STABILIZATION POLICIES IN LATIN AMERICA: SOME LESSONS FOR THE NEW DECADE*

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Resumen: El propósito del trabajo es examinar algunos programas de estabilización y/o ajuste estructural adoptados en Latinoamerica (Argentina, Bolivia, Brazil y Colombia) en el periodo 1984-1988. El programa de Israel también se incluye pues representa un caso interesante de comparación. Como un resultado del análisis, un modelo de políticas combinadas (con características ortodoxas y heterodoxas) es propuesto.

Abstract: The purpose of this paper is to review some stabilization and/or structural adjustment programs adopted in Latin America (Argentina, Bolivia, Brazil, Colombia) during the period 1984-1988. The program of Israel is also included because it represents an interesting case for comparison. As a result of the analysis, a model of combined policies (i.e. with orthodox and heterodox features) is proposed.

Introduction

In the period 1984-1987, some Latin American countries needed to adopt stabilization programs due to serious structural misalignments, which became evident at the outburst of the international debt crises in 1982. Main misalignments included overvaluation of the domestic currencies and excesses in public expenditure, which prompted high deficits in the current account of the balance of payments and an acceleration of inflation.

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In most cases, the programs adopted the form of "packages of economic policies" that were to be implement promptly (i.e. as a shock treatment) and this occurred as inflation accelerated. Only in a few cases (*e.g.* Colombia) policies were directed to correct structural misalignments regarding the real exchange rate and the fiscal deficit. It is clear, however, that in none of these cases it became possible to "liberalize" the goods and/or the capital markets in a significant way and, therefore, efficiency gains did not occurred.[1]

The purpose of this paper it to review the fundamental characteristics of some of these programs and, by comparison, extract some lessons for the 1990s. The first section analyses the experiences of Argentina, Bolivia, Brazil, Colombia, and Israel during the period 1984-1988.[2] The second and third sections are devoted to extract some lessons and an attempted is made to depict a stabilization program of combined-policies (i.e. with elements of orthodox and heterodox programs). This combined program blends *aggregate demand* policies (focused on the real exchange rate and the fiscal deficit) with policies directed to manage *expectations*. The final section presents conclusions.

1. Stabilization Policies and Macroeconomic Adjustment

1.1. *Characterization of Proqrams*

The literature distinguishes between orthodox and heterodox price stabilization programs. The former emphasizes the fiscal and monetary discipline and the need to maintain the real exchange rate aligned (in a dynamic sense). The core of the orthodox programs lays in controlling excesses of aggregate demand as the way of reaching disinflation. Expenditure reduction and expenditure switching policies are the norm.

It is recognized that this therapy is likely to produced recession due to an increase in real interest rates and to a reduction of real wages. Here the elements of *surprise* and *continuity* are crucial and, to say it in an informal manner, it constitutes and adjustment "without searching for consensus" to carry it over (i.e. businessmen and unions are not usually consulted).

In some circumstances the element of surprise constitutes and edge for its implementation since it does not depend on reaching a "social pact" for disinflation, precisely when is very difficult to achieve it (at the verge of

[1] The Chilean case is not being considered here since such reforms were not the result of a stabilization program, but of a long-term structural reform.

[2] Israel is an interesting case to compared with. The cases of trade liberalization (1984-1986) and of the "Pacto de Solidaridad Económica" (1987) in Mexico and of populist policies in Peru (1985-1987) were not included due to difficulties in their characterization and/or in collecting detail information.

hyper-inflation). The need of continuity, however, represents a great challenge since, regardless of the economic team endurance, "social tensions" tend to develop, especially in democratic societies, due to both real wage reduction and an increase of unemployment spurred by recession. The absence of 'social pacts' and the burden of economic austerity (i.e. more saving, less consumption) turn orthodox policies highly unpopular and have been historically associated with those dictated by multilateral institutions.

Heterodox programs, by contrast, emphasize the need to manage expectations regarding prices, wages, and exchange rate. The main idea is that at high levels of inflation "inertia" dominates expectations. The elements of inertia, namely the coverage of indexation and the frequency of the adjustments, tend to increase. Under such circumstances, there is a need for reaching a "social pact" in order to "break the memory of the system" (Frenkel, 1988; Bruno, 1990). The final success of any wage-price agreement hinges on its credibility and its consistency with the macroeconomic structure (relative prices, productivity, etc.). Under this approach, the reason for not emphasizing aggregate demand control (via real exchange rate depreciation and fiscal deficit reduction) is to avoid the short-run costs of a recession.[3]

In short, the spirit of the heterodox programs resemble the old "income and wage policies" (Okun, 1978) which insists in the possibility of adopting 'imaginative adjustments' to avoid the recession; while the orthodox programs trust the traditional view that enduring benefits (those deriving from structural adjustments) can not be achieved without some short-run costs.

1.2. *Results of Some Programs*

Table 1 shows a synopsis of the stabilization or adjustment programs adopted in Argentina, Brazil, Israel, Bolivia and Colombia during the period 1984-1988. The first three cases can be characterized as heterodox price stabilization programs, which included some elements of macroeconomic adjustment, specially in the case of Israel. Bolivia is also a case of a price stabilization program, but of the orthodox type (i.e. drastic corrections in the real exchange rate and the fiscal deficit).

Colombia, by contrast, did not adopt a price stabilization program –in fact, its average inflation rate did not surpassed 25% annually, compared to the 250% annually that reported the other countries of the sample–; it was a

[3] Kiguel and Liviatan (1988, p. 287) used a different and interesting taxonomy based on the existence of nominal anchors and its relationship with the fiscal deficit and the real exchange rate. Their analysis of inflationary rigidities in Argentina, Brazil, Chile and Mexico in early 1980s is contrasted with the successful Bolivian case, coming to the conclusion that "it is essential ... to supplement fiscal measures with appropriate nominal anchors".

case of correcting structural misalignments in real exchange rate and in the fiscal balance without the need to recur to a "stand-by agreement" with the IMF. The Colombian program is better characterized as a 'tailor made' orthodox program which required only the monitoring of the IMF; in fact, the last stand-by agreement between Colombia and the Fund goes back to 1974. However, the study of the Colombian experience, as that of Chile (Kiguel and Liviatan, 1988), might be useful to understand *chronic inflation process*, which, paradoxically, have revealed harder to overcome than hyperinflation process.

The upper part of Table 1 presents the evolution of some macroeconomic performance indicators in three moments: *Initial* (before the program); *Medium* (a year after the launch of the program); and *Last* (the figure observed during/or at the end of 1988). Here the idea is to compare such figures as to be able to come with a broad idea of failure or success for each program.

Table 1
Synopsis of Some Recent Stabilization Programs 1984-1988

(Date of the Launch)		*Argentina* 1985:6	*Brazil* 1986:2	*Israel* 1985:7	*Bolivia* 1985:8	*Colombia* 1984:6
1. *Basic Indicators*						
Monthly Inflation Rate %	(I)	30	14	26	30	1
	(M)	3	4	2	1	2
	(L)	10	29	2	2	2
GDP Real Growth Rate %	(I)	-5	8	7	-1	4
	(M)	6	8	1	-3	5
	(L)	0	0	4	2	4
Fiscal Deficit/GDP %	(I)	20	4	15	36	4
	(M)	4	7	+1	3	1
	(L)	7	7	1	5	2
Current Account/GDP %	(I)	+5	2	+5	12	7
	(M)	4	0	+5	14	+1
	(L)	6	+2	3	8	1
External Debt/GDP %	(I)	81	49	103	146	45
	(M)	67	42	89	143	43
	(L)	74	40	79	133	42
Real Exchange Rate Index	(I)	100	100	100	100	100
	(M)	91	94	92	130	132
	(L)	95	105	100	125	139
Premium in Blackmarket	(I)	30	33	32	1500	22
Exchange %	(M)	2	100	7	0	5
	(L)	10	32	0	0	-1

Table 1
Synopsis of Some Recent Stabilization Programs 1984-1988

	Argentina 1985:6	*Brazil* 1986:2	*Israel* 1985:7	*Bolivia* 1985:8	*Colombia* 1984:6
2. *Policy Instruments*					
Characterization: Hetorodox	X	X	X		
Orthodox				X	X
Management of Expectations					
Prices					
Freeze	X	X	X		
Dis-indexation	X	X	X		
Wages					
Freeze	X	X	X		
Dis-indexation	X	X	X		
Monetary Reform	X	X			
Aggregate Demand					
Fiscal Control					
Tax Reform	X	X		X	X
Expenditure Reduction	X		X	X	X
Monetary Control					
Control of Interest Rates	X	X			X
Monetary Targets			X	X	X
Exchange Rate					
Fixed (Freeze)	X	X	X		
Crawling-Peg	(X)	(X)	(X)		X
Flexible				X	

Note: Values refer to (I)nitial: immediately before the program; (M)edium: a year after launching the program; and (L)ast: the figure observed during/or at the end of 1988. These figures are only approximate and in some cases are not strictly comparable due to definition problems.

Sources: Constructed based on Fischer (1987); Cardoso and Dornbusch (1987); Frenkel (1987); Heymann (1987); Sachs (1987); Blejer and Cheasty (1988); CEPA (1988); World Bank (1988); Bruno and Piterman (1988); Cukierman (1988); Modiano (1988); Morales (1988); Garay and Carrasquilla (1987).

For those countries which adopted price stabilization programs, the broad judgment of success has to be endorsed by a sustained disinflation process. The cases of the Austral Plan (Argentina) and the Cruzado Plan (Brazil) reveal clear failures: the initial success had vanished by the end of 1988 (see Table 1). Israel, by contrast, seemed to have achieved success. In our sample, the score is that 1 out of 3 heterodox programs tended to be successful; and if Peru were to be included, it would be 1 out of 4. Furthermore, Israel's case lends some of its success to substantial foreign aid and to a mix of policies

including orthodox features (Fischer, 1987). Finally, among the programs oi price stabilization, Bolivia constitutes a clean success of an orthodox program.

The goal of stabilization, however, can not be assessed disregarding the outcome of other economic variables. For example, in Table 1, it can be observed that Bolivia and Argentina experienced great costs in terms of GDP growth, while Brazil's was not so severe (although registered zero growth in 1988). Output cost for Israel was low.

The abundant literature (see sources of Table 1) permits to conclude that the failures of Argentina and Brazil were rooted in their lack of compromise to reduce the fiscal deficit and, to a lesser extent, to correct the appreciation of the exchange rate. It is clear that the initial success in managing expectations, through price controls and disindexation programs, became incompatible with the level of public expenditure and the relative price of tradeable /non-tradeable goods. Israel and Bolivia achieved substantial adjustments in both the fiscal deficit and the real exchange rate and their current accounts improved accordingly.

It is worth to note that pressures for further devaluation of the domestic currencies of Argentina and Brazil did not disappeared, since the "premiums" in the exchange black-market were as high as 10 and 32 percentage points, respectively. In the mean time, in Israel and Bolivia such a "premium" practically tradeable (see Table 1).

Finally, it is important to highlight that some of the initial efforts made by Argentina and Brazil were offset by the external debt burden and that the relative success of the Bolivian program still depends on the course of international capital markets.

The orthodox structural adjustment adopted in Colombia was a relative success: the real exchange rate depreciated by 40% (with respect to a weighted average of trade-partners' currencies) and the fiscal deficit reduced from 4% to 2% in the period 1984-1988 (see Table 1). It is clear that the output cost was also low; in fact, Colombia reported the highest growth rate in Latin America during the 1980s (3.3% per-year).[4]

To summarize, our analyses of macroeconomic performance indicates that those countries that adopted orthodox programs (Bolivia and Colombia) or took key elements of such an approach (Israel) were relatively successful in their objectives of prices stabilization and/or structural adjustments. By contrast, those heterodox programs which only emphasized the management

[4] This good performance of Colombia is often attributed to drug proceeds; however, such simplification forgets that many other economies of the region are also affected, in some areas even more intensely, and still behaved poorly. See, for example, *The Economist* (October 8/88 pp.25-28) for comparisons regarding the influence of drugs in the economies of Bolivia, Colombia and Peru.

of expectations not only failed in disinflating their economies but also incurred in the costs of recession.

2. Policy Instruments

In the lower part of Table 1 appears a characterization of the programs (heterodox *versus* orthodox) and a brief classification of the policy instruments used in each case. As it can be observed, heterodox programs rely on freezing prices and wages (also the exchange rate) and a series of mechanisms to disindexing the economy. Key features of such instruments can be summarized as follows.

2.1. *Prices*

In contrast to traditional theories on how to end hyperinflation –i.e. stop issuing money to finance the fiscal deficit (Sargent, 1982)–, heterodox programs adopted price freezing policies. The idea was to return to the time when price setting was made at the micro-economic level (based on average, marginal costs and competition, not based on a collective "hysteria"). Price freezing intended to anchored expectations of all agents and avoid the increasing 'dollarization' of the economies, which affected the collection of the "inflationary tax".[5] Price freezing policies, however, tended to weaken and ended-up as a scheme of administered prices, which are usually very inefficient (Heyman, 1987).

2.2. *Wages*

Many of the comments just made for prices apply here as well. The difference stems from the existence of contract labors, which usually have indexation and "trigger" clauses. If inflation is high, governments are likely to attempted to level-off wages across the economy before the wage freeze. This situation represents a paradox: by doing so credibility is weakened (Blejer and Cheasty, 1988) but if no action is taken wages disparities would tend to work against the freeze (Abraham, 1987). The level of the freeze is also a problem that finally affects the whole structure of relative prices (Cardoso and Dornbusch, 1987; Frenkel, 1987). This is definitely one of the variables more difficult to align but it is a vital one.

[5] The problem of dollarization has different stages: the most common is when the domestic currency is replaced by the dollar as the unit of account; a second stage arrives when it is replaced in its function of "store of value" and, a third occurs when loosing its role of "unit of transaction".

2.3. *Exchange Rates*

Given the high dollarization of hyperinflated economies, one way of anchoring expectations might be through stopping nominal devaluation of the domestic currency (i.e. fixing the exchange rate). However, the "inertia" in prices might be anchored to the black-market exchange rate and not to the official rate, so additional policies will be needed to affect the former. "Inertia" is very likely to stem from other sources, so betting on a freeze of the official exchange rate soon will produce an overvaluation of the real exchange rate and a loss of credibility if attempts are made to correct the real exchange rate. This is what usually happens and the system collapses into a "trotting-peg", which is depicted with an (X) in the lower part of Table 1. Israel faces this possibility while Argentina and Brazil collapsed into "trotting-pegs" by the late 1980s. Chile in 1978-1980 also fail with the so-called tablita (McKinnon, 1988).

2.4. *Disindexation*

If the stage of anchoring expectations is successfully achieved, the problem of indexation remains. Breaking the system of automatic readjustments requires dismounting the formal (i.e. clauses) and informal (i.e. expectations) aspects of indexation (Clavijo, 1989). The former are "insurance" for the workers against a failure of the program and the experience shows a great difficulty in removing such clauses.

Disindexing the financial system has proved more successful, based on "conversion tables" that avoid real transfers between borrowers and lenders (as implemented in Argentina, Brazil, and Israel). It is very important to make provisions to avoid a sudden increase of the real interest rate as disinflation occurs, for instance by adopting "tables that look forward" (McKinnon, 1988; Corden, 1988).

2.5. *Monetary Reform*

As shown in Table 1 (part 2), monetary reforms also formed important part of the instruments directed towards managing expectations (in Argentina and Brazil). This is another element if the fight against dollarization. It is clear, however, that it will only help in the "psychology of daily transactions", but recovering the domestic currency as "unit of transaction" requires success in the other areas.

3. Sketching a Program of Combined Policies for Disinflation

It should be possible to combined the imaginative instruments of heterodox programs directed to break "inertia" and the discipline of orthodox programs

to control the aggregate demand to disinflate an economy.[6] However, this might be more difficult to do in economies with moderate inflationary process than in hyped-economies.

The main idea is that, as aggregate demand is kept under control by reducing the fiscal deficit, expectations should be over-determined by announcing goals in macro-variables. Such goals are given in terms of pre-fixing some prices and wages rates of adjustment (once a year), while the nominal depreciation of the home currency (except at the launching of the program) is let free to maintain the real exchange rate level. All agents' expectations should be "looking forward".

If the industry begins to set the prices (not controlled by the government) based on micro-economic decisions and public wages are over-determined by the government at the beginning of a given year, money supply should be set accordingly to those parameters. Some industries will seek additional rents by increasing prices, most of which will not be frozen. The hope is that excess demand, at those "above equilibrium prices", will not show up, provided that money supply is kept tight. This is a gradual disinflation program which does not pretend to reach a zero inflation rate; does not rely on keeping prices frozen, but announces targets of money supply and sets an initial rate of depreciation which should be consistent with a feasible level of real exchange rate. Nominal depreciation will only be reduced if the program shows an initial success in terms of disinflation, as occurred in Korea (McKinnon, 1988).

As long as workers insists in their "insurance" against program failures (through readjustment clauses), governments should use flexibility in their nominal depreciation as their "insurance" against low credibility or even against a partial success. If this type of program proves credible in the initial stage, disindexation policies should be enforced immediately, as explained before.

Finally, it should be mentioned that an enduring success has to rely on policies that promote competition at the international level (in goods and capital markets). A recent study concluded, however, that price stabilization was a sine-qua-non condition for successful programs of trade liberalization (McKinnon, 1988).

3.1. *The Model*

In order to illustrate the possible effects of a program like the one sketched above, for a country with a *chronic inflation rate*, let's say of 25% per-year, we

[6] This idea, *per-se*, is not new. For instance, Bruno (1988, p. 291) mentioned that in February of 1981 he explained, using "hand-waving" arguments, the "idea of coupling a massive budget cut with a *simultaneous* coordinated freeze on all nominal magnitudes as a signalling and expectations-changing device." Our intended contribution here is then to spell-out how this might be done.

developed a simple macro-model (details appear in the Appendix). The model combines policies that manage price expectations and maintains the real exchange rate. In what follows we shortly explain the role of the main variables and some possible results.

3.1.1. Inflation

Following the "Augmented Phillips Curve", the model postulates that if the rate of unemployment is lower than its "natural rate" (let's say 8%), inflationary pressures will emerge via increases in the nominal wages. These pressures, however, could be compensated by increases in labor productivity, but could also be exacerbated by exogenous changes in price expectations. The main determinants of price expectations are: *i)* the average annual percentage of wages increases (usually determined by the minimum wage adjustment adopted by the government); *ii)* the nominal exchange depreciation (which is assumed to follow a "crawling peg" system); and *iii)* the frequency of the readjustments (quarterly, monthly, etc.).[7]

The idea is that if institutional arrangements are made to brake indexation (*e.g.* lower frequency in the readjustments) and both the nominal wages and the nominal exchange depreciation are pre-fixed (the latter only when launching the program), price expectations and, consequently, inflation itself should decelerate.

3.1.2. Exchanqe Rate

As explained before, fixing the rate of depreciation (temporarily) should help to brake price "inertia". However, given that the feasible goal is not a zero-inflation-rate, authorities should not compromise in following any type of *tablita* or, otherwise, the real exchange rate would appreciate drastically.

3.1.3. Money Nominal GDP and Wages

Money expansion of M1 should adjust to nominal GDP increases, correcting for movements in the money velocity. The latter variable is here determined by the nominal interest rate. The macroeconomic consistency of the model hinges on adjusting M1 expansion only to validate the level of prices and wages, with an exchange rate initially pre-fixed. Here the fiscal deficit plays a crucial role in avoiding any validation of higher than expected inflation or wages settlements. (This is not explicitly taken into account in the simulation).

[7] A more elaborated formalization of the effect of frequencies on the inflation process can be found in Modigliani and Padoa-Schioppa (1978).

3.1.4. Interest Rates and Real Income

Finally, we assumed that the uncovered interest rate parity condition holds, where the expected rate of depreciation is given by the "crawling-peg rule". Real income is determined then by the effect of the real interest rate and by the real exchange rate on the absorption components of the GDP. Finally, the level of real income also depends on the performance of aggregate demand, which is here captured through wages.

3.2. *Simulation Results*

The time unit are quarters and the initial values of the *exogenous* variables are: 4% of real growth; 14% and 8% of observed and "natural" unemployment, respectively; 1.5% of increases in labor productivity; 5% of nominal foreign interest rate; and the frequency of price and wage adjustments is every semester (at the beginning of the program).

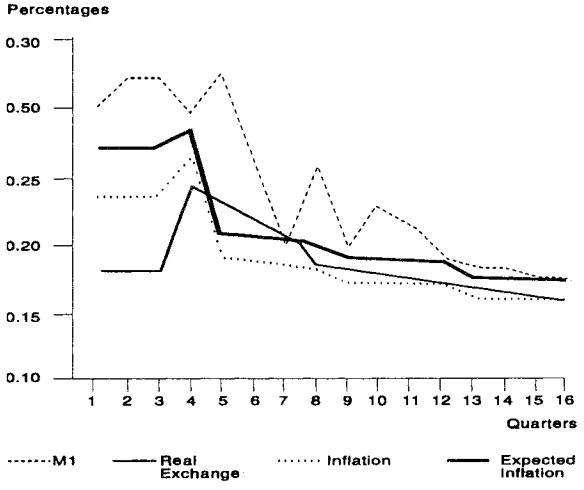
Pre-fixed variables are: adjustments in prices, wages, and the nominal rate of depreciation; all set at 18% annually. The *outcome* variables are: domestic interest rate of 24% per-year; changes in money velocity (zero at the beginning); increases in nominal GDP and M1 of 30%; and expected and observed inflation rate of 27% and 24%, respectively.

Graph 1 illustrates how this disinflation program would require an increase in the nominal rate of depreciation of the home currency in the fourth quarter, since the observed inflation rate (24%) would be higher than the pre-fixed rate (18%). This fact would call for a correction of the real exchange rate, as shown in Graph 3. As mentioned before, this decision to increase the nominal rate of depreciation would affect negatively the credibility of the program if, at the outset, the government should have compromised to a *tablita*; however, this is not the case here.

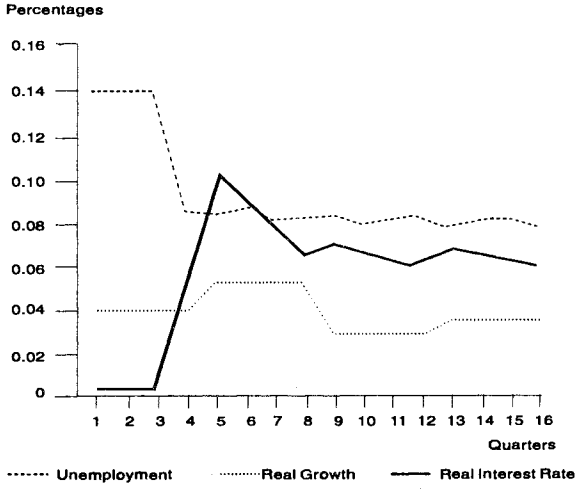
Due to this acceleration in the nominal rate of depreciation, both the expected and observed rate of inflation would increase (see Graph 1). However, if disindexing policies are successful (*e.g.* by frequency reductions), both the expected and observed inflation rates would decrease from the fifth quarter onwards. These process could be maintained during the second year of the program if monetary control is strictly exerted.

The real exchange rate would depreciate by 5 percentage points and the real interest rate would decrease from 11% to 6%; both variables would spur GDP growth to 5% above its natural rate. The final rate of unemployment would be 8.5% and the average real wage would have increased at the end of the program due to the disinflation process (see Graphs 2 and 4), which would leave this economy at the one digit inflation rate level.

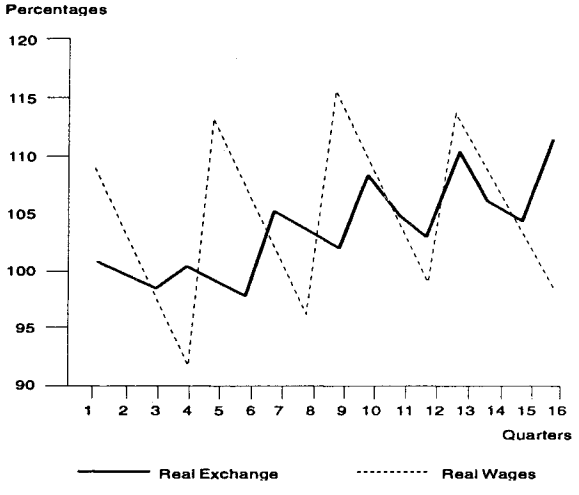
Graph 1
Money Exchange Rate and Inflation
(Annual Rates of Growth)



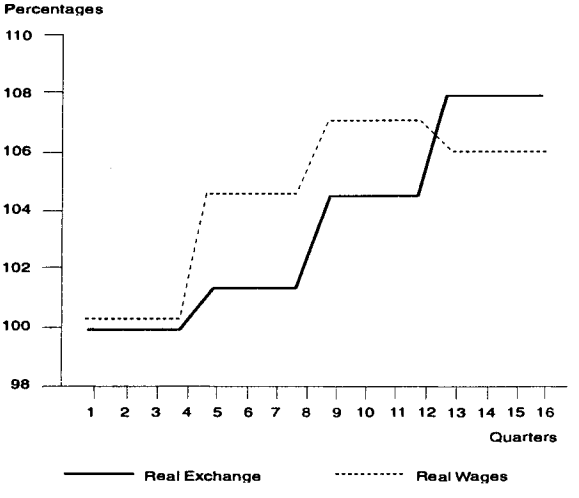
Graph 2
Unemployment, Growth and Interest Rates
(Annual Rates of Growth and Levels)



Graph 3
Real Rate and Real Wages
(Real Levels)



Graph 4
Real Exchange Rate and Real Wages
(Real Average Levels)



4. Concluding Remarks

The analysis of some programs of stabilization and/or structural adjustment showed that reduction of the fiscal deficit and alignment of the real exchange rate are vital elements for success. It was illustrated the possibility of implementing a program of combined orthodox and heterodox policies (as done in Israel) to avoid the traditional output costs that pure orthodox program usually entail. Colombia is another case where a successful orthodox structural-adjustment was implemented during the period 1984-1988 in which deep recession was avoided but problems of chronic inflation persisted.

Based on those experiences, a disinflation program of combined policies that managed expectations and control aggregate demand was sketched and simulated for a typical economic structure of a LDC. By pre-fixing the adjustment rates of some prices and the minimum wage, and (temporarily) the nominal rate of depreciation, it becomes possible to break price "inertia" and to adopt policies of disindexation. Credibility and consistency continue to be the key elements of these type of programs. A combined policy program for disinflation could be the answer to overcome chronic inflation situations.

Appendix

The model used in section 3 is given by equations (1) to (7), where small and capital letters represent rates of growth and levels of the variables, respectively. Greek letters represent positive parameters.

In particular note that: (1) represents the "Augmented Phillips Curve" (a function of unemployment U and productivity changes o, where x is the augmented expectations); (2) models x as a function of nominal wages adjustment rate w, the nominal exchange rate of depreciation e and the frequency of the adjustments F; (3) poses a rule to maintain the real exchange rate (*RER*); (4) shows w as depending on the rate of money expansion, which in turn is adjusted by the difference between the rate of growth of nominal *GDP* and money velocity changes; (5) spells out the uncovered interest rate parity condition, where $i^* \approx r$ (given that we assume $p^* = 0$), hence $e \approx p$; and (6) refers to the level of real GDP as determined by the wages, the *RER* and the interest rate r.

$$p = \alpha_0(\bar{U} - U) - \sigma + \alpha_1 x \tag{1}$$

$$x = \beta_0 w + \beta_1 e + \beta_2 F \tag{2}$$

$$e = \Phi \sum_{i=0}^{n} (1-\Phi)^i \cdot L^i \cdot (p - p^*)_t \tag{3}$$

where $L^i x_t = x_{t-1}$ and $RER = E_r = E \cdot P^* / P$

$$w = m = p \cdot y - v(i) \tag{4}$$

$$i = i^* + e = r + p \tag{5}$$

$$Y = \Gamma_0(\bar{U} - U) + \Gamma_1 E_r + \Gamma_2 / r \tag{6}$$

In the simulations the parameters refer to short-run elasticities (*e.g.* $v_i \approx .15$, $\alpha_0 \approx .30$, $\beta_0 \approx .30$), but we played with different lagged structures of e, U and M to calibrate the model.

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