more than 1000%, a qualitative border is passed, which makes us call these inflations 'hyperinflation.'. Officially, hyperinflation starts if inflation is more than 50% per month, and it is defined to end if it is lower than 50% during one year (Cagan 1956).

Table 2. Inflation in Latin America, 1960 - 1994

	1960-69	1970-79	1980	1981	1982	1983	1984	1985
Argentina	23	133	101	105	165	343	627	672
Bolivia	6	16	47	32	124	276	1281	11750221
Brazil	46	31	83	106	98	142	197	31
Chile	25	174	35	20	10	27	20	24
Colombia	11	19	27	26	25	20	16	15
Costa Rica	2	10	18	37	90	33	12	28
Ecuador	4	12	13	16	16	48	31	22
El Salvador	0	9	17	15	12	13	12	19
Guatemala	1	9	11	11	0	5	3	3
Honduras	2	7	18	9	9	8	5	58
Mexico	3	3	26	28	59	102	66	220
Nicaragua	na	16[a]	35	24	25	31	20	25
Paraguay	4	11	22	14	7	13	110	163
Peru	10	27	59	75	64	111	55	72
Uruguay	50	59	64	34	20	49	12	11
Venezuela	1	7	22	16	10	6		

[a] 1973-1979

Source: International Monetary Fund, *International Financial Statistics: Yearbook 1993, 1994, 1995*. Washington DC.

Table 2. Inflation in Latin America, continued

	1986	1987	1988	1989	1990	1991	1992	1993	1994[b]
Argentina	90	131	343	3080	2314	172	25	11	4
Bolivia	276	15	16	15	17	24	12	9	87[d]
Brazil	145	230	682	1287	2938	441	1009	2148	2669
Chile	20	20	15	17	26	22	15	13	11
Colombia	19	23	28	26	29	30	27	23	24
C.Rica	12	17	21	17	19	29	22	10	14
Ecuador	23	30	58	76	49	49	55	45	27
El Salv.	32	25	20	18	24	14	11	19	11
Guatemala	37	12	11	11	41	33	10	12	12
Honduras	4	3	5	10	23	34	9	11	22
Mexico	86	132	114	20	27	23	16	9	7
Nicaragua	681	912	10205	4770	7485	2742	20	26[c]	13
Paraguay	32	22	23	26	38	24	15	18	21[d]
Peru	78	86	667	3399	7482	410	74	49	24
Uruguay	76	64	62	80	113	102	69	54	45
Venezuela	12	28	30	84	41	34	31	38	61

[b] Preliminary figures. Source for South America and Mexico: IMF, *International Financial Statistics, December 1995*; and for Central America: *Latin America Monitor: Central America*, January 1996.
[c] *Latin America Monitor: Central America*, January 1996.
[d] IMF, *World Economic Outlook 1995*.

A first question this paper tries to answer is why the tendency toward inflation has been so strong in Latin America, and, in particular, why so many Latin American countries lost control over price levels in the 1980s. The debt crisis was an important factor, but can by no means be the only one: many other developing countries had a large foreign debt in the early 1980s and they did not suffer from such high inflation rates. Then, the main thrust of the paper is to analyze the different ways in which Latin American countries have attempted to fight inflation. I examine the relative merits and demerits of three stabilization methods, in particular: orthodox stabilization, heterodox stabilization, and exchange-rate-based stabilization. Orthodox stabilization involves fiscal and monetary contraction, heterodox stabilization combines fiscal restraint with an income policy, and exchange-rate-based stabilization uses the fixed exchange rate as a 'nominal anchor.' After a discussion of the theoretical pros and cons, the experiences of several Latin American countries are discussed. The main focus is here on the six Latin American countries where inflation became hyperinflation during the 1980s.

Inflation is a continuing process of price increases. It is often measured as the price increase of a basket of consumer goods in, for example, a year. This is the 'consumer price index' (CPI). Among economists, there are different opinions on how inflation comes about and how it has to be fought. In the theoretical literature, the main contradiction is that between monetarists and post-keynesians. In Latin America, structuralists have entered in debate with monetarists. Their arguments bear resemblance with those of the post-keynesians, as we will see below. According to the monetarists, inflation is a monetary phenomenon. It comes about when the Central Bank increases the money supply in excess of the demand for money. Such a too large increase of the money supply can be caused by monetary financing of the fiscal deficit, or by extending too much credit for the private sector. In the vision of the post-keynesians, inflation is caused by exogenous shocks, such as a sudden rise in the prices of imports, wage hikes over and above price increases, a sudden increase of the fiscal deficit, or other cost-increasing factors. These 'real' shocks automatically induce an increased money supply, so that the price increase that started in one part of the economy, spills over to the rest of the economy. The Central Bank is unable to implement an independent monetary policy (Arestis 1992).

Monetarists do not deny the possibility of external shocks, nor the difficulties for the Central Bank to steer the money supply. But they insist that the monetary authorities should not react to sudden shocks, and instead prioritize a long-run stable growth of the money supply, in conformity with the long-run growth of national income. Any deviation from this long-run growth path will cause inflation. The solution to inflation according to the monetarists is clear: a contractionary monetary policy should be implemented, which also involves the elimination of the monetary financing of the government deficit. In the view of the post-keynesians, wage and price controls can help to reduce inflation, while a reduction of the fiscal deficit is also an important measure.

2. THE SPECIAL CASE OF LATIN AMERICA

The background for the higher inflation in Latin America as compared to other regions lies in its political economic history. A first factor is the unequal distribution of income, which can be traced to the colonization process. The settlement of the Spanish and Portuguese colonists in the region brought about a very unequal distribution of land. Labour shortage led to the introduction of slavery and other forms of forced labour. The political independence (around 1820) and the subsequent changes in economy and society did not change this inequality of income (Bulmer-Thomas 1994). The income inequality led to a polarisation of the society. Small, very powerful groups dominate the economy and the political system. As a result,

governments have great trouble in securing tax income. In most Latin American countries tax income in the 1970s was below 20% of GDP, and in some even below 12%. The high incidence of poverty raised the need for governments to provide public services. In the 1980s, all Latin American countries still had archaic and inefficient tax systems, which complicated the maintenance of fiscal balance.

The polarisation of Latin American societies also opened the way for populist leaders. These leaders based their popularity on their charisma and on their ability to form coalitions between different groups in society. Once in power, they practiced 'economic populism' (Cardoso and Helwege 1992), meaning that they provided favours to their substituencies, without bothering about macroeconomic stability. In Argentina, for example, Juan Perón increased real wages by 62% between 1946 and 1949 (Sheahan 1987, 180). This was the reason that inflation surged under Perón's regime (1946-1955). Similar factors accounted for the upsurge of inflation under Velasco in Peru (1968-1975).

A third factor is the policy of import substitution industrialization, which was carried out much longer in Latin America than elsewhere. Although import substitution was successful in achieving growth of the industrial sector, it led to increased external dependency. Imports of capital goods and raw materials for industrialization were cheap and expanded, and the agricultural export base of the economy was weakened, among other factors by an overvalued exchange rate. In most countries, import substitution policies were still in place when the debt crisis broke out. This meant that import dependency was high and that export capacities were weak. External adjustments, necessary in order to cope with the balance of payments problems and the debt crisis, were to be more costly.

Pointing to these 'basic' or 'structural' causes for the high inflation in the region is typical for 'structuralist' thought (Kay 1989, Sheahan 1987). Structuralist thinkers such as Prebisch argued that price increases were the result of structural rigidities in the economy. The most important ones were the unequal distribution of land resulting in a wrong incentive structure, and a skewed domestic production capacity, leaning on primary exports to provide the means for imports of consumer and producer goods. In these circumstances, increased domestic demand does not lead to higher production, in spite of the availability of underutilized land and labour. It only leads to more imports and/or higher prices. Some inflation is therefore unavoidable, especially if governments are working on the removal of these structural bottlenecks, for example, by subsidizing food prices and/or by industrialization policies. Some structuralists also point to the inefficiencies and the regressiveness of tax systems, and to the lack of political consensus in the polarized Latin American societies. Apart from these basic causes for inflation, structuralists stress the 'propagating mechanisms' that induce higher price increases once inflation has come about (Kay 1989). These propagating factors include the fiscal deficit and the wage-price spiral.

Structuralist ideas have been quite influential in Latin America. They paved the way for active import substitution policies, although structuralists were also among the first to criticize the the high costs involved in these policies (Balassa at al. 1986). They also justified some of the consequences of economic populism. Fighting the 'structural causes' of inflation was often accompanied by a lack of attention for macroeconomic balances. Structuralist arguments of this type played a role in the high inflations of Chile under Allende (1970-1973), Peru under García (1985-1989) and Nicaragua under the Sandinistas (1979-1990). In a way, the impact of structuralist thought (or the wrong use made of these ideas) can be considered a fourth factor causing high inflation in Latin America.

In the 1980s, inflation ran out of control in many Latin American countries. The underlying factor was the increased foreign debt stock. It had been built up during the 1970s, partly as a result of the price increases of oil, but, more importantly, as a result of large government deficits. Government expenditure had expanded in the 1970s without being compensated by increased tax revenues. This expenditure was mainly for consumption purposes, and not so much for investment.

In the early 1980s, these countries faced three shocks. The first was an increase in the international interest rates, due to contractionary monetary policies in industrialized countries. These monetary policies brought about a recession in the industrialized countries. The recession, in turn, caused the second shock for developing countries: lower demand for primary products and a fall in the terms of trade for non-oil exporting developing countries. These two shocks brought about balance of payments crises. In the early 1980s, countries could still borrow fresh money in order to finance the trade deficit and the debt servicing. But somewhere between 1982 and 1985, new borrowing stopped and this easy adjustment phase came to an end. This can be considered the third shock. It forced real adjustments of the economies.

The so-called debt crisis and its consequences were especially severe in Latin America, and were the direct cause of the flaring up of inflation in the 1980s (Cardoso and Helwege 1992, 32). First, imports became more expensive, either because they became scarce as a result of rationing, or because of the effects of a devaluation. Secondly, when fiscal deficits could no longer be financed by foreign loans, they had to be financed domestically, which almost always meant increased borrowing from the Central Bank. Thirdly, the fiscal deficits themselves increased. The main reason were increased interest payments. However, revenues also diminished because of lower export taxes and lower tax income in general due to reduced domestic production.

Once there is inflation, there is a tendency for inflation to continue and to accelerate. The main 'propagating' mechanisms in the 1980s were the following. First, there is a mutually reinforcing relation between inflation and the fiscal deficit. In general, a high inflation reduces tax revenues. This is called the Oliveira-Tanzi effect. If taxes to be paid are fixed in nominal terms, their real value is reduced. Losses also occur because of the delay between defining the amount of taxes to be paid and the actual payment. The lower tax income means that the deficit increases and thus the need for monetary financing. In a situation of high inflation, the government can benefit from the fact that its Central Bank issues the currency. This benefitting from the issuing of money is called seigniorage, and if there is inflation the government can finance part of the deficit from the inflation tax: the reduction of the value of money in circulation. However, inflation tax does not simply go up with a higher inflation rate (Burda and Wyplosz 1993). The higher the inflation (the *rate* of the inflation tax), the lower is the real value of money people are willing to hold. The value of real cash balances (the *base* of the inflation tax) diminishes. When revenues from the inflation tax diminish, the need for more inflationary financing grows. This process may result in hyperinflation.

Table 3 shows to what extent Argentina, Brazil, Bolivia, and Mexico used the inflation tax. In Bolivia, the fiscal deficit and the inflation tax were very high in 1982-1984. This resulted in very high inflation in 1984 and 1985. In 1985, the income from the inflation tax diminished. In Mexico, there seems to be a relation between the inflation tax in 1982 and the inflation rate in 1983. In Argentina, the inflation tax can explain the upsurge of inflation in 1983-1985 and, to some extent, the hyperinflation in 1989. In Brazil, there was hardly a relationship between the increase in domestic money and inflation until 1987. After that year the relationship was still weaker than in other countries (table 3). Probably, the longer history of inflation had increased inflationary expectations and reduced real money demand, so that the base for inflation tax was lower already in the early 1980s (Kiguel and Liviathan 1992). Figures on the ratio of M1 (currency and demand deposits) to broad money (M4) for Brazil confirm this. In 1976 this ratio was 44%. In 1980 it was still 41%, but in 1984 it had reduced to 15% and in 1988 to 9% (Dornbusch, Sturzenegger and Wolf 1990). In Argentina, the ratio of M1 to M3 was 62% in 1976, diminished to 31% in 1980, climbed to 34% in 1984 and then declined again to 25% in 1988. Although these ratios are not completely comparable, it is clear that the share of M1 in broad money did not collapse in Argentina to the same extent as in Brazil. Probably, some basis for the inflation tax always remained in Argentina.

Table 3. Seigniorage and inflation in Argentina, Brazil, Bolivia and Mexico, 1978-1988, in %

	Argentina		Brazil		Bolivia		Mexico	
Year	Δ H / GDP	Inflation	Δ H / GDP	Inflation	Δ H / GDP	Inflation	Δ H / GDP	Inflation
1978	6.7	175.5	2.0	38.7	1.3	10.4	3.6	17.5
1979	4.3	159.5	3.4	52.7	1.1	19.7	4.3	18.2
1980	2.7	100.8	2.0	82.8	3.2	47.2	4.7	26.4
1981	3.7	104.5	2.0	105.6	1.6	32.1	5.3	27.9
1982	17.5	164.8	2.1	97.8	11.9	123.5	10.4	58.9
1983	14.1	343.8	2.0	142.1	9.4	275.6	6.5	101.8
1984	10.9	626.7	2.8	197.0	15.1	1281.4	5.6	65.5
1985	7.7	672.1	2.7	226.9	6.9	11749.6	1.7	57.7
1986	1.8	90.1	4.2	145.2	2.0	276.3	3.5	86.2
1987	2.8	131.3	8.0	229.7	1.5	14.6	3.1	131.8
1988	5.1	343.0	4.0	682.3	2.8	16.0	1.7	114.2
1989	16.1	3079.8	6.6	1287.0	1.6	15.2	0.7	20.0
1990	4.5	2314.0	5.7	2937.8	1.7	17.1	1.2	26.7
1991	2.3	171.7	3.8	440.9	1.0	21.4	1.0	22.7
1992	1.4	24.9	5.0	1008.7	na	na	0.6	15.5

$\Delta H = (H_t - H_{t-1}) = \Delta M0$, the change in base money or "reserve money".
Source: IMF, *International Financial Statistics Yearbook 1994*. Washington DC.

Secondly, indexation mechanisms and expectations provide feed-back effects for continuing and accelerating inflation. The most well-known are wage and price indexation. Prices are often set as a mark-up over costs, so that they go up if costs increase. Wages are part of these costs, but they themselves react to prices. The length of the labour contract then becomes an important factor. In Brazil, for example, the halving of the length of the labour contract (from 12 to 6 months) in 1979 led to a doubling of the inflation rate (Días Carneiro 1987). Although wages are normally adjusted by more than the past inflation, continuing price increases imply that on average, real wages lag behind the rate of inflation.

If the exchange rate is adjusted in line with the inflation, this provides another indexation mechanism. In high inflation economies, the domestic currency tends to lose its accounting and store of value functions, and sometimes even its medium of exchange function. The phenomenon that people start using foreign currency (dollars) on a large scale is called currency substitution or dollarization. If prices are set in dollars (the dollar takes over the accounting function), a depreciation or devaluation of the currency automatically leads to price increases. This fuels the inflation. On the other hand, if a serious stabilization attempt is carried out, the linking to foreign prices can also be an advantage since keeping a fixed exchange rate may help to stabilize prices (see below).

When the domestic currency loses its store of value function, it matters whether deposits in foreign currency (dollars) are allowed. On the one hand, it may help to keep money in the country, so that investment funds are available. Given that other alternatives for domestic currency are less liquid, more risky, perishable or illegal, capital flight is the most likely alternative of dollar deposits are not allowed. On the other hand, the availability of dollars tends to facilitate the flight from domestic money so that real money demand is lower and the basis for the inflation tax diminishes even more. This provides another inflation fuelling mechanism. In Mexico, dollar deposits were allowed until 1982 and the ratio of dollar

deposits to peso deposits increased from 10% in 1973 to 150% in 1982 (Cardoso and Helwege 1992, 157). Both Mexico and Bolivia did not permit dollar deposits anymore since 1982. This did not mean the end of dollarization, but its expulsion to the black market. Beckerman (1987) argues that the fact that dollar deposits were permitted in Peru between 1978 and 1985, contributed to the increase in the inflation rate from 10% to above 100%.

The domestic interest rate is another potential indexation mechanism, especially if the government deficit is partly financed by bonds. The Latin American countries with more developed capital markets, Argentina, Brazil and Mexico, had this possibility of financing their fiscal deficits by bonds. In theory, this way of financing does not accelerate inflation. In practice, however, interest rates had to be increased in line with the inflation rate, and interest payments took an ever increasing share of government revenues, making it more difficult to achieve fiscal balance. In Brazil, these bonds had a very short maturation term, so that paying interest rates on bonds almost implied paying interest on money, reducing further the monetary base for inflation tax (Blumenschein 1995).

Dornbusch, Sturzenegger and Wolf (1990) investigated the impact of indexation and feed-back effects in the high inflationary South American economies. They concluded that these effects were most important in Argentina and Brazil, and much less important in Bolivia and Mexico. Peru was somewhere in between.

A final factor causing and fuelling inflation were wars. This applied in Argentina at the end of the 1970s during the Malvinas crisis, and in Nicaragua during the internal war in the 1980s. In the latter country the war not only increased the fiscal burden, but the fighting also devastated production and production capacity on a large scale.

3. METHODS TO FIGHT INFLATION

Given the complexity of the causes for inflation and the persistence of very high inflation rates in several countries, it was not so clear what the best stabilization method would be. Several methods have been tried in the 1980s to fight inflation, and the different methods have been debated in the literature. The main controversies were i) between orthodox (monetarist) policies and structuralist/heterodox policies on the relative roles of monetary policies and incomes policies, and ii) on the role of the exchange rate.

According to the orthodox monetarist approach, inflation can be reduced by tight monetary and fiscal policies. This was the method recommended by the IMF. Although the IMF is primarily interested in external stabilization, the Fund saw a close relation between internal and external disequilibria. Achieving external balance is very difficult as long as fiscal deficits and inflation continue. The IMF recommends to curtail domestic credit, implying also the elimination of monetary financing of the budget deficit, since it can reduce both disequilibria: inflation and the balance of payments deficit. Apart from tight monetary and fiscal policies, the orthodox approach advocates deregulations and liberalizations of the economy. Making an end to price distortions leads to increased production and exports, and the liberalization of imports reduces import prices, thus helping internal stabilization.

Structuralists have criticized this orthodox approach. They argue that a tight monetary policy tends to increase the interest rate. This will reduce money demand and investment. A vicious circle downward may be the result, with lower money supply causing lower production and vice versa. Furthermore, if prices are set as a mark-up over costs, a higher interest rate will be reflected in higher prices (FitzGerald and Vos 1989). The structuralists also oppose the liberalizations and deregulations in the orthodox approach, arguing that market failures make it important for the state to step in. However, the circumstances of the 1980s were very adversary for structuralist arguments to fight inflation. First, the debt crisis and the impossibility of further international lending made it difficult for governments to spend more in order to attack the 'basic

causes' for inflation. Secondly, structuralist theory dealt mainly with 'normal' inflation rates, and not so much with the very high and hyperinflation rates that occurred in the 1980s and 1990s. As a result, structuralists could not provide a credible alternative method to stabilize the economies.

An alternative for orthodox stabilization policies was provided by the heterodox approach. This approach was supported by structuralists and non-structuralists. The starting point for this heterodox policy is that, whatever its underlying causes, inflation by the mid 1980s was to a large extent 'inertial'. As long as inflationary expectations continue, the inflation process cannot be stopped. For this reason, inflationary expectations must be broken in a radical way, namely by temporary price and wage controls: an incomes policy.

The second element of the heterodox approach is a reduction of the fiscal deficit. However, reducing the deficit is easier than it seems (Dornbusch and Simonsen 1987). Once inflation stops because of the controls, the reversed Oliveira-Tanzi effect will work, so tax revenues will increase (Franco 1990). Secondly, the government only has to reduce the 'primary deficit,' which does not include the nominal increase in interest payments. It is assumed that this nominal increase of interest payments will be financed automatically: lenders will not diminish the real value of their bond portfolio. Thirdly, the period of the controls gives the government some 'breathing space' to introduce tax reforms in order to increase government revenues structurally. In a heterodox policy, it is not necessary to carry out contractionary monetary policies. To the contrary, when price increases ate contained, production will increase and so will the demand for money. This means that the money supply can increase.

In sum, a heterodox approach has the advantage of stopping inflation immediately, and at much lower social costs because of wage and price controls. It can provide 'anaestesia' to the necessary deflationary shock. For structuralists, another advantage of this approach is that it protects the income distribution. A heterodox policy involves controlling both wages and prices. This is an advantage over the orthodox approach, which usually only curbs wages. A disadvantage of the heterodox approach is that the controls fix relative prices, which may lead to distortions and inefficiencies. For this reason, controls must never be maintained very long. Another danger is that the government does not use the period of wage and price controls to reduce its deficit. The (superficial) end of inflation is taken as an excuse for not carrying out the necessary fiscal reforms. If this occurs, heterodox policy is not likely to be successful.

Another debate with respect to stabilizing inflation is on the use of the exchange rate as a 'nominal anchor.' This can be a variant of the heterodox approach, with the exchange rate taking the place of wage and price controls. It can also be part of an orthodox approach, the fixed exchange rate supplementing tight monetary policies and liberalizations. In practice, this stabilization method involves maintaining a fixed exchange rate. Alternatively, the exchange rate can periodically be adjusted for inflation but not for its full rate (the 'tablita' system). The fact that prices rise more than the rate of devaluation, implies that the real exchange rate appreciates. As a result, the prices of tradables decrease which has a dampening effect on other prices. The appreciation will also lead to a trade deficit, and thus to an outflow of foreign reserves. The reduced stock of foreign reserves means a reduction of domestic money supply and this in turn causes the prices of nontradables to go down.

However, the exchange rate can only work as automatic stabilizer under certain conditions (Schweikert 1994). The first condition is that some foreign reserves must be available. The second is that the monetary contraction, induced by the trade deficit, must indeed come about. If a large fiscal deficit continues, and it has to be financed by domestic borrowing, monetary contraction is unlikely to occur. The government must also be prepared to accept a trade deficit, and not increase import tariffs, for example, and to accept the consequences of the monetary contraction in terms of output and employment. In addition, the private sector must believe that the government will allow the monetary contraction to occur, otherwise it will continue to raise prices.

In countries with liberalized external capital accounts, it is more difficult to use the exchange rate as a 'nominal anchor'. The real appreciation tends to lead to capital inflows which facilitate the economic situation in the short term. But the adjustment process is only postponed and enlarged, since these loans have to be paid back in a later phase. In addition, the economy becomes more vulnerable to shocks. Once foreign lenders believe that a depreciation or devaluation is at hands, they will withdraw their money from the country, forcing immediate and severe adjustment.

In sum, a fixed exchange rate may help to fight inflation, but it must be combined with monetary and fiscal contraction and there are certain risks involved, in particular, if countries have open capital accounts. For two reasons, we can hypothesize that stabilization with a fixed exchange rate works better in a small country than in a large country. First, in countries with a background of balance of payments problems, the foreign reserves necessary to support the exchange rate must probably be supplied by foreign aid. The amounts to be supplied to underpin the exchange rate of Bolivia or Nicaragua are more feasible than the amounts necessary for Brazil, for example. Secondly, the law of one price (purchasing power parity) is more likely to hold for a small country than for a large country that may not be a price taker on the world market. This means that one can more safely assume that cheaper imports influence domestic prices of tradables.

4. STABILIZATION EXPERIENCES

Orthodox versus heterodox stabilization

Bolivia carried out an orthodox stabilization program in 1985. Government expenditure was reduced, and the remaining fiscal deficit could be financed externally. Prices and wages were left free, foreign trade was also liberalized, and monetary policy was very tight. The exchange rate was devalued and remained fixed for some time. Afterwards it became flexible. These policies managed to reduce inflation from 11750% in 1985 to 276% in 1986 and 15% in 1987. Since then, inflation continued at a low level (table 2). However, success in inflation was accompanied by very low growth rates. Apparently, inflationary expectations did not disappear. The share of M1 in liquid assets was low and the interest rate was high (Kiguel and Liviathan 1992, 14). In spite of the liberalizations, the investment rate remained at the low level of 10% of GDP between 1986 and 1989 (Cardoso and Helwege 1992, 170). It is not clear whether investment was hampered by a lack of demand, or by a lack of confidence in the economy among investors. The Bolivian experience shows that it is possible to reduce inflation with orthodox policies, but that the costs may be high. After 1990, growth rates were somewhat higher (3.8% in was the average over 1990-1994). The investment rate gradually rose to 15% of GDP in 1993, but private investment was still 6% of GDP only (IMF 1995). The uncertain prospects for the economy are partly due to the deteriorating terms of trade for the main export products, and the weak production structure and limited competitiveness of the Bolivian economy.

Heterodox programs were first carried out by Argentina (1985) and Brazil (1986). The starting point for these countries was different, however. In Argentina, the situation was more urgent since in June 1985, annual inflation was at 6000%. This high inflation was also more directly related to inflationary financing of the budget deficit than in Brazil (table 3). In Brazil, external shocks had been more important: the two oil crises and the debt crisis of 1982. In both countries, indexation mechanisms were very widespread.

Argentina carried out the 'Austral' plan in June 1985. This implied the introduction of a new currency, the austral, a fixed exchange rate and wage and price controls. In addition, fiscal expenditure was cut. As 'prescribed' by the heterodox approach, monetary policy was expansionary, leading to a decrease of the

(nominal, monthly) interest rate from 31% to 5% (Kiguel and Liviathan 1991). Inflation came down from 30% per month in June, to 3% per month, and remained low for eleven months. Real wages decreased, as well as GDP. However, when wage and price controls were lifted, high inflation came back.

New attempts to stop inflation were carried out in August 1986 (the first Spring plan) and in February 1987. These plans included stricter monetary policies, but the government expenditure cuts were released. In both cases, high inflation returned as soon as the wage and price controls were lifted. The second Austral plan of October 1987 and the second Spring plan of August 1988 provided more of the same: temporary reduction of inflation during the period of controls, no fiscal adjustment, and a resurgence and in fact acceleration of inflation after the lifting of controls (figure 1). In the process, real wages and GDP declined, which reduced government revenues. By 1989, President Alfonsín had lost all credits as inflation stabilizer, and technical measures would not be sufficient anymore to stop inflation and restore growth.

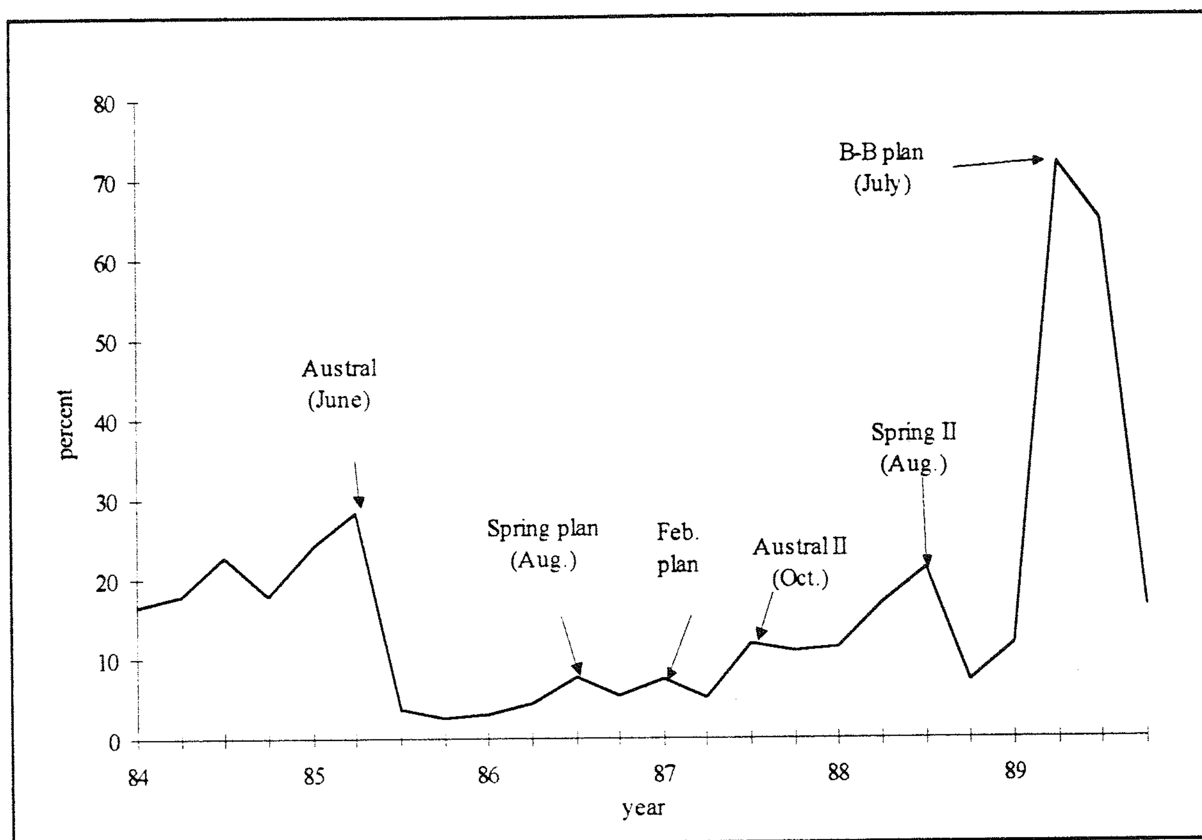
In Brazil, the first heterodox package was announced in February 1986, the 'Cruzado' plan. Prices and wages were fixed, as well as the exchange rate. The automatic indexation of financial contracts was abolished. Instead, interest rates would be adjusted to inflation with some delay, according a 'tablita.' Monetary policy was expansionary. However, contrary to heterodox 'theory,' fiscal expenditure was not reduced. The 'success' lasted for nine months but then prices increased again rapidly. In addition, the widening trade deficit became a problem to the economy. Brazil could not pay on its foreign debt, and the country announced a moratorium. The 'second Cruzado plan' of February 1987 tried to save the stabilization attempt by raising taxes and increasing the prices of public services, but it was too little, too late.

In June 1987, a new plan was announced, the Bresser plan (named after the acting Minister of Finance). It was again a heterodox package, but now accompanied by a flexible exchange rate. Bresser tightened monetary policies, and wanted to raise taxes. But the latter was resisted by Parliament, and Bresser resigned. Inflation went up again after one month. A new Finance minister designed a new stabilization plan, the Summerplan of January 1989. However, fiscal reforms were still not included, and success lasted again only one month (figure 2). It became increasingly expensive for the government to finance the deficit with domestic bonds, since the interest rate was very high. An ever larger part of the deficit was financed by printing money. As table 3 shows, the inflation tax rose in 1989.

In this period (1985-1989), both Brazil and Argentina tried many times to reduce inflation by a heterodox approach, establishing price and wage controls. However, in Brazil no change came about in the fiscal deficit in these years, while the Argentinian fiscal deficit remained high (Kiguel and Liviathan 1991). The operational deficit of Brazil increased from an average of 3.9% of GDP in 1984-1985, to an average of 4.5% of GDP in 1986-1988. In Argentina, the operational deficit went from 5.6% of GDP in 1984-1985 to 3.7% of GDP in 1986-1988. It seems that both countries tried to fight inflation by price and wage controls only, without really attacking the 'fundamentals,' in particular, the fiscal deficit. Another common characteristic is that inflation accelerated after each -failed- stabilization attempt in both countries (figures 1 and 2). This can be explained by the fact that the lifting of controls was not accompanied by any anti-inflationary policy. There was no 'nominal anchor,' which could have been the money supply, or the exchange rate (Kiguel and Liviathan 1991). As a result, expectations of the private sector concerning future inflation were crucial. After a first heterodox package, the credibility of these measures is still high. But after a second or third one, credibility declines rapidly. As soon as price and wage controls were lifted, the private sector raised prices, not only to compensate for the past period of fixed prices, but also in the expectation of, and to compensate for, future price controls.

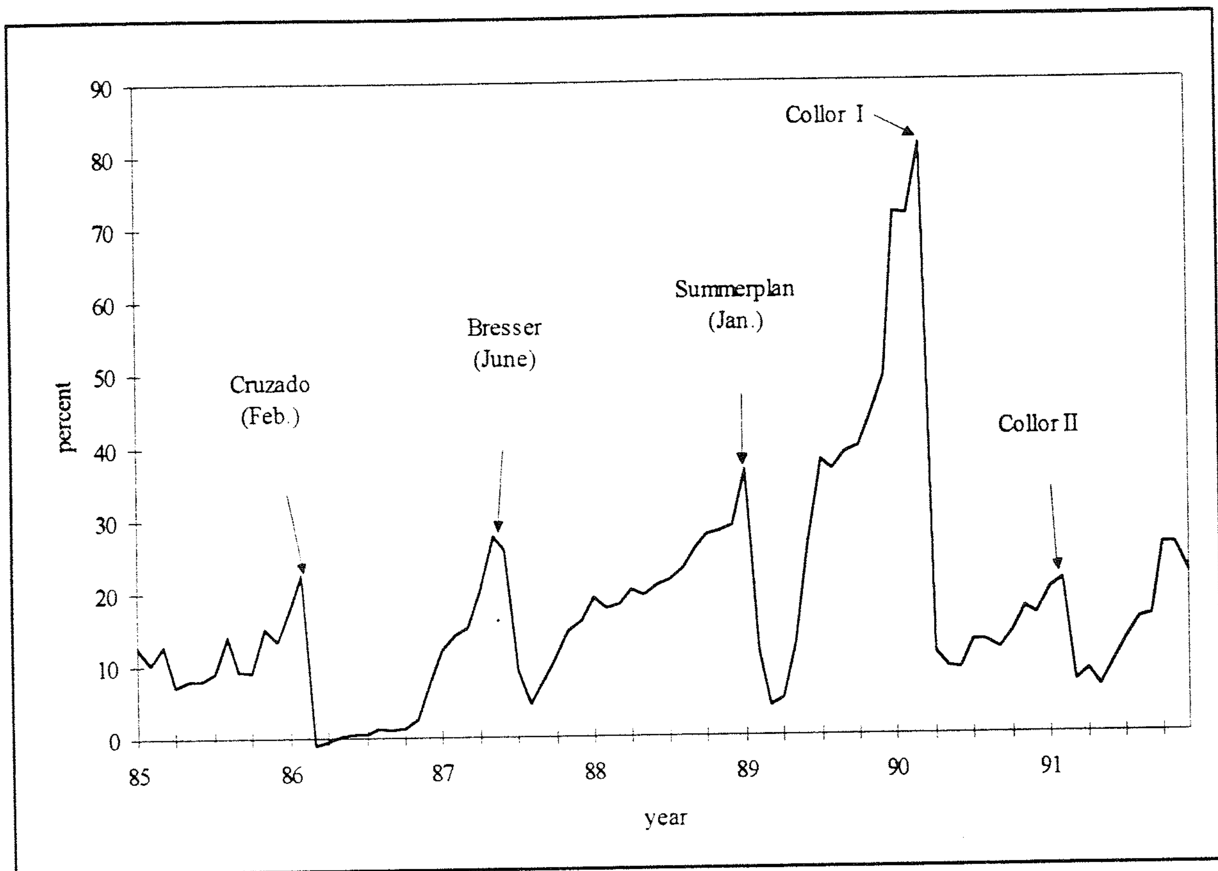
Between 1982 and 1987, Mexico suffered from the consequences of the debt crisis and of a large fiscal deficit. Inflation went up and the trade balance was in deficit. In 1982, the government began to cut

Figure 1. Inflation in Argentina, by quarter



Source: Daniel Heyman, "From sharp disinflation to hyperinflation, twice: The Argentine experience, 1985-1989", in Bruno, M., S.Fischer, E.Helpman, N.Liviathan, with L.Meridor, red (1991). *Lessons of economic stabilization and its aftermath.* Cambridge: MIT Press, p.106.

Figure 2. Inflation in Brazil, by month



Source: Moura, Alkimar R. (1993). "Stabilisation policy as a game of mutual distrust: The Brazilian experience in post-1945", in Maria D'Alva G.Kinzo, red., *Brazil: The Challenge of the 1990s*, London: Institute of Latin American Studies and British Academic Press, p. 12.

government expenditure. Imports were restricted by administrative means. As a result, the trade balance began to show a surplus but inflation came down only a little. In so far as prices increased less, this was mainly the result of an overvalued exchange rate, which, however, endangered the trade balance again. It seemed that Mexico could not achieve internal and external balance at the same time. A main reason for this was the fiscal deficit, which remained high (8% of GDP in 1985), to a large extent due to interest payments on foreign and domestic debt.

In 1985, reducing government expenditure further was considered too costly, and the solution was sought in a liberalization of international trade (Ten Kate 1992). Tariffs were gradually decreased. The currency was devalued regularly, but this fuelled inflation. In December 1987 the government began to apply a kind of heterodox approach for internal stabilization. The government agreed upon an 'economic solidarity pact' with labour unions and the business sector. The business sector agreed to maintain fixed prices, the currency was devalued and then maintained fixed, and wages were fixed for four months, and would then be indexed to prices. At the same time, government expenditure was decreased and the prices for public services were raised. This pact was originally meant to hold until June 1988, but was extended until March 1989. This heterodox approach was largely successful. Important for its success was that the fiscal deficit came down from 13% of GDP in 1987 to 5% of GDP in 1988. In addition, foreign reserves were available so that the fixed exchange rate could be maintained. And aparently, the 'pact' was able to reduce inflationary expectations. The period of the fixed exchange rate was accompanied by trade deficits in 1988 and 1989, as could be expected. But the trade liberalizations brought about some restructuring of the economy, so that exports increased as of 1989.

Peru can be said also to have carried out heterodox stabilization policies between 1985 and 1987 (Paus 1991). The García government announced price controls, so that real wages increased. But, contrary to what the heterodox approach prescribes, government expenditure was also increased. The idea was that the increase in aggregate demand would lead to increased production and so lower inflation. Economic growth was indeed high in 1986 and 1987, but inflation followed suit, leading to hyperinflation in 1988 (table 2). In fact, García's economic policies can be characterized as populist rather than as heterodox (Cardoso and Helwege 1992).

The 1990s saw a return to orthodox stabilization methods. The countries still struggling with inflation in 1989/1990, Argentina, Brazil, Peru and Nicaragua, all had extensive experience with failed stabilization attempts, and the governments had a severe credibility problem. Therefore, it was a positive coincidence that in all these countries new governments took over in 1989 and 1990. The new governments not only embarked upon stabilization methods, but also upon a program of liberalization, deregulation and privatization of their economies. This could be expected to bring about the 'change of regime,'[2] necessary to attack inflationary expectations.

President Menem in Argentina carried out several stabilization programs as of July 1989. Although they did not stop inflation immediately, the difference with the years before was that inflation was reduced after each attempt. In the Bunge and Born (BB) plan of July 1989, wages and prices were free and the exchange rate was fixed. Government expenditure was cut heavily, and privatizations of state enterprises were announced. The Bonexplan of December of that year restructured government debt by partly freezing private claims. This implied a reduction of domestic liquidity, so the exchange rate could be left to market forces. In March 1990 followed another round of public expenditure reduction. Then, in March 1991, the 'convertibility' plan was announced. The exchange rate again took over the role of nominal anchor from the

[2]In the sense of Sargent. See, for example, Sargent 1992.

money supply. The Central Bank would maintain the exchange rate of the domestic currency at a 1:1 rate to the dollar, in fact giving up domestic monetary policy. This functioned very much as a currency board. A devaluation would have to be approved by Parliament. This link to the dollar proved capable of changing inflationary expectations drastically. Inflation came down to 11% in 1993 and 4% in 1994 (table 2). The fact that fiscal reforms were carried out from the onset, leading to a real reduction of the budget deficit, was also very important for this stabilization. Furthermore, the stabilization was here accompanied by a high growth rate of GDP: an average of 8.6% over 1990-1994 (IMF 1995).

President Collor de Melo in Brazil also began important changes in the economy in 1990. He introduced liberalizations in foreign trade and in the labour market, and announced privatizations of state enterprises. His stabilization plans still were a bit heterodox, however. The first Collor plan of March 1990 did establish price and wage controls, albeit for a very short period. Following the Bonex plan in Argentina, this Collor plan also included a freezing of 70% of domestic bonds during 18 months. This measure not only helped reducing the fiscal deficit by stopping interest payments, but also curtailed domestic liquidity (from 30% to 9% of GDP, Kiguel and Liviathan 1992, 36). The exchange rate was fixed, ut was adjusted periodically to inflation. Inflation picked up already after two months.

The Collor 2 plan of February 1991 attempted to improve the fiscal position by also reducing the deficits of the states. However, Collor also reinstalled wage and price controls. By then, nobody believed in the sustainability of these controls, and Collor de Melo's credibility as combater of inflation had vanished. In spite of combining controls with reducing the fiscal deficit, this heterodox stabilization policy did not work. In 1992, Collor de Melo had to resign due to some corruption scandals. New attempts to reduce inflation were carried out in 1993 and 1994, but they were not successful either.

Fighting inflation in Brazil seems to have been even more difficult than in other countries of the region. Several explanations can be given. A first reason is that very high inflation did not seem to prevent economic growth in Brazil. Unlike in Argentina in the same period, GDP increased by 1.9% annually between 1985 and 1990. For the Brazilians, inflation was related to growth, and stabilization to recession. They preferred growth to stabilization and recession. The almost perfect system of indexation in Brazil meant that very few people suffered from inflation. Those who did suffer can be found among the unemployed and the rural poor without permanent jobs. But the poor did not have much political influence. All others did not suffer and some, in particular the domestic financial sector, in fact benefitted from inflation (Elliot Armijo 1994). Banks could gain high and guaranteed profits by purchasing government bonds, since interest rates were indexed to the inflation rate 'ex post.'

A second reason is that containment of fiscal expenditure proved to be extremely difficult in Brazil. One of the reasons for this is this is the very recent democratization in Brazil (Franco 1993). President Sarney was the first democratically elected president in 1985, after twenty years of military governments. The institutions that control government expenditure were not adjusted to democratic procedures. The budget lacked transparancy, since a large part of expenditure (defense, budgets of states) remained outside of the official budget. In 1989 a cash balance system had to contain government expenditure. If current income was not sufficient, expenditure was retarded on an 'ad hoc' basis. This led to corruption and nepotism, and undermined the credibility of the government.[3] This was one of the reasons why a balanced budget in itself was not sufficient for diminishing inflation and inflationary expectations.

A third reason for the difficulties of fighting inflation in Brazil is related to the way the financial market has adjusted to inflation (Blumenschein 1995, Sachs and Zini 1996). The share of non-interest bearing money in the total money supply had become smaller and saller, since banks had begun paying interest on

[3]The system was probably also behind the early resignation of Collor de Melo (Franco 1993).

checking deposits. Against these checking deposits no reserves were held at the Central Bank. The monetary base for collecting seigniorage and for the inflation tax was so reduced to only 0.8% of GDP in 1993 (Sachs and Zini 1996). A very small increase in the fiscal deficit would thus require a large increase in Central Bank credit to the government, leading to a high inflation. In fact, seigniorage in the early 1990s in Brazil was not even caused by the monetary financing of the budget deficit. Due to the small monetary base, the impact of external flows was due to be large. The seigniorage mainly increased due to Central Bank purchases of foreign exchange, induced by the need to prevent appreciation of the exchange rate as a result of domestic inflation (Sachs and Zini 1996).

However, inflation in Brazil is finally coming down. The stabilization attempt of Fernando Cardoso in 1994, who was elected president in 1995, seems to be successful. A first step was the achievement of fiscal balance in 1994. Then, in July 1994 a new currency was introduced, the Real. A new form of wage indexation was introduced, where wages became related to past inflation by law (Sachs and Zini 1996). The exchange rate became a one-sided peg, allowing for appreciations but not permitting depreciations. It was backed by a large amount of foreign reserves. In addition, monetary policies were tightened. In spite of the real appreciation of the Real, the trade balance showed a surplus in 1994. This positive result is probably due to the monetary tightening, but also to the reforms carried out earlier. Trade liberalization and deregulation have led to productivity gains and increases in exports. In March 1995 the exchange rate devalued by 7%, but inflation was by then less than 1% per month (IMF 1995). It remains to be seen whether Cardoso continues to be successful in stabilizing inflation. More reforms of the financial system are necessary (elimination of the interest-bearing checking deposits, for example), as well as fiscal reforms.

Peru also had a large tradition of failed stabilization attempts. President Fujimori radically changed economic policies in 1991. Among his first measures were the liberalization of foreign trade, the devaluation and unifying of the exchange rate and the starting of privatization. Price and wage controls were abolished. Achieving fiscal balance became a central aim of economic policy. It was announced that prices of public services would be raised if necessary in order to maintain fiscal balance (Sheahan 1994). Many reforms in the legal and regulatory framework were carried out, thus stimulating private enterprises. Inflation diminished to 52% in 1992, and fell further thereafter to 24% in 1994. At first, this stabilization effort was accompanied by a recession, but in 1994 and 1995 economic growth picked up, with growth rates of GDP of 6.5 and 12.9%, respectively (IMF 1995). Like in Brazil, the stabilization effort is still somewhat vulnerable because of the lagging behind of fiscal reforms to increase the tax base.

The Chamorro government in Nicaragua carried out a first stabilization attempt in July 1990, but this was not successful. In February 1991 a second attempt followed, the Lacayo plan (Dijkstra 1996). Wages were fixed for three months in an agreement with the labour unions, the exchange rate devalued and was then fixed, and government expenditure was reduced. The remaining fiscal deficit could be financed by foreign loans and grants. Monetary policy was very tight: all domestic credits had to be 'backed' by foreign reserves. Since export income covered only one-third of imports, foreign aid determined the domestic money supply. Inflation came down, from 2,742% in 1991 to 20% in 1992 (table 2). But growth did not recover, and growth rates were negative until 1994, when a first small positive figure could be registered (3%). Private investment rates are still very low, however, and stabilization still seems very much dependent on foreign aid.

Table 4 gives an overview of the orthodox and heterodox approaches to stabilization, analyzed thus far. We may conclude that the heterodox approach worked well in Mexico, but failed in Argentina, Brazil and Peru. In Mexico, wage and price controls were not imposed by the government, but were agreed upon in negotiations with the private sector and the labour unions. Apparently, these self-imposed controls were able

to change inflationary expectations and to bring inflation to a permanent lower level. The main reason for the failures of heterodoxy in Argentina, Brazil and Peru is that price and wage controls were not accompanied by fiscal adjustment. As soon as the controls were lifted, inflation picked up and reached even higher levels than before. It is clear that carrying out an incomes policy without reducing the fiscal deficit, is bound to fail. The anomaly in the table is represented by the Collor 1 and Collor 2 plans in Brazil (1990-1991). However, the credibility of wage and price controls as stabilization policies had become very low. In addition, the fiscal adjustment was achieved through a cash balance system and not through more fundamental reforms, and the stabilization effort did not take the peculiarities of the monetary system into account (the low monetary base).

Table 4. Orthodox and heterodox stabilization attempts

		Fiscal adjustment			
		Yes		No	
			Success		Success
Incomes policy	Yes	Mexico 1988-1990	Yes	Peru 1985-1987	No
		Brazil 1990-1991	No	Brazil 1986-1987	No
				Argentina 1985-1989	No
	No	Bolivia 1985	Yes	Brazil 1989	No
		Argentina 1989-1993	Yes		
		Peru 1990-1993	Yes		
		Nicaragua 1991-1994	Yes		
		Brazil 1994-1995	Yes		

Source: Elaboration of Rudiger Dornbusch, Federico Sturzenegger, Holger Wolf, "Extreme inflation, dynamics and stabilization", *Brookings Paper on Economic Activity* 1990: 2, p. 51.

Orthodox approaches, directly attacking the money supply and not including incomes policies, were successful in Bolivia (1985), Argentina (1989-1993), Peru (1990-1993), and Nicaragua (1991-1994). In all cases, measures were accompanied by other adjustments of the economy, such as liberalizations, deregulations and privatizations. Fiscal reform, or in Bolivia and Nicaragua, the possibility of external financing of the fiscal deficit, proved to be very important in achieving stabilization. In this respect, the success criterion for both heterodox and orthodox approaches is remarkably similar. The long Latin American tradition of low tax revenues and high expenditure makes fiscal reform crucial in any stabilization attempt. In general, orthodox policies seem able to do the trick and reduce inflation. However, the costs have often been high, with negative growth rates for several years. The medium-term prospects seem to be better, but they depend on the impact of other reforms of the economy, the supply responses, the competitiveness of the economies and external circumstances. Argentina and Peru fared much better than Bolivia and Nicaragua.

The exchange rate

Some well analyzed attempts at stabilization on the basis of a fixed exchange rate were those of the Southern cone countries Chile and Argentina at the end of the 1970s. Inflation rates were rather high in these countries in the 1970s (table 2). After military coups,[4] orthodox policies were introduced, recommended by advising economists from Chicago University (Corbo and De Melo 1986). The countries liberalized domestic prices, foreign trade and the financial sector. Chile went further than Argentina, in particular with respect to the foreign trade liberalization. Average import tariffs were 36% in Argentina (1976-1978) and 12% in Chile (1974-1979) (Schweikert 1994, 251). Stabilization was first attempted by restrictive fiscal and monetary policies. Some inflation reduction was achieved, but inflation remained high (table 5). So, orthodox deflationary policies were not very successful and already brought about high costs, particularly in Chile where unemployment rose to 14% in 1974-1976.

At around 1978 both countries announced a second phase in inflation reduction, implying the use of a fixed exchange rate. They introduced a 'tablita', which implied pre-announced devaluations. The rate of the devaluation would always be lower than the rate of inflation, implying a real appreciation of the exchange rate. This would lower the prices of imports. In Chile, this policy succeeded in bringing down inflation, but in Argentina inflation increased. Also in Chile, however, the fixed exchange rate proved untenable by 1982.

A first problem was that monetary contraction was less than needed for the exchange rate to work as a stabilizer. In Argentina the fiscal deficit did not decline, in Chile wages were automatically indexed to prices (until 1982), which prevented prices from coming down. As a result, the real exchange rate appreciated too much. This harmed exports and stimulated imports, resulting in a large trade deficit. In Argentina, trade liberalization had not proceeded far enough so that the fixed exchange rate was not even able to reduce the prices of imported goods.

A second problem was that capital inflows increased. These capital inflows were a result of the real appreciation of the exchange rate, but in turn provoked more appreciation. In Argentina, the fiscal deficit was financed from these capital inflows, while in Chile private flows dominated. The capital account of these countries had been liberalized in the expectation that this would equalize domestic with foreign interest rates. Domestic interest rates remained very high, however, and, together with the appreciated exchange rate, provoked a shift from investment in the production of tradable goods to investment in (financial) services. In the early 1980s, the high foreign interest rate reversed the direction of the capital flows. Then, private investors began to expect a devaluation and withdrew their money from these economies, especially from Argentina where no restrictions on capital outflows existed. The currencies had to be devalued and the fixed exchange rate had to be given up. The capital flight from Argentina also caused the collapse of several domestic financial institutions. The government intervened in order to prevent a financial crisis. This increased the fiscal gap again, so that inflation soared (table 5).

These results confirm the earlier conclusion that a fixed exchange rate can help to achieve internal stabilization, if the fiscal deficit is reduced and the necessary monetary contraction comes about. In spite of the wage indexation, monetary contraction occurred in Chile, in particular due to success in maintaining fiscal balance. The fiscal reforms carried out in this country in the 1970s probably helped it to manage relatively well through the debt crisis of the 1980s. In Argentina this stabilization policy did not work since no fiscal and monetary contraction came about. However, in both countries the fixed exchange rate, in combination with the open capital account, increased the economies' vulnerability to external shocks.

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[4]In Chile in 1973, in Argentina in 1976.

Table 5. Some macroeconomic indicators for Chile and Argentina, annual averages

	Import substitution period	Prereform crisis	Reforms			Recession after the reforms
			Phase I		Phase II	
Chile	1965-70	1971-73	1974-76	1977-78	1979-81	1982-83
growth gdp (%)	4.3	0.5	3.1	9.0	7.3	-7.8
growth consumption (%)	5.1	1.3	-8.2	11.9	10.2	-14.4
growth gross investment (%)	5.3	-9.8	-7.8	16.7	17.8	-26.6
inflation (%)	23.3	149.7	358.0	79.0	30.2	11.7
fiscal defcit / gdp (%)	2.1	16.1	5.1	1.3	-2.1	3.1
unemployment (%)	6.0	4.6	14.2	13.6	12.2	22.2
index real wages (1969 = 100)	98	98	69	82	100	82
Argentina	1965-73	1973-75	1976-78		1978-80	1981-83
growth gdp (%)	4.2	2.9	0.8		3.7	-3.0
growth consumption (%)	4.2	3.3	-1.6		8.6	-6.1
growth gross investment (%)	6.6	0.1	4.9		4.0	-15.1
inflation (%)	23.5	77.6	245.6		128.3	188.5
fiscal deficit / gdp (%)	3.0	12.0	7.7		7.9	17.8
unemployment (%)	5.7	2.4	3.4		2.2	4.7
index real wages (1976 = 100)	125	154	100		118	111

Source: Corbo, Vittorio, Jaime de Melo, James Tybout (1986). "What went wrong with the recent reforms in the Southern cone?", *Economic Development and Cultural Change*, Vol. 34, No. 3, pp. 610-611.

In the stabilization attempts of the 1980s and 1990s analyzed above, a fixed exchange rate has been used several times. In the successful stabilization of Bolivia in 1985, the fixed exchange rate was accompanied by monetary contraction. In addition, foreign reserves were available to back up the fixed exchange rate. The exchange rate was left over to market forces soon after some stabilization was achieved.

The reasons for the failed stabilization attempts of Argentina and Brazil in the late 1980s have been analyzed above. Fixed exchange rates could not compensate for lacking fiscal adjustment. In Brazil, the combination of the fixed exchange rate and monetary expansion led to severe balance of payments problems.

In Mexico, the fixed exchange rate was used in the heterodox stabilization policy of 1987-1988. Some monetary contraction came about, but the trade deficit was considerable. The exchange rate had to be adjusted several times to the inflation rate between 1989 and 1993. At the end of 1994, the fixed exchange rate proved untenable. Domestic consumption exceeded domestic savings by large amounts. In Mexico, it was not the fiscal deficit that caused the monetary expansion, but private excess consumption. The resulting large trade deficit was financed by short-term foreign capital. Again, this situation proved to make the

economy vulnerable to external shocks. When foreign capital began to loose confidence in the peso, and expected a devaluation, a balance of payments crisis occurred. The actual devaluation of the peso of December 1994 made matters worse, because confidence then collapsed alltogether and massive capital outflows were the result. The IMF came to the rescue with a loan of 8 billion dollar, and the US government provided Mexico with a 50 billion dollar loan to back up the exchange rate of the peso. By April 1995, the financial crisis seemed to be over, but economic growth was expected to be negative in 1995 and real wages declined precipitously.

The successful stabilization of Argentina in 1989 began with a fixed exchange rate. Then monetary base was tightened very seriously (Bonexplan), and finally the convertibility plan was introduced in 1991. The advantage of first reducing domestic liquidity and then establishing the fixed exchange rate was that less foreign reserves would be required to finance the trade deficit. However, in present day Argentina, the fixed exchange rate does make the country vulnerable to external shocks. Thanks to improved access to private financial markets, the country could finance its trade deficits in 1993 and 1994 by foreign capital inflows. However, the Mexican 'tequila' crisis of early 1995 induced large capital outflows. Two small banks failed. Slower growth is expected for 1995, since the outflow of reserves will automatically tighten domestic money supply (IMF 1995).

Since 1994, Brazil uses to some extent an overvalued exchange rate in its stabilization effort. But it is combined by contractionary fiscal and monetary policies. In addition, a large amount of foreign reserves was available at the start, and the government does allow devaluations to occur. In Nicaragua's stabilization of the 1990s the exchange rate is also maintained fixed, although devaluations have occurred. Monetary policies have been tight, but large trade deficits have occurred that could be financed by concessionary foreign loans. Although foreign aid is likely to behave less erratically than private capital flows, this dependence does make the country vulnerable. The loans have to be paid back in the future, and if foreign aid is reduced this will require a severe real adjustment.

Overviewing these experiences, we may conclude that the fixed exchange rate has helped to achieve internal stabilization in several countries. In the smaller and poorer countries the fixed rate could be backed up by foreign aid. The larger countries Mexico and Brazil could provide these reserves from trade surpluses at the start of the stabilization effort with a fixed exchange rate. Argentina managed to suppress domestic liquidity first, so that the trade deficit to be financed by foreign reserves was smaller. The main reason why the stabilization effort was successful in Argentina, Brazil and Mexico was that these countries carried out long overdue fiscal reforms, and reduced the budget deficit. Experiences in the countries in transition have also shown that carrying out fiscal reforms are crucial to the ability to maintain a fixed exchange rate (Schweikert 1995). Nicaragua and (to a lesser extent) Bolivia could escape, in a way, from this requirement, since they received large amounts of foreign aid. However, this can only be a temporary escape.

However, also in the countries where the fixed exchange rate contributed to achieving internal stabilization and where fiscal reforms came about, one can doubt whether this is the most suitable exchange rate system. Argentina, Mexico and Brazil have relatively well developed capital markets and open capital accounts. They are very vulnerable to external shocks, not only real shocks but also speculative shocks. In Latin America, Peru seems to be doing well with its dirty float. Experiences in South East Asian countries lead to the conclusion that a kind of managed float seems to be most conducive for economic growth (Moreno 1994).

5. CONCLUSION

In this paper, I showed there are several reasons why inflation has been so difficult to fight in Latin America. Many of these can be summarized in the contradiction of very weak tax systems on the one hand, and ideas that the state should solve the structural bottlenecks of the economy in order to promote development, on the other. An additional factor were the import substitution policies carried out too extensively and maintained too long. The combination of 'structural' fiscal deficits and import substitution policies made the Latin American economies vulnerable for the effects of the debt crisis. This debt crisis of the early 1980s was shown to be the main reason for the upsurge of inflation in Latin America in that decade. The process was further stimulated by widespread indexation, to the extent that in some countries, notably Brazil, even money seemed to be indexed.

The paper analyzes the different methods used to fight inflation and hyperinflation in the 1980s and 1990s. In particular, the relative merits of orthodox and heterodox policies are evaluated, as well as the advantages and disadantages of using a fixed exchange rate. In view of the history of the continent, it is not surprising that the most important success criterion for all methods proved to be the achievement of fiscal balance. This held, in particular, for heterodox stabilization methods. Stabilization attempts that tried to rely on incomes policies only without attacking the fiscal deficit, proved to be self-defeating. In orthodox stabilization methods, the money supply can be the 'nominal anchor.' But tight monetary policies are only feasible if the government does not continue borrowing on the domestic market. The advantages of a heterodox approach are that it is capable of breaking inflationary expectations, and that it reduces to some extent the social costs involved in deflationary policies.

A fixed exchange rate can play the role of wage and price controls in a heterodox approach, breaking inflationary expectations and providing 'credibility' to the stabilization effort. However, the fixed exchange rate must also be backed by credible macroeconomic policies, such as reducing the budget deficit and allowing the monetary contraction, induced by the trade deficit, to come about. In addition, foreign reserves must be available to finance the trade deficit. For countries with open capital accounts, a fixed peg does not seem to be the most suitable exchange rate. It makes them very vulnerable for external shocks. Once stabilization is achieved, they should switch to a kind of crawling peg.

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