Artículos

The 1987 Mexican Disinflation Program: An Exchange-rate-based Stabilization?

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Abstract: We examine whether Mexico's disinflation experience during 1987-94 fits the widely accepted set of stylized facts of exchange-rate-based stabilization (ERBS) on inflation, the boom-recession business cycle, and the external sector. A cursory look at Mexican data shows that the experience fits quite closely the stylized facts of ERBS. However, the paper shows that there were some important differences and peculiarities of the Mexican case that deserve further study, especially regarding the role of the nominal anchor and the nature of the business cycle.
Keywords: stabilization, disinflation, business cycle, nominal anchor.

Resumen: Se examina si la experiencia desinflacionaria de México durante el periodo 1987-1994 es compatible con los hechos estilizados de expansión económica y de evolución del sector externo asociados a las estabilizaciones inflacionarias basadas en el tipo de cambio (ERBS, por sus siglas en inglés). Una rápida revisión de los datos muestra que la experiencia mexicana es bastante congruente con dichos hechos estilizados. Sin embargo, este documento muestra que existen algunas diferencias importantes, así como peculiaridades del caso mexicano que merecen un estudio más detallado. Específicamente, aquéllas que tienen que ver con el papel del ancla nominal y la naturaleza del ciclo económico.
Palabras clave: estabilización, desinflación, ciclos económicos, ancla nominal.

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Introduction

During the past decades, a large number of stabilization programs have been adopted in chronic-inflation countries in Latin America and elsewhere. Disinflation programs that have relied on a single nominal anchor to contain inflation are referred to as orthodox programs, and could either be exchange-rate-based stabilizations (ERBS) or money-based stabilizations (MBS).[1] The so-called heterodox stabilizations have also included the control of other nominal variables, such as prices and wages. Well-known ERBS have included the Southern Cone "tablitas" of the late 1970s, Argentina's Austral (1985) and Convertibility Plans (1991), Brazil's Cruzado (1985) and Real Plans (1994), Israel's stabilization (1985) and Mexico's Pacto (1987). Money-based stabilizations have been less prominent, but have included programs in Chile (1973), Bolivia (1985), Peru (1990) and the Dominican Republic (1990).

After the numerous stabilization episodes, the literature studying ERBS has identified the following three empirical regularities.[2] First, ERBS achieve a significant reduction in inflation rates. However, the rate of inflation converges over time only gradually to the rate of exchange rate depreciation, and thus the real exchange rate steadily appreciates. The inflation rate reaches a new (lower) plateau still in excess of foreign inflation and further reductions in the rate of inflation are difficult to achieve.[3] A second regularity is that once the exchange rate becomes the nominal anchor, economic activity starts an expansionary phase –usually following a recession before the program. The expansionary phase tends to be associated with a surge in consumption, especially of durable goods, and investment. Eventually, economic activity slows down and enters a new recessionary phase. The initial boom in the ERBS business cycle contrasts sharply with the one observed in programs of the MBS variety, which have been associated with an immediate and strong recession.[4] A third stylized fact of ERBS refers to developments in the external sector. Practically all programs seem to

[1] Bruno (1991) argues for the need of a nominal anchor in stabilizing from high inflation levels. Kiguel and Liviatan (1988, 1992) discuss, both on conceptual grounds and using actual case studies, some issues on the typology of disinflation programs.

[2] Kiguel and Liviatan (1992), Végh (1992), Reinhart and Végh (1994) and Rebelo and Végh (1995). However, Hamann (2001) has recently disputed some of these regularities.

[3] For instance, in Chile and Israel yearly inflation remained around 20% for a long period during the stabilization. See Bruno *et al*. (1988, 1991).

[4] See Calvo and Végh (1994a,c) for an exposition of this "recession-now-versus-recession-later" view which, however, has been empirically challenged by Easterly (1996) and Hamann (2001).

bring about a deterioration of the trade and current account balances, financed by capital inflows from abroad.

The observation of these empirical regularities in ERBS has prompted a rich theoretical discussion. Several hypotheses have been put forward to explain the stylized facts of disinflation, particularly the initial boom associated with ERBS and the real exchange rate appreciation. These theoretical explanations fall into three broad categories.[5] The first hypothesis relies on stickiness or inertia of the inflation rate, which can be interpreted as evidence of backward-looking expectations or other nominal rigidities.[6] The second explanation exploits the idea first advanced by Calvo (1986) of the "temporariness" or lack of credibility of the exchange rate anchor.[7] A third strand of the literature can be termed an "equilibrium" view and accounts for the stylized facts of ERBS on the basis of the supply-side and other wealth effects of stabilization.[8]

However, most of the above stylized facts are drawn from casual observation across disinflation episodes without undertaking a thorough empirical examination.[9] For this reason, there is room for checking the robustness of the stylized facts of disinflation against the experience of individual countries. By necessity, no single country experience is expected to correspond fully to all stylized facts, but the peculiarities of individual cases can still provide useful information and lessons that can help in understanding and implementing effective stabilization programs.

In this paper, we examine thoroughly the Mexican stabilization experience during 1987-94 in the light of the ERBS stylized facts. Specifically, this paper focuses on two main issues. First, it discusses the role of the exchange rate anchor and its effectiveness in bringing down

[5] Rebelo and Végh (1995) analyze in detail the operating mechanisms for these hypotheses. See also Obstfeld (1995).

[6] Early exponents include Dornbusch (1982), Rodríguez (1982) and Fernández (1985), while Ball (1994, 1995), Calvo and Végh (1994b), and Dornbusch and Werner (1994) are more recent elaborations.

[7] See also Drazen (1990) and Calvo and Végh (1993, 1994a). Calvo and Drazen (1998) and Calvo and Mendoza (1994) obtain similar consumption booms from the temporariness of trade reform.

[8] Kiguel and Liviatan (1992) and De Gregorio, Guidotti and Végh (1993) discuss wealth effects arising from the return to price stability. Roldós (1995, 1997) and Uribe (1997) analyze the impact on the labor supply and capital accumulation. Drazen and Helpman (1988) and Rebelo (1994) emphasize wealth effects arising from fiscal policy. Dornbusch and Werner (1994) and Obstfeld (1995) discuss the effects of trade and other microeconomic reforms.

[9] An example of the casual observation of episodes, in the Latin American context, is Nazmi (1997). On the other hand, studies that address rigorously the empirical regularities include Reinhart and Végh (1994, 1995), Hoffmaister and Végh (1996), Easterly (1996) and Hamann (2001).

inflation in Mexico. During 1987-94, the exchange rate regime in Mexico evolved from a fixed exchange rate (1988), to an active crawling peg or tablita (1989-91), and then to an exchange rate band (1992-94). Thus, although the exchange rate retained its role as the nominal anchor all along, a larger degree of exchange rate flexibility was gradually allowed. Second, we analyze the nature of the business cycle in Mexico. After an initial economic expansion during the early years of the program, the slowdown in 1992-93 brought the Mexican experience into line with the final stages of the business cycle typically observed in ERBS. The fact that the slowdown came only five years after the stabilization program had been launched questions whether the business cycle was due to the ERBS. In all, the Mexican experience provides a new opportunity to test the robustness of some of the ERBS stylized facts. We say in advance, however, that this paper does not dwell on the balance of payment crisis of December 1994. We believe the crisis had nothing intrinsic to do with the stabilization strategy initiated in 1987. This is, of course, a conjecture that would need to be investigated in depth.[10]

A cursory look at the Mexican data seems to corroborate the presence of the ERBS stylized facts. Nonetheless, using vector autoregression (VAR) and other regression models, we find some important peculiarities that cast doubt on a straightforward generalization. First, the adoption of different exchange rate regimes during 1987-94 modified the role of the exchange rate as the nominal anchor. Empirical evidence suggests that the 1987 stabilization was firmly anchored to the nominal exchange rate and that the degree of inflation inertia was reduced while the exchange rate was predetermined. However, inflation inertia was not completely eradicated and the path followed by prices approached that of the exchange rate only gradually, as in other ERBS. In spite of implying a somewhat "looser" nominal anchor, the exchange rate band allowed a further reduction in inflation inertia.

Second, we argue that the expansion in economy activity started before the actual adoption of the exchange rate anchor and was interrupted at the inception of the stabilization program. Once the recovery resumed, economic growth was so modest that one can hardly say

[10] The crisis has already been discussed extensively in the literature. See, for example, Agénor and Masson (1996), Calvo and Mendoza (1996a,b), Dornbusch, Goldfajn and Valdés (1995), Edwards (1996), Edwards, Losada and Steiner (1995), Flood, Garber and Kramer (1995), Gil-Díaz and Carstens (1996), Krugman (1995), Leiderman and Thorne (1995), Lustig (1995), Obstfeld and Rogoff (1995), Sachs, Tornell and Velasco (1996), and Savastano, Roldós and Santaella (1995).

that the exchange rate anchor created a "boom" during the stabilization period. Evidence shows that the cycle corresponding to the Mexican disinflation was completed by 1993. While the expansionary phase is qualitatively consistent with the ERBS, the slowing down in economic activity during 1992-93 appears to be more related to other factors, such as a tightening of monetary and fiscal policies, or the continuation of the structural reform efforts.

The paper is organized as follows: Section I presents a description of the main policies of the 1987 Mexican stabilization program and offers a brief overview of the main macroeconomic outcomes. Section II studies the relation of the inflation to the nominal anchor. Section III examines whether the business cycle associated with Mexico's stabilization can be reconciled with the standard ERBS picture. Finally, Section IV summarizes our results and concludes.

I. The Mexican Pacto and Main Macroeconomic Outcomes

By the end of 1987 the yearly inflation rate in Mexico exceeded 150% and was still accelerating. The Mexican economy exhibited chronic-inflation features and was drifting toward hyperinflation. The inflation rate was more persistent and volatile, the frequency of minimum wage revisions increased, and informal indexation practices became widespread.[11] For all practical purposes, Mexico lacked a nominal anchor.

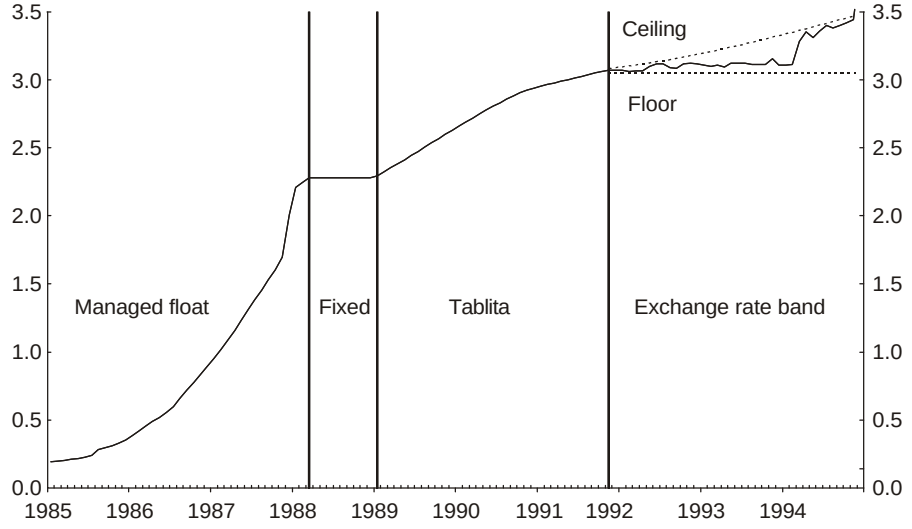
Facing this dire situation, Mexican authorities launched a new stabilization program on December 15, 1987, within the context of an economic compact –the Pacto– subscribed to by the government and the main representatives of labor and business organizations. Prices and wages, after an initial upward adjustment, would be frozen for a brief period. The Pacto originally assumed that wages would play the role of the nominal anchor and did not entail any exchange rate commitment.[12] In March 1988, however, the authorities explicitly adopted a fixed exchange rate vis-à-vis the U.S. dollar.

The Mexican Pacto incorporated many of the features of heterodox programs. However, as most of the price and wage controls were

[11] Aspe (1993), Gil-Díaz and Ramos (1988), and Lustig (1992) discuss economic developments and policies during the 1980s. For a study of inflation inertia over the period 1985-87, see Alberro (1987) and Vela (1993).

[12] The actual text of the Economic Pact stated that "social consensus adopts as a guide wage increases in the determination of all other prices" (Comercio Exterior, 1987).

Figure 1. Mexico. Exchange Rate Regimes, 1985-94
(New pesos per US dollar)



Source: *Indicadores Económicos*, Banco de México.

gradually lifted, the program evolved into a more orthodox strategy. A major fiscal adjustment from a deficit of 16% of GDP in 1987 to a surplus of 2% of GDP in 1991, and an exchange rate anchor became the main policy elements, while monetary policy became passive in the new exchange rate regime. A wide variety of structural measures was also implemented: trade liberalization continued first unilaterally and thereafter within the context of NAFTA; numerous state enterprises were either privatized or closed down; the financial sector was substantially liberalized; and the deregulation of a wide range of markets, from transportation to agriculture, continued.[13]

An important feature of the Mexican experience that distinguishes it from other ERBS episodes is the fact that the exchange rate regime was modified twice during 1987-94 (Table 1 and Figure 1). The fixed peg of the exchange rate adopted in March 1988 was allowed to crawl in 1989, in a tablita-type of policy that sought to avoid a possible overvaluation of the currency. Later on, in November 1991, a widening exchange rate band was established, largely motivated by the occa-

[13] For some insider's account, see Aspe (1993). See also Loser and Kalter (1992) for another view of the program.

Table 1. Mexico. Exchange Rate Regimes, 1988-94

January-February 1988	*Managed float* (A significant amount of intervention to smooth exchange rate fluctuations presumably occurred).
March-December 1988	*Strict peg* of the exchange rate (2 281.00 Mexican pesos to the U.S. dollar) was announced.
January-March 1989	A pre-announced exchange rate *tablita* consisting of a daily adjustment of one peso per U.S. dollar was established.
April-July 1989	The pre-announced daily adjustment of the exchange rate was reduced to 0.80 pesos.
August 1989-October 1991	The pre-announced daily adjustment of the exchange rate was reduced to 0.40 pesos.
November 1991-September 1992	A regime of limited flexibility consisting of a widening *exchange rate band* with 1.2% width for the peso-dollar exchange rate was established on November 11, 1991. The band ceiling was announced to depreciate at a daily rate of 0.20 pesos, whereas the floor was to remained unchanged at 3 051.20 pesos per dollar.
October 1992-December 1994	From October 20, 1992 through December the rate of daily adjustment for the band's ceiling rate was set at 0.40 pesos. Over this period, the band width went from 3.4 to 13.5%. On December 20, the band ceiling was increased by 15% and on December 22 the exchange rate band was abandoned in favor of a new *floating exchange rate* regime.

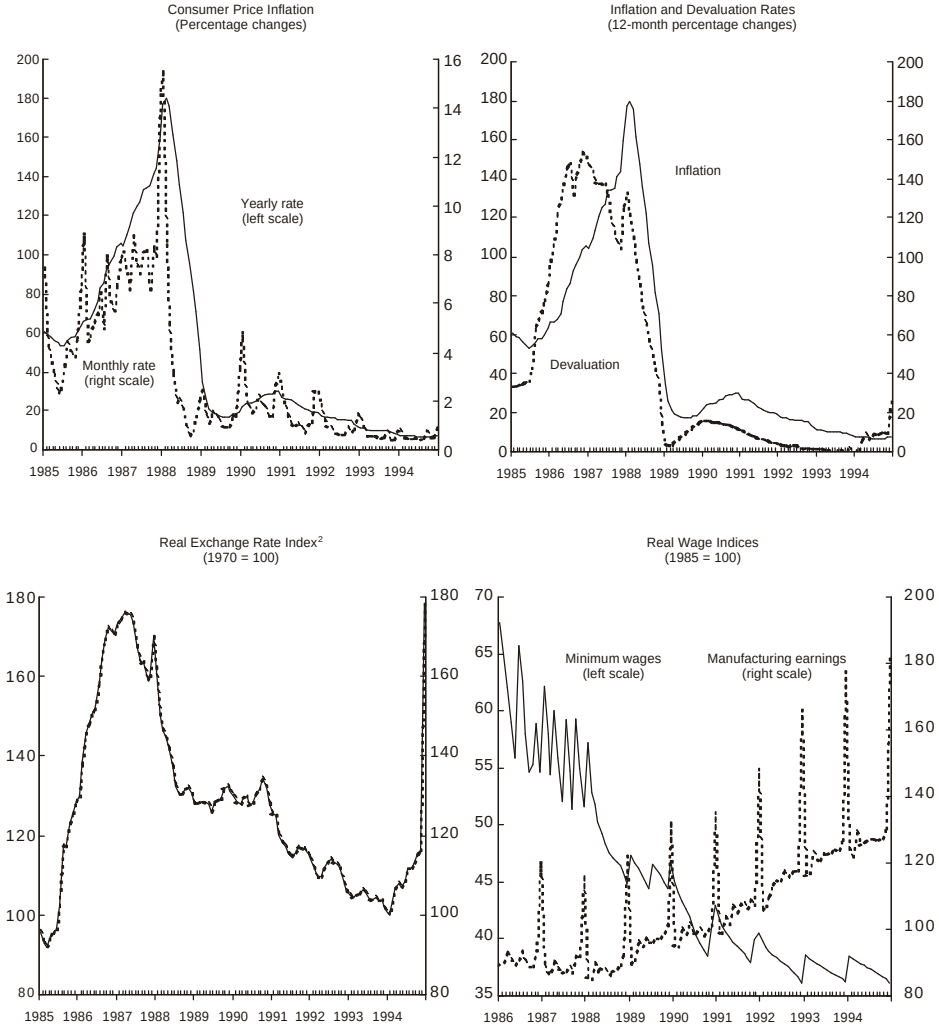
sional pressures for the currency to appreciate induced by strong foreign capital inflows.[14] This band was abandoned during the exchange rate crisis of December, 1994, when a floating regime was adopted.

The exchange rate band had major implications in terms of the role played by the exchange rate as the nominal anchor. Whereas a (fixed or crawling) peg to the dollar implied a tight nominal anchor, the band permitted the exchange rate to fluctuate within announced intervention margins, thus allowing a more independent monetary policy to be conducted in the short run.[15] In this sense, this regime

[14] The Mexican exchange rate band is studied, among others, by Helpman, Leiderman and Bufman (1994), Schwartz (1994) and Werner (1994).

[15] See Helpman and Leiderman (1992) and Svensson (1994).

Figure 2. Mexico. Prices, Exchange Rates and Wages, 1985-94



[a] An increase denotes a depreciation.
Source: *Indicadores Económicos*, Banco de México.

was expected to *i)* give some room for monetary policy at the expense of a "looser" nominal anchor, *ii)* alleviate pressures that the sterilization of capital inflows exerted on nominal interest rates, and *iii)* avoid excessive short-run fluctuations in the exchange rate. Conceptually, as long as the short-run equilibrium *nominal* exchange rate remained

within the fluctuation limits of the band, monetary control became the *effective* nominal anchor on a day-to-day basis. However, exchange rate fluctuations were, in principle, bounded by the predetermined intervention margins. Thus, credible limits imposed by the bands would influence long-term expectations and help the exchange rate to retain its anchor role over a longer horizon.

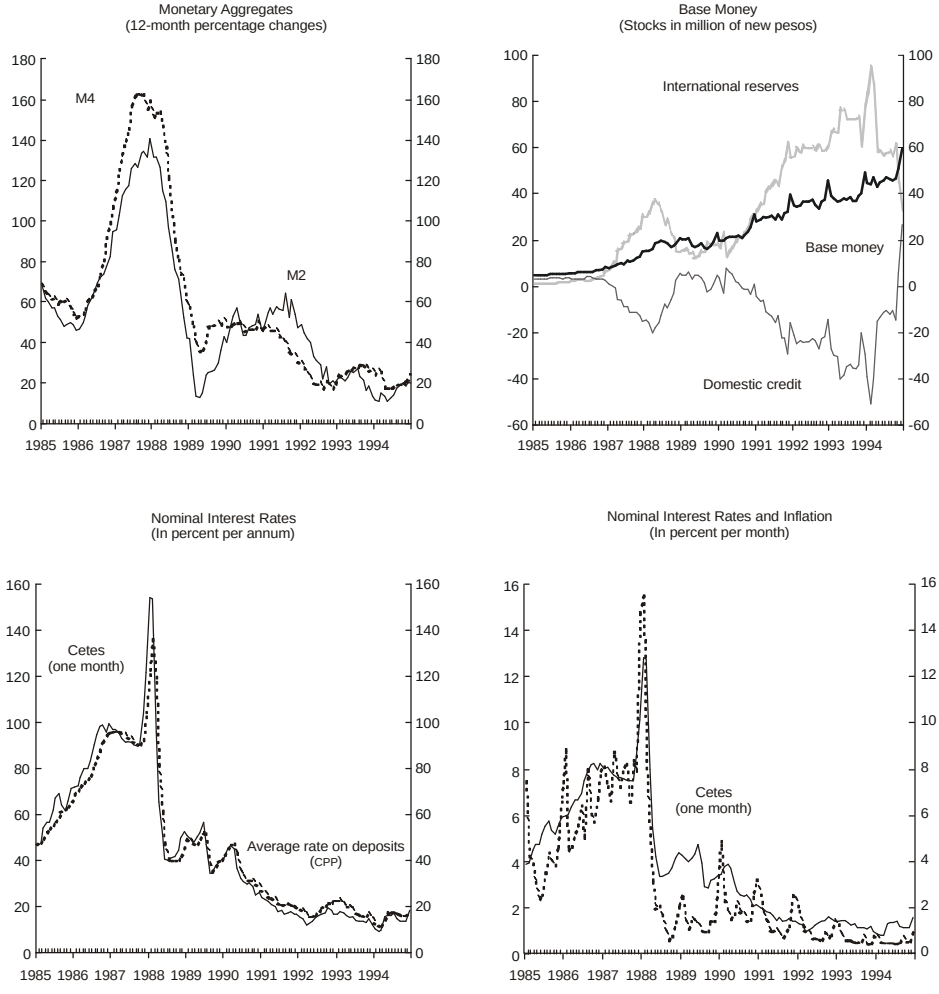
When one takes a "bird's-eye" look at the results of the Mexican Pacto, they resemble quite closely the ERBS stylized facts. After peaking at almost 180% per annum in February 1988 –reflecting the initial devaluation and price adjustments– the inflation rate fell fairly quickly during the ensuing 18 months (Figure 2). Nonetheless, by end-1989 the rate of inflation seemed to be stubbornly stuck at around 20%. A new disinflation that proved to be more prolonged and less pronounced started by late 1990. By end-1993 the Mexican economy reached single-digit annual inflation rates (8%), for the first time in two decades.

As observed in other ERBS episodes, inflation approached the rate of devaluation only gradually. In fact, the twelve-month rate of inflation exceeded the rate of exchange rate depreciation during the whole 1988-93 period, leading to a significant appreciation of the real exchange rate. By 1993, Mexico's average real exchange rate had appreciated almost 40% with respect to its value in 1987.

The initial stabilization effort was associated with a major reduction in nominal interest rates, but further reductions were only gradual (Figure 3). It is noteworthy that interest rates did not fall *pari passu* with inflation. In fact, over the first 18 months of the program (*ex-post*) yields on government debt exhibited a substantial positive return. High real (*ex-post*) interest rates may reflect, on the one hand, the fact that actual inflation fell more rapidly than expected inflation. On the other hand, they could also be explained by a policy of partial sterilization of strong capital inflows.

The initial disinflation was achieved rapidly and apparently without compromising the level of economic activity (Figure 4). After a mild pause in 1988, GDP growth recovered during the following three years at an average rate of almost 4%. This expansionary period was followed by a gradual slowdown in economic activity over 1992-93, which was partly reversed in 1994. Fueled by a strong expansion of credit, private consumption grew rapidly during 1989-90 (more than 6% per annum). Such brisk growth moderated in 1991-92, but was thereafter followed by a flat level of consumption in 1993. Investment also expanded, especially over 1990-92 when it grew more than 10% on average, before falling in 1993 and then recovering strongly in 1994.

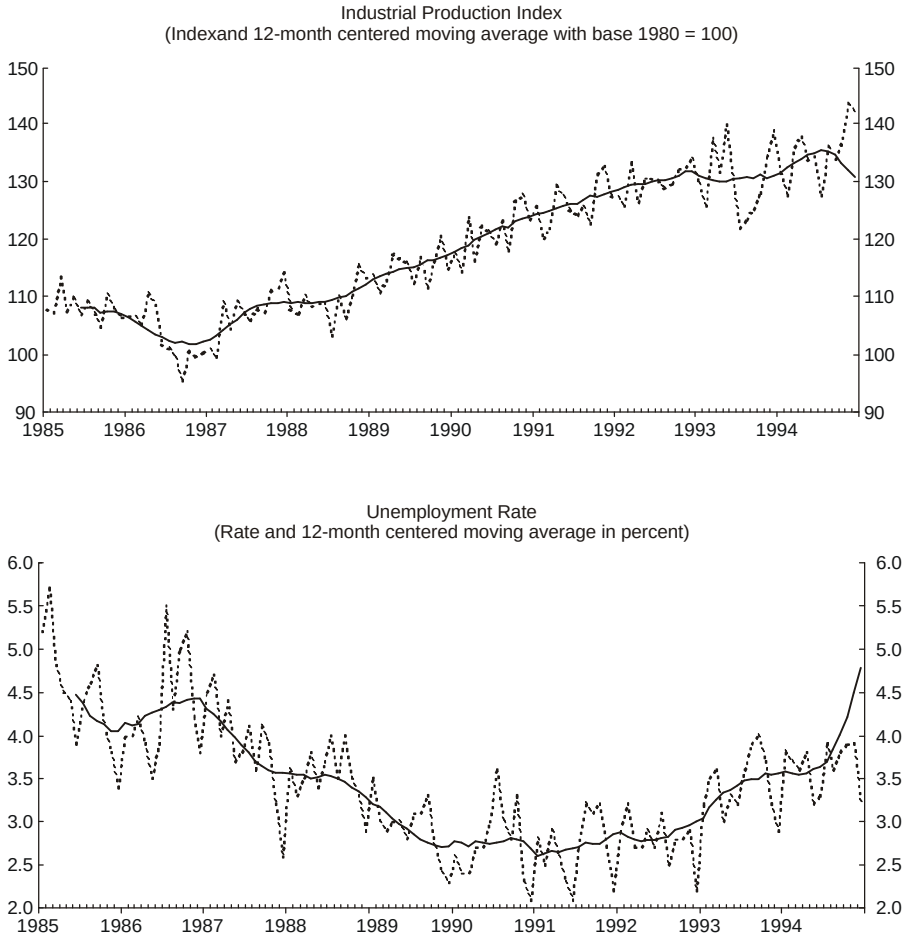
Figure 3. Mexico. Financial Indicators, 1985-94



Source: *Indicadores Económicos*, Banco de México.

Mexican international trade during this period was stimulated by, among other things, the stabilization and the trade liberalization. Exports and imports increased substantially, with the expansion in imports outpacing the growth of exports (Figure 5). Thus, the Mexican stabilization episode was also characterized, as other ERBS experiences, by a continued widening of trade and current account imbalances. Strong capital inflows were more than enough to finance cur-

Figure 4. Mexico. Economic Activity Indicators, 1985-94

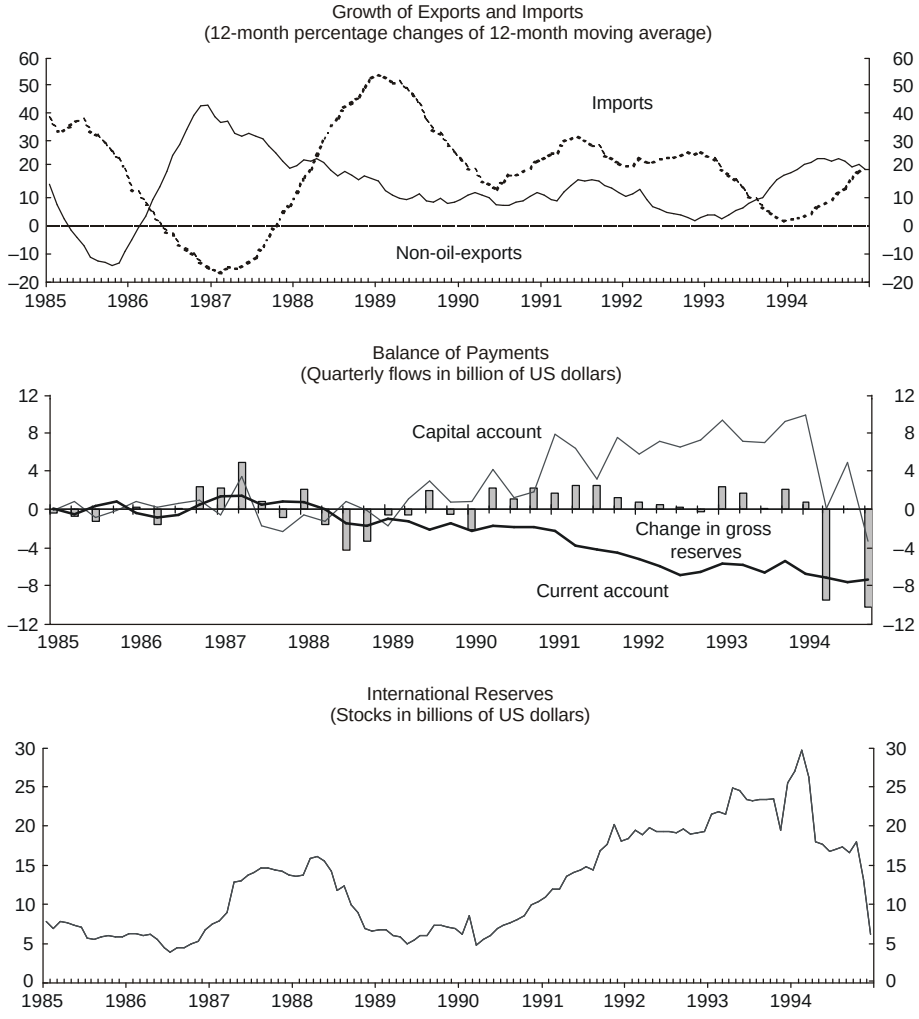


Source: *Indicadores Económicos*, Banco de México.

rent account deficits, and allowed a substantial accumulation of international reserves, as well as a remonetization of the economy.

In sum, the 1987 Mexican stabilization exhibited many of the stylized facts associated with ERBS that were discussed earlier. However, in order to gain a more analytical insight on the Mexican experience, it is necessary to go beyond these casual observations.

Figure 5. Mexico. External Sector Indicators, 1985-94



Source: *Indicadores Económicos*, Banco de México.

II. Inflation, Shocks and the Nominal Anchor

This section studies the behavior of nominal variables, especially the relationship between the nominal anchor and prices, and the issue of inflation inertia. This is done with a series of reduced-form VAR models, as well as with a more structural semi-reduced form inflation equation.

II.1. Exchange Rate as Nominal Anchor

Several elements are important when analyzing the role played by the exchange rate anchor as a disinflationary device.[16] First, the exchange rate is selected as the nominal anchor in chronic-inflation economies not only because the inflation rate is high, but also because the noise produced by nominal instability is larger. Second, one expects the exchange rate to have a qualitative impact on prices (i.e., to actually "cause" them). And third, to be effective in disinflation, exchange rates should also have an important quantitative effect on prices. Therefore, in order to evaluate the role of the exchange rate as a nominal anchor in the Mexican case, we focus on the degree of nominal instability before and after the stabilization, the causality (or lack of thereof) from the nominal anchor to prices, and the extent of the pass-through of exchange rate changes to consumer prices. Our analysis will emphasize the changing role of the exchange rate as a nominal anchor across exchange rate regimes and compare it with an alternative anchor, namely, the money supply.

To address these issues, we follow Leiderman and Liviatan's (1993) analysis of different regimes, which in turn is based on the small-scale approach advocated by Sims (1980). We run a series of bivariate VAR models for the inflation rate, and either the exchange rate or the money supply.[17] Evidence from the VAR models on the nominal anchor is supplemented with traditional Granger-causality tests.[18] The estimation sample was divided into three subperiods according to the different exchange rate regimes that were in place during the 1984-94 period. The first subperiod corresponds to the *managed float* of the pre-stabilization period (1984-87). The second subperiod applies to the *tablita* regime (1988-91) –including the strict exchange rate peg– and the third subperiod corresponds to the *exchange rate band* regime (1991-94). The following two VAR models were estimated using monthly data for these subperiods:

$$\mathbf{x}^i_t = \mathbf{C}^i \ \mathbf{d}^i_t + \mathbf{A}^i_1 \ \mathbf{x}^i_{t-1} + \ldots + \mathbf{A}^i_p \ \mathbf{x}^i_{t-p} + \mathbf{u}^i_t , \quad i = 1, 2, \qquad (1)$$

[16] Edwards (1993, 1996) discusses the use of the exchange rate as a nominal anchor and presents an empirical analysis for the case of Mexico, among other countries.

[17] VAR analyses of the rate of inflation in Mexico are pursued in Salas and Ize (1984) and Arias and Guerrero (1988, 1990), as well as in the multicountry study of Dornbusch, Sturzenegger and Wolf (1990). See also Lizondo (1992), Arellano and González (1993) and Rogers and Wang (1995) for higher-dimension VAR models of the more recent period.

[18] A similar procedure was used by Reinhart and Végh (1994).

where $\mathbf{d}_t^i$ is a m × 1 vector of deterministic components premultiplied by their 2 × m matrices of coefficients $\mathbf{C}_j^i$; $\mathbf{A}_j^i$ are 2 × 2 matrices of autoregressive coefficients for $j = 1,..., p$, and $\mathbf{u}_t^i \sim$ i.i.d. $N(\mathbf{0}, \Omega^i)$ is a 2 × 1 vector of disturbances. The two models are differentiated by the vector $\mathbf{x}_t^i$, $i = 1, 2$. In the first model $[\mathbf{x}_t^1]' = [dle_t\ dlp_t]$ is a vector comprising the log difference of the exchange rate (*dle*) and the consumer price index (*dlp*), and in the second model $[\mathbf{x}_t^2]' = [dlm_t\ dlp_t]$ is similarly defined using the log difference of the money aggregate M1 (*dlm*).[19] A bivariate specification was preferred to a trivariate system in order to minimize both ordering permutations and the loss of degrees of freedom. Under standard invertibility conditions the systems have the following moving average representation:

$$\mathbf{x}_t^i = \left[\mathbf{A}^i\ (L)\ \right]^{-1}\ \mathbf{C}^i\ \ \mathbf{d}_t^i + \left[\mathbf{A}^i\ (L)\ \right]^{-1}\ \mathbf{u}_t^i = \mathbf{D}^i(L)\ \mathbf{d}_t^i + B^i\ (L)\ \mathbf{u}_t^i, \quad i = 1, 2. \quad (2)$$

Orthogonal innovations $\mathbf{v}_t^i$ were obtained by $\mathbf{v}_t^i = [\mathbf{G}^i]^{-1}\ \mathbf{u}_t^i$, where matrices $\mathbf{G}^i$ were defined through Choleski decompositions of the covariance matrices $W^i = [\mathbf{G}^i][\mathbf{G}^i]'$ and

$$\mathbf{G}^i = \begin{bmatrix} \sigma_1^i & 0 \\ g_{21}^i & \sigma_2^i \end{bmatrix}, \quad i = 1, 2.$$

From the lower-triangular form of $\mathbf{G}^i$, inflation was assumed to have no contemporaneous effect on the other variables and thus was placed last in the recursive ordering of the bivariate systems.

The estimated VAR models can be used to assess the extent of nominal instability across exchange rate regimes. Table 2 presents the standard deviations of the estimated innovations $\mathbf{v}_t$ for the different time-periods. These statistics are taken as measures of the degree of nominal stability across regimes. The most salient feature of the estimation results is that the degree of nominal instability, measured by shocks to inflation, declined steadily from the pre-stabilization period of 1985-87 –when the Mexican economy appeared to lack a nominal anchor– to the two post-stabilization subperiods. In particular, for both bivariate VAR systems, the size of shocks to the rate of inflation is approximately halved during the tablita regime compared with the

[19] Deterministic components included a constant, a time trend and seasonal dummies. The number of lags, selected using the Schwarz and Hanan-Quinn criteria, was set equal to two.

Table 2. Mexico. Nominal Instability: Standard Deviations of Estimated Innovations[a]

	Orthogonal innovations		
Period	*Prices*	*Exchange rate*	*M1*
1984:1-87:12	0.0083	0.0210	...
	0.0089	...	0.0207
1988:1-91:10	0.0033	0.0039	...
	0.0047	...	0.0245
1991:11-94:11	0.0018	0.0081	...
	0.0015	...	0.0144

[a] Based on bivariate VAR models with two lags of log differences of consumer prices and either the exchange rate or M1, using monthly data for the sample periods indicated. The models include a constant, time trend and seasonal dummies. The orthogonal innovations were computed by placing prices last in the Choleski decomposition.

managed float period, and a further decline is observed for the exchange rate band period. A broad decline in exchange rate shocks and money supply shocks also occurred after the 1987 stabilization program was launched, but this decline was not steady because, as expected, exchange rates displayed more variation with the adoption of an exchange rate band, while M1 was more volatile during the tablita period.

These VAR models can also provide some evidence on the importance of the exchange rate as a nomimal anchor. Table 3 presents the variance decomposition from the two bivariate VAR models for the different subperiods. Each row presents the contribution of either the exchange rate or the money supply to the variance of prices in each of the bivariate VAR models. Notice first that in the 1984-87 pre-stabilization period, consistent with the inertial view of inflation, most inflation variance corresponded to the contribution of price variations, while neither the exchange rate nor the money supply was able to explain a large proportion of the variance of the inflation rate (only 12 and 6%, respectively, after two years). The explanatory power of the exchange rate and the money supply increased after the initiation of the stabilization program. More specifically, during the 1988-91 tablita period the contribution of the exchange rate increased considerably since it accounted for as much as 46% of the inflation variance on a bivariate basis, more than the proportion explained by the money supply (13%).[20] However, the roles of the exchange rate and the money

[20] Lizondo (1992) obtained similar results from a four-variable VAR model estimated also during the period of predetermined exchange rates, while Arellano and González (1993) found a somewhat smaller contribution from the exchange rates in their five-variable system.

Table 3. Mexico. Consumer Price Inflation: Variance Decomposition[a] (In percent)

	Months			
Period	*1*	*6*	*12*	*24*
1984:1-87:12				
Exchange rate	14.02	13.00	12.50	12.45
M1	0.02	6.08	6.32	6.32
1988:1-91:10				
Exchange rate	17.79	45.52	45.57	45.57
M1	3.88	13.12	13.12	13.12
1991:11-94:11				
Exchange rate	0.88	9.25	9.33	9.33
M1	4.46	25.82	27.00	27.08

[a] Contributions of either the exchange rate or M1 to variations in prices. Based on bivariate VAR models with two lags of log differences of consumer prices and either the exchange rate or M1, using monthly data for the sample periods indicated. The models include a constant, time trend and seasonal dummies. The orthogonal innovations were computed by placing prices last in the Choleski decomposition.

Table 4. Mexico. The Nominal Anchor: Granger-Causality of Inflation[a]

	Exclusion tests on current and lagged variables	
Explanatory variable and equation	*F-test*	*Significance*
M1 on prices		
1984:1-87:12	0.800	0.46
1988:1-91:10	1.212	0.31
1991:11-94:11	4.968	0.02
Exchange rate on prices		
1984:1-87:12	0.500	0.61
1988:1-91:10	13.420	0.00
1991:11-94:11	0.665	0.53
Prices on M1		
1984:1-87:12	0.971	0.39
1988:1-91:10	4.584	0.02
1991:11-94:11	2.212	0.15
Prices on the exchange rate		
1984:1-87:12	0.318	0.73
1988:1-91:10	2.625	0.09
1991:11-94:11	0.772	0.48

[a] Based on bivariate VAR models with two lags of log differences of consumer prices and either the exchange rate or M1, using monthly data for the sample periods indicated. The models include a constant, time trend and seasonal dummies.

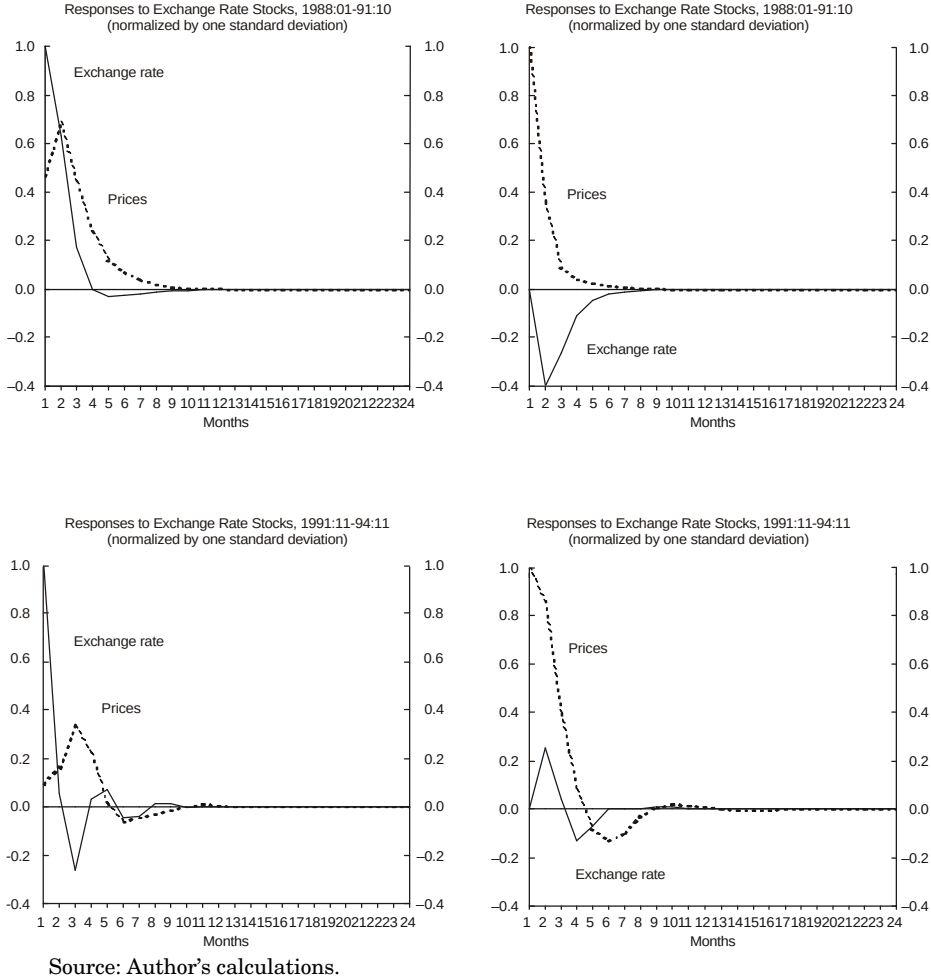
supply are reversed for the exchange rate band period, since now M1 contributes to explain a higher proportion (27%) of the inflation variance than the exchange rate. Traditional Granger-causality tests in Table 4 corroborate these results. Neither the exchange rate nor the money supply "caused" prices during 1984-87. Afterwards, the exchange rate "caused" strongly the rate of inflation in the tablita period, but its explanatory power diminished substantially during the band period, when the money supply played a more significant role in determining the price level. The latter observation yields support to the hypothesis that an exchange rate band implied a somewhat "looser" nominal anchor than a fixed exchange rate or an active crawling-peg regime. The fact that causality ran only unidirectionally from either the exchange rate or the money supply to prices and not the other way around, strengthens the presumption that the nominal anchors are properly identified.

To analyze the pass-through of exchange rate shocks to the rate of inflation, we report the impulse responses of this bivariate VAR model to one-standard-deviation shocks (Figure 6). Some interesting differences across regimes appear here as well. For the tablita period, about 40% of an innovation to the rate of exchange rate depreciation is transmitted to prices on impact, a pass-through that exceeds 60% one month later. The effect of the exchange rate shock on prices dies out fairly quickly (in around eight months).[21] However, this lagged response of inflation confirms its gradual convergence to the rate of devaluation. Interestingly enough, the pass-through changed substantially during the exchange rate band period, when shocks to the exchange rate had a more muted effect on prices. Moreover, the convergence of prices to the baseline after an exchange rate shock is twice as fast as that implied by the results for the tablita.

With respect to shocks to prices, it is difficult to gauge the degree of inflationary inertia from the impulse responses. On the one hand, as shown in Table 2, price shocks were substantially smaller during 1992-94 than during 1988-91. On the other, the impulse responses suggest a somewhat slower, though oscillatory, convergence of inflation to the baseline in the band period. The issue of inflation inertia is tackled with a more structural approach in the following subsection.

[21] Lizondo (1992) and Arellano and González (1993) also obtain a response of inflation to exchange rate impulses that is positive in the short run and fades out in about eight months.

Figure 6. Mexico. Exchange Rates and Prices: Impulse Responses (Bivariate VAR models)



Source: Author's calculations.

II.2. Inflation Inertia

As pointed out in the Introduction, in one of the hypotheses put forward that explains the gradual convergence of inflation to the rate of depreciation and the initial boom in ERBS relied on the stickiness of the inflation rate. In order to account for possible inflation inertia, we introduced more structure to our empirical analysis by estimating a semire-

duced form inflation regression. The equation for the monthly inflation rate included as explanatory variables lagged values of inflation and a number of other variables representing conventional sources of inflation pressures such as monetary, fiscal, exchange rate and wage factors. In particular, following Edwards (1993), it was assumed that the inflationary process can be approximated by the following regression model:

$$\pi_t = \beta_0 + \beta_1 DS_t + [\beta_2 + \beta_3 DT_t + \beta_4 DB_t]\pi_{t-1} + [\beta_5 + \beta_6 DT_t + \beta_7 DB_t]Z_t + u_t \quad (3)$$

where π_t stands for the inflation rate in period t. The dummy variable DS_t takes a value of unity in December 1987, and zero otherwise, and accounts for a possible jump in the rate of inflation with the inception of the stabilization program.[22] The lagged value for the inflation rate accounts for the inertial component in the rate of price increases. In principle, inertia is taken as indicative of the accommodating stance of monetary and exchange rate policies, indexation rules and other types of backward-looking behavior, and lack of credibility of the disinflation program. In addition, in order to account for changes in the degree of inflation inertia across exchange rate regimes during the stabilization period, the regression equation also included dummy variables corresponding to the different exchange rate regimes that were in place before and after the start of the stabilization program. The dummies DT_t and DB_t allow an assessment of how the degree of inflation persistence changed during the tablita and exchange rate band regimes, respectively. Hence, the tablita dummy takes a value of unity from March 1988 through October 1991 and zero otherwise. Similarly, the exchange rate band dummy takes a value of unity from November 1991 through November 1994. The variable Z_t stands for a vector of other sources of inflation such as fiscal, monetary and exchange rate determinants. Z_t comprises the following three variables: *EXGM*1 stands for "excessive" money creation and was measured as the difference between the growth in M1 and the rates of change in the consumer price index and the manufacturing production index of the previous period; *DEFH* is a fiscal variable that intends to capture the public sector need to rely on

[22] Edwards (1993) includes a single dummy variable for lagged inflation which takes a value of unity when the exchange rate became pegged in March 1988 and thereafter, and zero otherwise. He does not include interactive dummies for the other explanatory variables in his inflation equation. A similar inflation equation was estimated by Dornbusch and Werner (1994). See also the discussion of inflation persistence in Obstfeld (1995).

inflationary finance and it was computed as the ratio of public sector borrowing requirements to the one-period lag in stock of the money base; *DEVAL* denotes the rate of exchange rate devaluation; and *WINF* is the monthly percentage change of earnings in manufacturing. To gain further insight into how the role of these policy variables was modified across exchange rate regimes, the regression equation included interactive dummies for each regressor. Finally u_t is a disturbance satisfying conventional properties. Standard Phillips-Perron unit root tests (not reported but available upon request) indicated that all variables are stationary.

Table 5 presents the results of the inflation equation estimated using monthly data for the period 1984-94. Equation II in the table eliminates most of the insignificant interactive terms. A first interesting result is the statistical significance of the dummy for the inception of the stabilization program in December 1987. The positive sign of its coefficient may be attributed to the preparatory adjustments that were made to some key prices and the exchange rate. Second, as suggested by the coefficient estimated for lagged inflation (0.646 in Equation I) during the 1985-87 period, the Mexican economy exhibited a significant degree of inflation inertia, a feature considered typical of chronic-inflation countries.[23] Third, the regression results also suggest that in the period preceding the stabilization, inflation was largely determined by monetary, fiscal, exchange rate and wage factors; all the coefficients for lagged *EXGM*1, *DEFH*, *DEVAL* and *WINF* variables have the expected positive signs and are statistically significant.[24] This is an interesting result since chronic-inflation episodes are sometimes thought of as being characterized by a lack of a nominal anchor and the ineffectiveness of fiscal correction in bringing inflation under control.

With regard to the interactive dummy variables of the lagged inflation coefficients, we notice that the tablita period was associated with a statistically significant change in inflation inertia. However,

[23] A similar coefficient for inflation inertia was obtained by Edwards (1993) and Vela (1993). Dornbusch and Werner (1994) also provide evidence consistent with a significant degree of inflation persistence. However, none of these studies explicitly addresses the issue of changes of inflation inertia from the tablita to the band regimes.

[24] Dornbusch, Sturzenegger and Wolf (1990) also conclude that fiscal and exchange rate factors were important determinants of Mexican inflation during this period, while Rogers and Wang (1995) find that monetary factors played an additional role.

Table 5. Mexico. Inflation Equation: OLS estimation[a]

	Equation I		*Equation II*	
Explanatory variable	*Coefficient*	*t-statistic*	*Coefficient*	*t-statistic*
December 1987 Dummy	2.777	3.10	2.795	3.16
Lagged Inflation	0.646	12.42	0.643	13.91
Tablita Dummy for Lagged Inflation	–0.179	–2.36	–0.154	–2.40
Band Dummy for Lagged Inflation	–0.398	–2.44	–0.451	–2.93
Lagged *EXGM*1	0.062	3.18	0.059	3.28
Tablita Dummy for Lagged *EXGM*1	–0.026	–1.13	–0.025	–1.11
Band Dummy for Lagged *EXGM*1	–0.049	–1.75	–0.053	–1.94
DEFH	0.051	3.15	0.053	3.54
Tablita Dummy for *DEFH*	–0.047	–2.59	–0.048	–3.05
Band Dummy for *DEFH*	–0.057	–2.78	–0.061	–3.41
DEVAL	0.107	3.57	0.102	3.55
Tablita Dummy for *DEVAL*	0.103	0.64		
Band Dummy for *DEVAL*	–0.128	–1.20		
WINF	0.039	3.57	0.041	5.56
Tablita Dummy for *WINF*	0.000	0.01		
Band Dummy for *WINF*	–0.002	–0.11		
Adjusted R^2	0.941		0.942	
Jarque-Bera	3.438		3.178	
Ljung-Box Q(12)	17.894		16.170	
Breusch-Godfrey LM(12)	13.779		12.149	

[a] Estimated using monthly data for 1984:1 to 1994:11. Dependent variable is monthly inflation rate. The interactive tablita dummies take a value of unity from 1988:3 through 1991:10 and zero otherwise. The interactive band dummies run from 1991:11 through 1994:11. *EXGM*1 was computed as the difference between the growth in M1 and the rates of change in the *CPI* and the manufacturing production index of the previous period. *DEFH* was computed as the ratio of *PSBR* to the one-period-lag in the stock of money base. *DEVAL* denotes the monthly rate of exchange rate depreciation. *WINF* is the monthly percentage change in manufacturing earnings. Seasonal dummies were included but are not reported. Estimates were corrected for first order serial correlation.

the dummy variable for the coefficient of lagged inflation indicates that over the tablita period the Mexican economy was still subject to a considerable degree of inflation persistence. On the other hand, the interactive dummy for the exchange rate band regime does suggest that inflation inertia was further reduced, to the extent that the band period might have been associated with a full eradication of the inertial component of inflation.[25]

The interactive dummies for the effects of monetary factors indicate that the proxy for "excessive" monetary creation (*EXGM*1) still played a significant role as an explanatory variable of inflation during the tablita period, but became statistically insignificant during the band period. Note that this result may appear inconsistent with findings in the previous section, where evidence suggested that the money supply had gained some importance vis-à-vis the exchange rate as the anchor of the general price level during the band period. To reconcile the apparent contradiction, it must be recognized that the monetary variables used in each exercise are capturing different effects. In the bivariate VAR, the money supply is related to the price level in a search of the nominal scale of the economy, whereas in the semi-reduced equation, *EXGM*1 proxies the expansion of money supply beyond what is warranted by the increase in prices and income (assuming unit elasticities). Putting the two parts of the puzzle together, it appears that the money supply helped to nail down the price level, but its expansion was largely dictated by the increase in the demand for money during the band period and, hence, avoided fueling inflation by being "excessive".

The variable for the government reliance on inflationary financing (*DEFH*) lends support to the contention that throughout the 1988-94 stabilization path the fiscal deficit was not a source of inflationary pressures. The interactive dummies for *DEVAL* are consistent with our previous results, and indicate that exchange rate movements continued to affect inflation during the tablita period but less so during the band period. Finally, evidence supports the idea that wages were also a significant determinant of inflation throughout the entire sample period. Overall, these findings suggest that inflation reductions during the band period resulted from a substantial fall of inflation iner-

[25] In particular, whereas the null hypothesis that inertial inflation was non-existent during the tablita regime (H_0: $\beta_2 + \beta_3 = 0$) can be rejected at standard significant levels, the corresponding hypothesis for the exchange-rate-band period (H_0: $\beta_2 + \beta_4 = 0$) cannot be rejected.

tia together with a lack of inflationary pressures stemming from monetary, fiscal, exchange rate and wage factors.

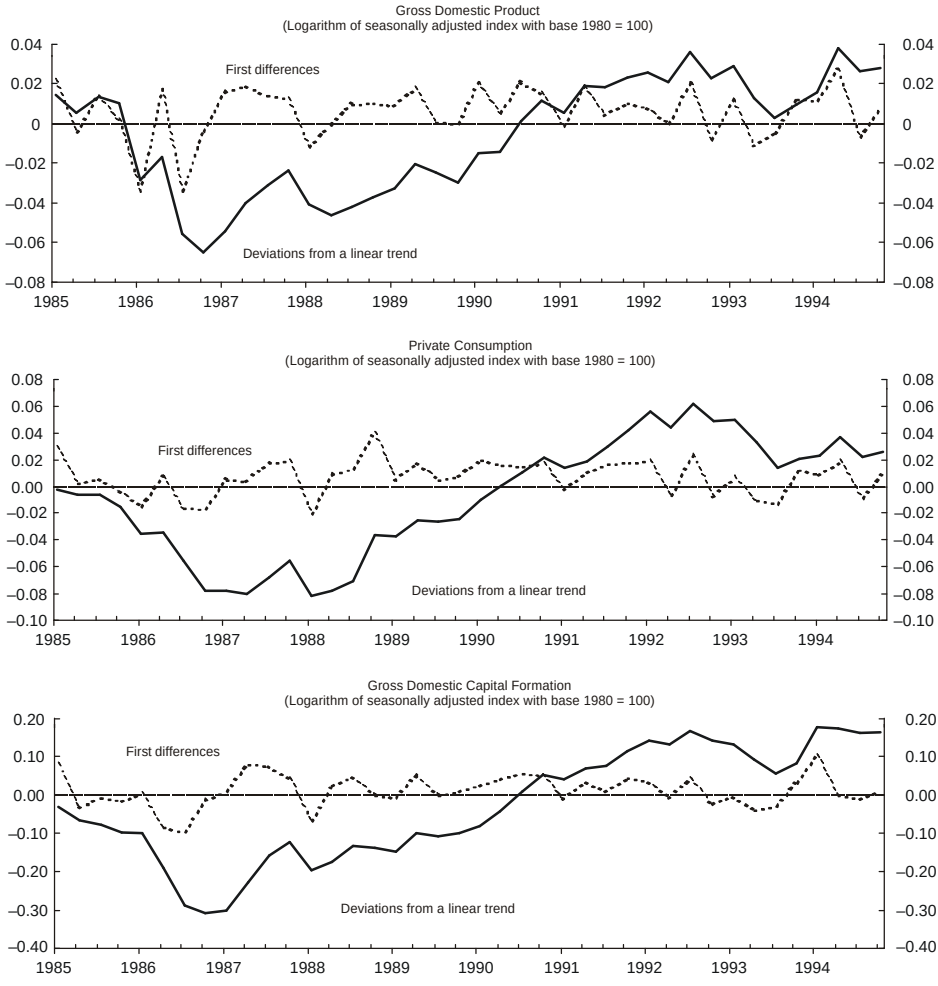
In sum, evidence presented in this section suggests that the inflation behavior during the stabilization period broadly conforms to the stylized facts of ERBS. Before the start of the 1987 program, Mexico resembled a chronic-inflation economy. Inflation was highly persistent, the degree of nominal instability was high and the inflationary process was fueled by excessive monetary growth, fiscal deficits, exchange rate depreciation and wage inflation. During the initial period of stabilization, disinflation was firmly anchored on the nominal exchange rate, but the path followed by prices approached the exchange rate only gradually. The degree of inflationary inertia was initially somewhat reduced, but not eliminated, suggesting only a partial break from past indexing habits and other practices associated with backward-looking behavior. During the band period, inflationary inertia was reduced further despite a "looser" exchange rate anchor. Finally, disinflation was supported by noninflationary fiscal and monetary policies.

III. The Business Cycle of Inflation Stabilization

As was noted before, the evolution of the main macroeconomic variables during the 1988-94 stabilization appears to be fairly consistent with the stylized facts for ERBS. In particular, the expansion of GDP and private consumption over the first years of the stabilization period (1988-91) and the later slowdown of these variables in 1992-93 brought the Mexican experience into line with the business cycle predicted by the stylized facts of ERBS. This section explores further the ERBS business cycle by looking more closely into the evolution of detrended figures during the stabilization program and by means of some simple econometric procedures to address the uniqueness and sources of the cycle.

In order to analyze the business cycle, we computed the cyclical behavior of real GDP, private consumption and fixed capital formation, using two common detrending estimators: deviations from a linear trend of the 1980-94 period, and first differences of the series (Figure 7). The overall picture is that the Mexican economy experienced a full business cycle during the 1986-93 period. Although all three aggregates show basically the same story, notice the different scale of the fluctuations where, as expected, investment varied more than output,

Figure 7. Mexico. Business Cycle Indicators, 1985-94



Source: Author's calculations.

but quite surprisingly, consumption was also more variable than real gross domestic product.[26]

It is important to highlight some peculiarities of this cycle. The Mexican economy reached a trough in late 1986, and experienced a recovery –mostly associated with investment– in 1987. After the 1987

[26] This possible lack of consumption smoothing is consistent with evidence from developing countries –including Mexico– presented in Mendoza (1995) and is probably due to the inclusion of purchases of durable goods, which is the case in our series.

expansion, detrended output declined in 1988, especially in the first quarter. In this sense, an initial slowdown in the level of economic activity occurred on impact at the inception of the Pacto. This slowdown was short-lived, however, and by the second half of 1988, the economy was growing again, fueled by a strong expansion of private consumption.[27] The recovery of fixed capital formation gathered momentum only in 1990. As a result, GDP exhibited growth rates close to 4% during the 1989-91 period. The economy peaked in mid-1992 and thereafter registered a pronounced downturn in activity and domestic demand, especially in expenditures on fixed capital goods and consumer durables. This steady fall in cyclical GDP corresponds to the period of the exchange rate band and higher real interest rates. A new trough was reached in the second half of 1993, after which the economy recovered vigorously in 1994 with a noteworthy jump in investment.

This pattern of the Mexican business cycle in 1988-93 is consistent with theoretical predictions and with the experience of other ERBS episodes. However, it raises two important questions. First, whether it is correct to characterize the expansion phase of 1988-91 as one of "unprecedented growth" or as one of a "consumption boom." Second, it remains to be shown that the economic cycle, and especially the 1992-93 slowdown, can be attributed to the use of the exchange rate anchor. Casting some doubts on this is the fact that the slowdown in economic activity can hardly be considered a full-fledged recession –although output fell two consecutive quarters in 1993– and that it began to take place almost five years after the inception of the stabilization program. In fact, in 1994 the Mexican economy was again exhibiting significant rates of GDP growth. We address these two questions, independently, with two simple econometric models.

To investigate the issue of whether the ERBS in Mexico led to an unprecedented economic boom or contraction during 1988-94, as opposed to a prototypical business cycle, we followed the crudest possible approach. We estimated basic regression models for the rates of growth of (seasonally adjusted) GDP, private consumption and investment using quarterly data. These regressions included constant and additive dum-

[27] The expansion of consumption in 1988 was mostly due to the strong performance of consumer's expenditure on durable goods, which despite accounting for less than 10% of total consumption, grew 9% in 1988. Thereafter consumption growth largely arose from the dominant contribution of non-durable goods, which grew close to 5% per annum on average during 1989-92. The contribution of non-durable goods added to the continued strength of durable goods, which continued growing almost 8% on average during 1989-92. Further details are provided in earlier versions of this paper, as well as in Arrau and Oks (1992).

mies for each one of the stabilization years 1988-94 as explanatory variables.[28] In order to bias our results toward accepting the "booms" predicted by the theory, we compared the performance of the Mexican economy during the stabilization period with the low-growth period 1982-94. The estimation results are reported in Table 6. The lack of statistical significance (at the 5% level) of the dummy variables across equations indicates that in none of stabilization years 1988-94 did the growth of GDP, consumption or investment differ significantly from the average growth rates recorded over the sample period. In this sense, the record of growth during the period 1988-91 was not unique; it was a rather modest growth of GDP, and the expansion of private consumption was not without precedent.

Despite the well-established fact that a business cycle took place in Mexico during the stabilization, its origin remains to be studied, and in particular whether the ERBS can account for it. To tackle this issue, another bivariate VAR model was estimated, a system composed of the log differences of the exchange rate and the log of GDP. We used quarterly data for the period 1980-93 and adopted a similar specification to that used above in equations (1) and (2).[29] Two different exercises were performed with the VAR model: an impulse response and the historical decomposition of output.

In order to simulate an ERBS, a shock equal to minus one standard deviation of orthogonal innovations to the devaluation rate was fed into the VAR model. This shock is intended to capture the sudden reduction in the rate of depreciation that is the hallmark of an ERBS.[30] Overall, the results obtained are supportive of the analytical conclusions in the literature and of the stylized facts observed elsewhere: the "simulated" ERBS induced first an expansion and then a slowdown of output (Figure 8). In particular, a one-standard-deviation-reduction of the depreciation rate results in an initial rise of GDP that peaks after six quarters and then declines. The recessionary phase appears after three years and deepens for about one year until the effect of the innovation dies out.

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[28] Similar methodology is used in the multi-country studies of Reinhart and Végh (1994, 1995) and Easterly (1996).

[29] As before, two lags were used, and deterministic components included a constant, a time trend and seasonal dummies.

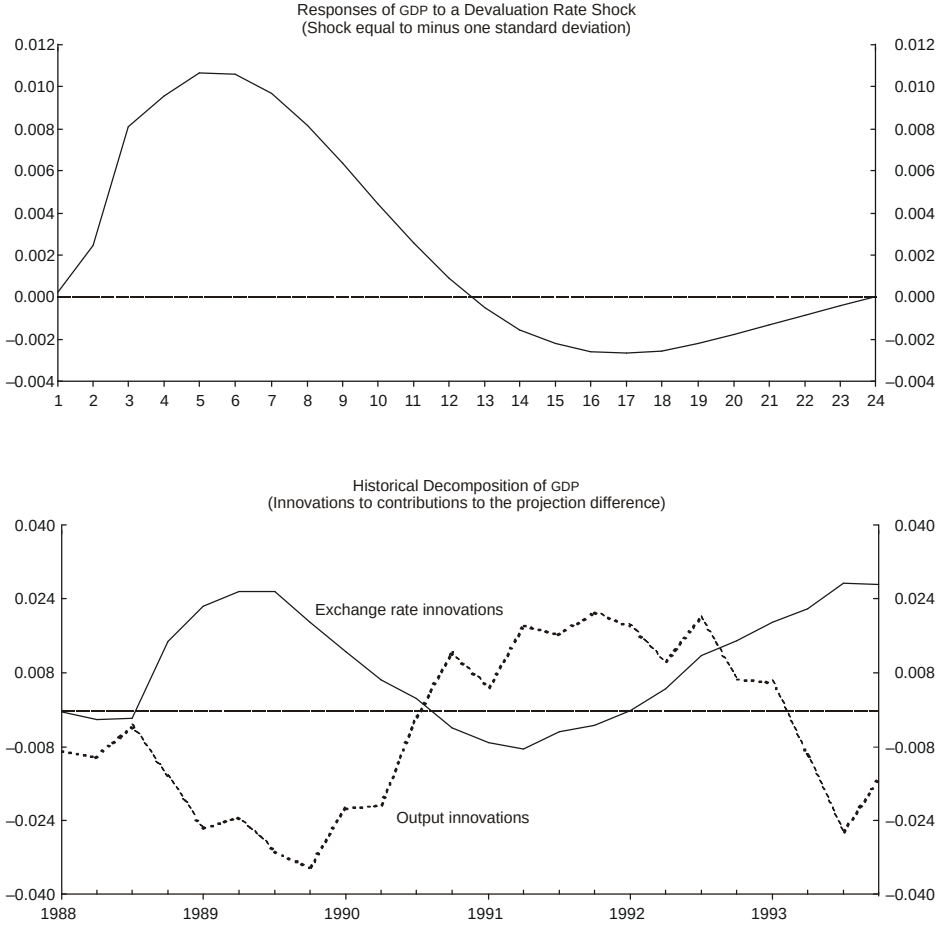
[30] For an alternative approach to approximate an ERBS, see Hoffmaister and Végh (1996). They address the "recession-now-versus-recession-later" hypothesis in the ERBS/MBS context for the case of Uruguay.

Table 6. Mexico. Quarterly Growth Rates, 1982-94: OLS Estimation[a]

Equation and year dummy	*Coefficient*	*t-statistic*
Growth of real GDP		
D88	0.0008	0.09
D89	0.0056	0.63
D90	0.0142	1.62
D91	0.0069	0.78
D92	0.0039	0.44
D93	0.0009	0.10
D94	0.0085	0.97
LHS mean	0.0044	
Adjusted R^2	0.8141	
Durbin-Watson	2.0813	
F-statistic	23.3287	
Growth of private consumption		
D88	0.0117	1.18
D89	0.0098	0.99
D90	0.0178	1.81
D91	0.0116	1.18
D92	0.0078	0.79
D93	–0.0006	0.06
D94	0.0079	0.79
LHS mean	0.0042	
Adjusted R^2	0.6414	
Durbin-Watson	1.9886	
F-statistic	10.1236	
Growth of gross fixed capital formation		
D88	0.0138	0.40
D89	0.0260	0.75
D90	0.0541	1.56
D91	0.0302	0.87
D92	0.0224	0.64
D93	0.0005	0.01
D94	0.0364	1.05
LHS mean	0.0018	
Adjusted R^2	0.2136	
Durbin-Watson	1.5945	
F-statistic	2.3854	

[a] Estimated using seasonally adjusted data for 1982:1 to 1994:4. Dependent variable is in log differences. A constant was included but is not reported.

Figure 8. Mexico. Gross Domestic Product and Exchange Rates (Bivariate VAR model)



Source: Author's calculations.

Although the impulse responses are useful in determining the dynamic responses of macroeconomic variables to a shock in the system, it is difficult to assess from them the contribution of the different shocks to the actual behavior of output at a given moment. In order to address this issue, we decomposed the actual GDP time series (Y_t) according to:

$$Y_{T+j} = \sum_{s=0}^{j-1} f_s \, \mathbf{v}_{T+j-s} + \left[d \, \mathbf{d}_{\mathbf{T+j}} + \sum_{\mathbf{s=j}}^{\infty} \phi_s \, \mathbf{v}_{T+j-s} \right] \qquad (4)$$

where the term in brackets is the projection of the bivariate system in period $T + j$ using information up to period T, and the first term contains the contributions of each of the two orthogonal innovations v_t to the forecast error in periods $t = T + 1, ..., T + j$. We projected our bivariate system for the business cycle period 1988-93 (T = 1987:Q4). The historical decomposition of the log of output is shown in the lower panel of Figure 8, where only the part of Y_{T+j} due to the innovations in the bivariate VAR model is displayed. Two revealing features emerge. First, the output expansion of late-1988 to 1990 seems to be associated with a positive contribution from exchange rate innovations. Second, consistent with the impulse responses, the contribution of exchange rate innovations becomes negative in 1991, before the observed slowdown in output, which in fact is associated more with negative innovations to GDP. This pattern of the historical decomposition of output, and similar results obtained for private consumption, suggest that while the economic expansion of 1988-90 is consistent with the ERBS, the latter part of the business cycle –especially the 1992-93 slowdown– could be attributed to "own" output shocks.[31] These innovations could be related to technology and preference shocks that could arise from a constellation of factors ranging from the resource allocation associated with the structural reforms, to the uncertainty generated by a possible failure to secure NAFTA, or to high real interest rates, among other things.

When all the evidence in this section is put together, the Mexican experience seems to conform, at least superficially, with the stylized facts that have become the business cycle associated with ERBS. The most important difference in the Mexican case is that the program was not preceded by a slowdown but by an expansion in 1987. This expansionary phase was interrupted in the wake of the Pacto, and only resumed after six months. The slowdown took place at a very late stage of the stabilization period (1993), almost five years after the inception of the Pacto. Our empirical analysis suggests that the expansion phase is qualitatively consistent with the theoretical predic-

[31] This result is consistent with other empirical evidence which suggests that fluctuations in Mexican output has traditionally been associated with real shocks. See Rogers and Wang (1995).

tions and the ERBS stylized facts, although on quantitative terms it did not represent behavior distinct from that of previous Mexican experience. The decline in economic activity during 1992-93 seems to be mostly unrelated to the ERBS and instead associated with other factors, such as supply-side factors, high real interest rates, and so on.

IV. Concluding Remarks

This paper has contrasted the Mexican experience of 1987-94 with the stylized facts claimed to have been observed in other ERBS. A cursory look at the Mexican data shows that they fit quite closely to many theoretical predictions and the experience of other ERBS programs: inflation fell only gradually, there was a business cycle, the real exchange rate appreciated, and the current account registered increasing deficits. However, our analysis reveals some important differences and peculiarities of the Mexican experience, especially regarding the role of the nominal anchor and the nature of the business cycle. These results should be useful in understanding the dynamic forces behind ERBS, and contribute to a more formal collection of evidence on such programs.

Evidence suggests that the inflation behavior during the stabilization period conforms to a large extent with other ERBS episodes. The Mexican experience before the Pacto of December 1987 resembled other chronic-inflation episodes. Inflation was highly persistent, the degree of nominal instability was high and the inflationary process seemed to have been fueled by excessive monetary growth, fiscal deficits, exchange rate depreciation and wage inflation. During the initial period of the stabilization program launched in 1987, disinflation was firmly anchored to the nominal exchange rate, but the path followed by prices approached the exchange rate path only gradually. However, the degree of inflationary inertia was not considerably reduced during the tablita period, suggesting only a partial break from past indexing habits and other practices associated with backward-looking behavior. According to our results, during the exchange rate band period, inflationary inertia was reduced even further despite a "looser" exchange rate anchor. Moreover, disinflation was supported during this stabilization by the lack of inflationary pressures stemming from monetary, fiscal, exchange rate and wage factors.

The evidence regarding the business cycle in Mexico and its similarity to theoretical predictions and other ERBS is very interesting.

Our results give rise to more questions and the need for further research. According to our empirical analysis, the December 1987 program seems to conform, at least superficially, with the business cycle associated with other ERBS. The factual differences in the Mexican case are that: *i)* the program was not immediately preceded by a slowdown in economic activity; *ii)* the expansion initiated in 1987 was interrupted at the inception of the program and only resumed six months later; and *iii)* the slowdown took place almost five years after the onset of the program. Our analysis suggests that the boom phase seems to be qualitatively consistent with other ERBS, even if quantitatively it did not represent a significant departure from previous Mexican growth experience. The 1992-93 decline in economic activity, however, does not seem to be related to the ERBS, but rather to other elements, which we conjecture could be supply-side factors, added uncertainty, financial factors, etc. Thus, it appears that only the initial stages of the cycle were related to the ERBS.

Additional evidence is needed to obtain a better understanding of the Mexican stabilization program. Questions remain regarding the appropriateness of the exchange rate regime, at least from a broader perspective than a narrowly focused, inflation-control approach. The fact that the economy did not achieve (perhaps unjustified) expectations of economic growth deserves more attention. Special emphasis, in this respect, should be paid to identifying the factors behind the 1992-93 slowdown. More important, however, additional evidence –and perhaps also analytical work– is needed to comprehend the reasons behind the Mexican financial crisis of 1994-95 and the collapse of the widely touted Mexican success story.

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