**CAHIER 0797**

# HETERODOX INFLATION STABILIZATION IN ARGENTINA, BRAZIL, AND ISRAEL
## A Historical Review and Some Stylized Facts

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May 1997

Financial support from the Social Sciences and Humanities Research Council (SSHRC) of Canada is gratefully acknowledged.

## RÉSUMÉ

Cet article passe en revue les efforts de stabilisation observés pendant les années 1980 en Argentine, au Brésil et en Israël. Un résumé de la recherche antérieure y est présenté et complété par l'information la plus récente et par une analyse détaillée des aspects institutionnels pertinents. L'étude de ces épisodes met en évidence un lien économique et empirique important entre la politique budgétaire gouvernementale et le taux d'inflation.

Mots clés : crédibilité, stabilisation de l'inflation, politiques de revenus

## ABSTRACT

This article presents a review of the stabilization attempts in Argentina, Brazil, and Israel during the 1980's. Earlier research is summarized and complemented with additional sources of contemporaneous information and a detailed analysis of institutional features. The examination of these episodes underscores the strong economic and empirical relationship between the governments' fiscal policy and the rate of inflation.

Key words : credibility, inflation stabilization, incomes policies

## 1. Introduction

In the early 1980s, several countries (most notably Argentina, Brazil, and Israel) experienced persistent and increasing rates of inflation. These events differed significantly from the hyperinflationary episodes in Europe in the 1920s. In particular, the monthly rate of inflation was small enough that prices continued to be set in local currency and there remained a significant volume of nominal contracts supported by the widespread use of formal and informal indexation. It was claimed at the time that the inflationary process contained an important inertial component as a result of staggered price setting [Blanchard (1983)], staggered long-term contracts of the type described in Fischer (1977) and Taylor (1979), backward-looking indexation [Fischer (1983)], and monetary accommodation by the Central Bank. It was asserted that the use of tight fiscal and monetary policies to reduce the inflation rate in these countries would lead to very high (and politically infeasible) losses of output and employment in the presence of this inertial component.

Given the specific characteristics of the inflationary process and the political constraints, a new strategy was proposed aimed at reducing the inflation rate without the associated disinflation costs. The approach, referred to as "heterodox", was based on the following elements:[1]

(*i*) Prior to the implementation of the program, the government made discrete adjustments in the exchange rate, public-sector tariffs, wages, and the price of subsidized commodities in order to correct the distortion in relative prices. Then, nominal variables were frozen temporarily through administrative controls.

(*ii*) The government announced a commitment to reduce the size of the budget deficit and its monetization by the Central Bank. The fulfillment of these assurances would correct the basic

[1] Helpman and Leiderman (1988) provide an excellent discussion of the analytical basis for heterodox stabilization programs.

causes of inflation and would set in place the "fundamentals" required to sustain the new lower inflation rate.

(*iii*) Existing indexation contracts were abolished temporarily.

(*iv*) Monetary reform was undertaken with the introduction of a new currency pegged to the American dollar.

The application of the policies in Israel and in South America produced mixed results. The Israeli Plan, launched in July 1985, was successful. It reduced the average monthly inflation rate from 14% in the second quarter of 1985 to 1% in the first quarter of 1986 with a small increase in unemployment, and once price controls were removed in early 1986, inflation remained stable. On the other hand, the stabilization programs implemented in Argentina (June 1985) and Brazil (February 1986) showed early signs of success, but inflation resumed shortly after price and wage controls were lifted. Subsequent heterodox plans were tried repeatedly in these two countries in the late 1980s without success. Figures (1) through (3) present the monthly rate of inflation in Brazil, Israel and Argentina respectively.

This paper examines these stabilization attempts from both historical and economic perspectives. For concreteness, its focuses on the heterodox programs applied in the 1980's and therefore excludes additional orthodox or exchange-rate based plans applied subsequently. This article combines previous work by other authors[2] with additional sources of contemporaneous information and a comprehensive study of the institutional features of the countries under consideration. Its goal is to present other researches interested in the subject with a compact and accessible account of the events in the inflationary periods in these countries. The following sections, present the individual analysis for Brazil, Israel and Argentina respectively.

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[2] Among other, Dornbusch and Fischer (1986), Dornbusch and Simonsen (1987), Heymann (1987), Fischer (1987), Modiano (1988), Cukierman (1988), Machinea and Fanelli (1988), Kiguel and Liviatan (1988), and Liviatan (1989).

## 2. Brazil

*Bulhoes-Campos Reforms* (1964-1967)

The Bulhoes-Campos reforms were the first heterodox stabilization program applied in Brazil. More significantly, they established an institutional framework whose most important components still remain in place. In March 1964, General Humberto Castelo Branco took over the democratic government led by Joao Goulart. Under the new government, economists Roberto Campos and Octavio Gouvea de Bulhoes, devised a stabilization plan to gradually reduce the inflation rate in a period of three years. It involved (*i*) a substantial reduction in the budget deficit, (*ii*) the use of incomes policies, (*iii*) exchange rate devaluations at small and irregular time intervals according to the inflation rate differential between the United States and Brazil, and (*iv*) the introduction of indexation in the capital and labor markets.

The public sector deficit was reduced from 4.3% of GDP in 1963, to 1.6% of GDP in 1965, by cutting government consumption and subsidies, and raising taxes. The use of incomes policies included price controls that were introduced in 1965 in a gradual and noncompulsory basis. Price controls were only mandatory for public services, some basic goods and agricultural food products, but voluntary for most industrial firms. Nonetheless, the government promoted compliance with the official guidelines by granting tax exemptions and subsidized credits to private businesses that moderated their price increases to 7% until the end of that year [Kiguel and Liviatan (1989, p. 21)]. In 1967, price controls were intensified becoming mandatory in most industrial sectors. The CONEP (National Commission of Price Stabilization) and the CIP (Interministerial Price Commission) were created to administer price controls.

Important reforms were introduced in the financial market. The government created in 1964 an indexed treasury bond, Obrigacoes Reajustaveis do Tesouro Nacional (ORTN), which along with the Letras do Tesouro Nacional (LTN), were the main instrument of domestic public debt until 1986. In 1966 monetary correction was introduced. This was a system of indexation to be applied to financial transactions, rents and eventually to government bonds, under which the principal of interest-yielding assets was to be adjusted every month according to the variation in the Consumer Price Index. In addition, the Banco Central do Brasil was established in 1964 to perform the function of central bank. Funds were to be provided initially by the Banco do Brasil, the largest public sector bank.[3]

The Bulhoes-Campos program was successful in gradually reducing the rate of inflation from 92% in 1964 to 22% in 1968, and in promoting fiscal discipline for more than a decade: the average operational deficit between 1965 and 1974 was 0.8% of GDP.

*Last Years of Military Rule* (1980-1984)

The rate if inflation in Brazil increased after 1979. The operational budget deficit, most of which was financed by the monetary authorities, grew from 3.6% of GDP in 1980, to 5.6% in 1981, and 8.3% in 1982.[4] Simonsen (1988) indicates that the shortening in the intervals for wage setting, from one year to six months in November 1979, contributed to the rise in the rate of inflation as well. During 1981 some institutional changes were implemented aimed at controlling spending by state enterprises. The expenditures in the Monetary budget were transferred to the Treasury budget, including the wheat consumption subsidy, subsidies linked to the formation of buffer stocks and charges on public debt.[5]

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[3] The functions delegated to the Banco do Brasil and its singular relation with the Banco Central meant that until 1986, Brazil had in fact two monetary authorities. The Banco do Brasil was entitled to borrow free of charge, government monies from the Banco Central through a mechanism called "conta movimento". This account was to be used by the Banco do Brasil to finance government development programs for it which it had not received appropriate funding. The conta movimento was eliminated by the National Monetary Council in January 1986. *Latin America Weekly Report*, 14 February 1986, p. 8.

[4] On average, the monetary financing of the central government deficit was 81.6% for the period 1982-1986. Author’s calculations based on data from *Government Finance Statistics Yearbook 1990*, International Monetary Fund, p. 175.

[5] Traditionally, the Monetary budget, administered by the Banco Central and the Banco do Brasil, was an instrument to channel money into agriculture and priority energy and export programs. It now forms part of the Treasury budget which also covers obligations to government suppliers and contractors, transactions related with public debt to commercial banks and non-financial institutions, and debts of states and municipalities. *Country Profile. Brazil 1989-1990*, The Economist Intelligence Unit, p. 37.

With the Falklands War between Argentina and England in the second quarter of 1982, and Mexico's default on its interest payments on foreign debt in August 1982, new lending to Latin American countries was sharply reduced. The flow of international loans to Brazil decreased after September 1982. In November 1982, the country declared a moratorium on its payments of principals to commercial banks. The sudden reduction in foreign lending affected adversely the Brazilian public sector which accounted for almost 70% of the external debt. The public sector relied significantly on external borrowing for its investment and to some extent for its budget deficit financing. This event further increased the pressure on the government to rely on seigniorage as a source of revenue.

In early 1983, Brazil undertook an IMF-backed stabilization program aimed at reducing the inflation rate and improving the balance of payments. The reduction of the fiscal deficit was the main component of this plan. Through cutbacks in subsidies and increases in indirect taxes, the operational fiscal deficit as percentage of GDP was reduced from 8.3% in 1982 to 4.8% in 1983 and 2.7% in 1984. However, the annual inflation rate jumped to 211% in 1983 and 223% in 1984. This experience strengthened the view that the inflationary process in Brazil was not driven only by "fundamentals" (namely high money growth resulting from budget deficit financing) but that it also contained an inertial component, consequence of widespread indexation, staggered wage contracts, and staggered price setting.

*The Cruzado Plan* (*February* 1986)

The Brazilian New Republic took office in March 1985, after 21 years of military rule. In November 1985, the Ample Consumer Price Index (IPCA), designed to measure the consumption basket of workers with income up to thirty minimum salaries, replaced the General Price Index as the official measure of the inflation rate, and the Restricted Consumer Price Index (INPC) as the reference for wage adjustments. A fiscal plan introduced in December, divided the income tax refunds into four annual installments to reduce cash pressures on the Treasury and modified the tax structure to incorporate levies on nominal gains. Some measures intended to reduce the lags in tax collection were established as well.

With inflation reaching 14.4% in January, the Cruzado plan (also known as Tropical Plan) was announced on 28 February 1986. Its main elements included [see Modiano (1988)]:

(*i*) All prices were frozen at their level of 27 February and strict penalties were to be imposed in transgressors.

(*ii*) The Cruzado replaced the Cruzeiro as the unit of national currency at the rate of 1 cruzado per 1000 cruzeiros. A conversion rate for cruzeiro denominated liabilities was established to avoid wealth transfers as a result of the sudden disinflation.

(*iii*) The exchange rate was frozen at 13.8 cruzados per dollar.

(*iv*) Wages were converted in cruzados on the basis of the average purchasing power in the previous six months. The minimum wage was raised by 33%, and additional bonus of 8% was given to all workers. Wages were then frozen at these new levels and the interval for salary negotiations was restricted to twelve months. However, a trigger of 20% accumulated inflation at which wages would be adjusted automatically, was established. The trigger was set at 0% on 1 March 1986, and was to be reset either at the annual negotiation or when attained.

(*v*) The official measure of inflation, the IPCA, was replaced by the Consumer Price Index (IPC), with the same structure but with its basis displaced to 28 February. The objective was to avoid, that despite the price freeze, statistical carryover produced a significant level of inflation in March that would inappropriately trigger the wage sliding scale.

Despite its initial success in reducing the inflation rate, two important factors were to undermine the Cruzado Plan. First, fiscal reform was only temporary. Although the Treasury reported a surplus on its cash performance in January and February, the public deficit jumped to CZ$12.5bn. in March. The expected increase in tax collection as a result of the fiscal package enacted in December 1985, turned out to be insignificant because most of the new levies were on financial transactions that were not longer attractive at the new lower inflation rates. The cost of the gasohol oil-substitution program rose after the collapse in the international oil price, and the wheat subsidy reached record heights as the government further encouraged grain production. On the other hand, the Administrative Reform Plan, encompassing the foreclosure of several government agencies, was postponed. Second, the government did not foster price realignments in the moths previous to the stabilization program. Consequently, the vector of relative prices that was frozen on 28 February contained significant distortions, resulting from previous controls on the price of certain goods. Eventually, shortages and black markets developed for some goods (*e.g.*, milk, meat, automobiles, etc). The government rather than authorizing prices increases, resorted to subsidies and tax exemptions to keep these products available. By mid-October the loss in revenue as a result of reductions in value added taxes on cigarettes, milk, meat, medicines and some industrial products such as packaging, reached CZ$7.7bn. The price freeze in some publicly provided goods such as transportation and electricity, led to accumulated losses in state enterprises of some Cz$5.5bn. from end-February to mid-October, and tariff exceptions to certain imports, made necessary by domestic shortages, reduced government revenue as well [*Latin American Weekly Report*, 25 September 1986.]

In July, the government announced a small fiscal package which included a forced savings scheme with new indirect taxes on gasoline and automobiles to be refunded in three years, and non-refundable taxes on international airplane tickets and foreign currency sales for travels abroad. After the legislative elections in November 1986, the government announced considerable increases in the price of utilities, sugar, fuels, car and car-parts prices, a 100% increase in the taxes on cigarettes and beer, and the reintroduction of periodic mini-devaluations of the cruzado. The Restricted Consumer Price Index (INPC), designed to measure the consumption basket of households with income between one and three minimum salaries became the official measure of inflation. By February 1987, price controls had been lifted in all but 65 "basic" consumer products whose prices were to remain frozen and other 300 products whose price adjustment were to be authorized by the Interministerial Price Council (CIP).

*The Bresser Plan* (*June* 1987)

With the inflation rate rapidly increasing in the first months of 1987, Finance minister Dilson Funaro resigned in April, and was replaced by Luiz Bresser Pereira. On 12 June, Bresser announced a 90-day general price freeze as part of his Novo Cruzado Plan (or Bresser Plan) to reduce the rate of inflation. The program also included the removal of subsidies in some agricultural products and alcohol fuel; significant increases in tariffs for public services, steel, and coal; the postponement of investment totaling US$35bn. in new government projects; and the elimination of the trigger for wage adjustments. The inflation rate was sharply reduced in July and August, mainly as the result of price controls. However, efforts to eliminate 200000 jobs in the central government were strongly opposed by unions. A limit of 22% on wage increases in the public sector was largely ignored by state companies and later overridden by labor tribunals. In early September, price controls began to be lifted and inflation resumed shortly after.

*The Summer Plan* (*January* 1989)

In early April 1988 a two-month freeze on inflation-indexed increases in public sector wages was announced and the wheat subsidy was rescinded. However, the wage freeze was ruled unconstitutional by labor courts. Thus, the government was eventually forced to reimburse public servants for their lost revenue during the April-May freeze. Failed efforts to reduce government expenditure, and rumors of imminent price freezes caused the inflation rate to increase through 1988.

In mid-January 1989 the government launched the Summer Plan. It included:

(*i*) Steep price increases in fuels and transport fares, followed by a comprehensive price freeze expected to last at least 45 days.

(*ii*) A freeze on wages in the public sector, with a provision that prohibited the recourse to the courts by

the unions in order to recover any purchasing power loss during the freeze.

(*iii*) The end of indexation in most interest rates.

(*iv*) The closure of five ministers and 42 state agencies and departments with the dismissal of up to 60000 civil servants, and a program of privatization of several state enterprises.

(*v*) The creation of a new currency, the Novo Cruzado, to replace the Cruzado at the rate of 1000:1, accompanied by a devaluation of 18%.

Under the constitution enacted in 1988, this economic package had to be approved by Congress rather than being imposed by executive decrees-laws (a standard procedure since 1964). However, the Congress rejected the proposition to give the president increased powers to privatize state enterprises, and void the proposal to close five ministries by failing to vote before the thirty-day constitutional deadline. Furthermore, the government had to compromise on compensating public workers for any erosion in purchasing power during the price freeze.

On 20 April, the government reintroduced monetary correction. The price freeze was replaced with a new scheme supervised by the finance ministry, under which the government would allow price increases in specific sectors to be in force for ninety days. In early-May the first authorizations for price adjustments were given, and in mid-May crawling peg devaluations of the Novo Cruzado with respect to the Dollar were reintroduced. By October 1989, the monthly rate of inflation had reached 40%.

### 3. Israel

The rate of inflation in Israel increased after 1977 as a result of massive budget deficits and rapid monetary growth.[6] Another significant factor was the liberalization of the exchange rate market in 1977. Israelis were allowed to hold dollar-denominated interest bearing accounts (PATAMS) in local banks. Eventually, PATAMS were also used as medium of exchange. Consequently, between 1977 and 1979 there was an important shift from local-currency denominated assets to dollar-linked holdings.[7]

In the early 1980's the budgetary situation was adversely affected by three events. First, the collapse in the price of bank shares and the governments' intervention in October 1983 to guarantee their value, further increased domestic debt and interest payments. Second, tax revenues as percentage of GDP decreased from 43.4 in 1979 to 36.6 in the fourth quarter of 1984 as a result of the Olivera-Tanzi effect [Cukierman (1988), pp. 50-51]. Finally, loans to the private sector at fixed nominal interest rates turned into a significant subsidy as the market interest rose. Dornbusch and Fischer (1986) indicate that at its peak this subsidy reached 7% of GDP. Patinkin (1990) also stresses the role of this transfer in the worsening budgetary situation of Israel during the early 1980's.[8]

After the opposition Labor Party failed to win a majority in the election in July 1984, a national unity government was formed in September. In November a package deal was agreed between the government, the Histadrut (the General Federation Labor) and the employers' organizations. Under this plan, wages would be frozen temporarily while firms would limit price increases. Despite its initial success in reducing the rate of inflation from 19.5% in November to 3.7% in December, insufficient fiscal

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[6] Seigniorage financing of the budget deficit in Israel averaged 40.3% between 1981 and 1986. Author's calculations based on data from *Annual Report 1986*, Bank of Israel, pp. 153

[7] In September 1977, the holdings of M5 (a broad financial assets aggregate) were: 23% in nominal local currency, 26% in foreign currency linked, and 51% in price level linked assets. By 1979 the share of foreign currency linked holdings had risen to 39.5%, while nominal currency assets had decreased to 11.5%. Dornbusch and Fischer (1986), p. 28.

[8] Lecture at the Federal Reserve Bank of Richmond. October 1990.

adjustment, and continuing devaluations led to an increase in inflation in the first months of 1985. By June 1985, the rate of inflation had reached 14.9%.

*The July* 1985 *Stabilization Program*

A heterodox stabilization plan launched by the government in July 1985. Its main elements included [*Annual Report 1985*, Bank of Israel, pp. 1-18]:

(*i*) The Shekel was replaced by the New Shekel at the rate of 1:1000 with a fixed parity with respect to the US dollar. The exchange rate fixed at NIS1.5.

(*ii*) A reduction in the budget deficit to be accomplished mainly through cut in subsidies.[9]

(*iii*) There was a substantial increase in the price of controlled goods (foodstuffs, government provided goods and services, and government monopolies), which cover 20 to 25% the consumer's basket. A 17% adjustment was allowed for the price of non-controlled goods. Thereafter, prices were frozen through administrative controls. Following the July 1985 program, over 90% of the goods in the consumer's basket were subject to direct price controls. The subsidy cuts produced a jump in the price level of 28% in July.

(*iv*) On July 15, negotiations between the government and the Histadrut were concluded. The agreement involved a 14% general wage increase, followed by a freeze in nominal wages and the suspension of indexation for three months.

(*v*) The liquidity of PATAMS was reduced. Although dollar-linked deposits could be converted into shekels at the official rate, their acquisition for less than a year was prohibited.

[9] A capital levy was considered but it was rejected because a law passed before the elections in July 1984 election, forbade taxes on savings, and there was concern the governments' future ability to borrow would be reduced by such measure.

Underlying the success of the July stabilization program in Israel was the reduction in the domestic budget deficit (inclusive of interest payments in debt) from 12.1% of GDP in 1984, to 5.7% in the second half of 1985 and 2.6% in 1986. Dornbusch and Fischer (1986, p. 26) indicate that most of the reduction in the budget deficit came through the cut in subsidies and the increase in real tax revenue resulting from the lower rate of inflation.

The stability in the external accounts was improved by a special grant of the United States for US$1.5bn., divided in three installments in 1985 and 1986, that helped sustain the fixed exchange rate. In addition, at the end of 1984, the American congress change the financing of US$0.9bn. of the military aid to Israel from long term annual loans to grants. This change had the effect of permanently reducing the growth of the public debt to the United States, which constituted the major component of the Israeli external debt.[10]

The rate of inflation fell from an average monthly rate of 15% before the program, to around 3.5% in the first three months of the plan. The increase in the unemployment rate was small, raising from 6.2% in the first half of 1985 to 7.1% in the second semester of 1985. Since March 1986, administered price controls remained in effect for only 40% of the all goods and services.

## 4. Argentina

*Early Stabilization Attempts*

Argentina has a prolonged history of inflation and failed stabilization programs. In 1967, Economy minister Adalbert Krieger Vasena launched a stabilization program encompassing voluntary price and wage controls, and a significant reduction in the budget deficit from 3.7% of GDP in 1966, to 1.3% in 1969. The plan was successful in reducing the rate of inflation rate from 31.9% in 1966, to 7.6% in 1969.

[10] Of the US$3bn in government aid from the United States to Israel in 1984, US$2.1bn were already in the form of grants: US$0.9bn as military aid and US$1.2bn as "civilian", non-military aid [Liviatan (1988, p. 36)].

However, the lack of persistence in the fiscal adjustment and political events undermined the program. After severe riots in Cordoba in May 1969, the entire cabinet (including Krieger) was replaced. By year-end wage controls were relaxed and in early 1970 the government was forced to devaluate the currency. Thereafter, inflation rose from 13.5 % in 1970, to 34.9% in 1971, and 58.4% in 1972.

In June 1973, the democratically-elected Peronist government imposed a price freeze in a number of products in an effort to reduce the rate of inflation. A small, but temporary, reduction in inflation was achieved at the cost of introducing severe distortions in the economy. Eventually, worsening economic and political conditions led to a military coup in March 1976. The new Economy minister, Jose Martinez de Hoz, introduced an anti-inflationary program characterized by restraint in wage increases and the use of the exchange rate as the main nominal anchor[11]. A system of indexation, based on the national wholesale price index, was established for the repayment of credits to the public sector. The budget deficit was reduced from 10.3% of GDP in 1975 to 2.7% in 1979 through expenditure cuts, public-sector price increases, and tax increases. Accordingly, the rate of inflation rate fell from 335% in 1975, to 87.6% in 1980. However, the real appreciation of the peso, and the resulting capital flight and balance of payments crisis, led to the collapse of the program. Fiscal restraint was abandoned after Martinez de Hoz resigned in March 1981.

Throughout this period foreign external debt grew rapidly. Private sector borrowing was further encouraged by an insurance system introduced in June 1981. Under this scheme, private borrowers received the guarantee of obtaining dollars for repayment at the same exchange rate that they had received on disbursement, in return for the payment of a premium to the Central Bank. However, the South Atlantic conflict between Argentina and England in the second quarter of 1982 led to the suspension of new foreign lending to Argentina. The change in outstanding loans fell from US$4900m. in 1981, to

[11] At the end of 1978 a predetermined schedule of exchange rate devaluations (or "tablita") was introduced as a mechanism to adjust inflationary expectations.

US$800m. in 1982, US$1100m. in 1983 and -US$1500m in 1984 [Kuczynski (1988), p. 112]. This circumstance forced the government further depend on domestic sources to finance its budget deficit.

On 14 June 1982, Argentina surrendered to the British, and President General Leopoldo Galtieri resigned. On 1 July General Reynaldo Bignone was sworn as new president. Substantial devaluations led to a run on the peso in the third quarter of 1982, and increased the cost of the insurance scheme on private foreign debt. Eventually, an arrangement with the private sector was reached, involving the transfer of significant portions of private foreign debt to the government with severe effects on the budget deficit.

On 1 June 1983 a new currency, the Peso Argentino, was introduced to replace the Peso at the rate of 10000:1. The change in currency did not entailed monetary reform, but it was intended to facilitate accounting procedures by reducing the number of digits. The acceleration of inflation led to significant loses in real tax collection as a result of the Olivera-Tanzi effect.[12] A reduction in the duration of contracts was also observed: wage contracts had a duration of three or four months before 1981, shortening to one month by 1985, while in the financial sector most deposits had maturity of less than thirty days.

T*he Austral Plan* (*June* 1985)

Raul Alfonsin, the first democratically elected president since 1973, took office in December 1983. Indexation in wages was formalized under an scheme in which wages would be adjusted monthly according to the government-forecasted inflation rate, with end-of-month allowances to account for differences between the real and forecasted inflation rate. Throughout 1984, Economy minister Bernardo Grinspun granted priority to the renegotiation of the foreign debt. In September an agreement was reached with the International Monetary Fund providing Argentina with a US$1400m. standby credit and

[12] For a quantification of this effect in Argentina, see Domper and Streb (1986).

US$200m. in compensatory finance. After a ten-month negotiation with the Paris Club, an accord was also signed with the private banks in December 1984. However, in January 1985 the agreements became void as the IMF rejected Argentina's fiscal goals. With the inflation reaching 25.1% in January 1985, and legislative elections scheduled for the Fall of 1985, Grinspun resigned and was replaced by Juan Sourrouille on 18 February.

In April 1985, it was decided to implement a heterodox program to reduce the rapidly increasing inflation rate. The plan was to include orthodox tight fiscal and monetary policies, along with incomes policies to deal with the inertial component of inflation resulting from indexation and staggered price and wage setting. Several preparations were required before the introduction of the program. In particular, it was necessary to promote the realignment of relative prices in order to avoid that price distortions would threaten the stability of the intended freeze. Consequently, between April and June 1985, current controls on industrial prices were made more flexible or removed in some cases, public utilities rates were increased in real terms, the rate of devaluation of the peso was accelerated, and an agreement with the IMF were sought to assure the external financing required to avoid balance of payments disequilibria and sustain the exchange rate policy.[13]

The Austral Plan was announced on 14 June 1985. Its main components were [see Machinea and Fanelli (1988)]:

(*i*) Nominal wages were adjusted by 22% (corresponding to 90% of the inflation rate in May) and public sector prices were increased. Then wages, prices and public sector tariff were frozen at their level on 12 June. The freeze was to be effective at the wholesale, rather than at the retail level, and seasonal goods (meat, fruits and vegetables among others) were exempted.

(*ii*) A new currency, the Austral, was introduced at the rate of 1000 Argentine Pesos per Austral and the exchange rate was pegged to the US dollar at 0.8 Australes per Dollar.

[13] An agreement with the IMF was reached in early June granting Argentina a US$1400m loan.

(*iii*) Contracts in Argentine Pesos with maturity after June 14 were depreciated against the Austral according to a conversion table based on the inflation rate before the plan. This measure was intended to avoid wealth redistributions resulting from the unanticipated disinflation.

(*iv*) A reduction in the budget deficit was envisaged coming from the reduction in government expenditures, the increase in public utility rates, new taxes on foreign trade (import duties and export tariffs), a forced saving mechanism,[14] and the increase in real tax revenue as a result of the decrease in the inflation rate.

(*v*) A commitment was made by the government to stop Central Bank financing of the budget deficit.

The plan was initially successful. Inflation fell from 30.5% in June to 6.2% in July, and 3.1% in August. Increasing demand led to substantial gains in output with seasonally adjusted GDP raising by 4% in the last quarter of 1985. There was a rapid monetization as the opportunity cost of holding money declined, the ratio of M1 to GDP rose from 3.3% in the second quarter of 1985, to 8.1% in the first quarter of 1986. During the period of price controls, that remained in effect until April 1986, neither shortages, nor black markets appeared. A significant reduction in the budget deficit was achieved as a result of real revenue increases in tax collection at the lower inflation rate,[15] some reduction in government expenditures, new taxes on fuels and foreign trade, and tighter controls on tax evasion.[16]

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[14] Under this scheme, private companies and individuals had to acquire Forced Savings Certificates equivalent to 30 and 40 per cent of their net worth and income tax payments in 1984. Although these funds were to be reimbursed by the government, they were considered as income for the purpose of calculating the budget deficit. Eventually, this forced saving scheme amounted to a tax because the nominal interest rate was fixed, and as inflation rose, the real interest rate turned negative.

[15] Treasury losses as a result of the Olivera-Tanzi effect dropped from 2.5% of GDP before the Austral Plan, to 0.5% of GDP. Machinea and Fanelli (1988), p. 136.

[16] A study by the Instituto de Estudios Contemporaneos showed that of the 1.6m registered tax payers in 1984, only 523000 completed and returned their tax forms. The tax administration, Direccion General Impositiva, estimated that only half of the Value Added Tax was effectively collected, while significant evasion and fraudulent practices were common in customs, industrial promotion schemes and payments to social security. *Latin American Weekly Report*, 20 November 1986, p. 8.

The budget deficit fell from 11.9% of GDP, in the quarter preceding the stabilization program, to 3% and 2.2% in the third and fourth quarters of 1985 respectively.[17]

However by the end of 1985 the stabilization program was losing ground. Peronist-run provinces bypassed Central Bank regulations by issuing money, in the form of bonds, to pay for wages of public employees and other current expenditures, and despite government directions, wage increases were granted in the private sector to compensate workers for the lost purchasing power since June. Furthermore, during the first quarter of 1986 the budget deficit as percentage of GDP rose to 4.3%.

In April 1986, the price freeze was replaced with a system of "administered" prices, nominal wages could be adjusted quarterly within a preset band, public sector tariffs were raised by 6%, and the Austral was devaluated by 3.6%. A policy of periodic mini-devaluations was introduced and indexation reappeared in nominal contracts. Though there was no price shock occurred once price controls were lifted, the inflation rate increased steadily from 4.7% in April, to 8.8% in August.

The increase in inflation rate was attributed to the passive monetary policy followed by the Central Bank since April. Discrepancies between the Economy minister Juan Sourrouille, and the Central Bank authorities led to the replacement of the president of the BCRA in August 1986. Tight fiscal and monetary policies, along with ceilings on price and wage increases were implemented, leading to a temporary reduction in the budget deficit and a mild decrease in the inflation rate.

*The February Plan* (*February* 1987)

The rate of inflation reached 7.5% in January 1987, as result of increasing budget imbalances and widespread reindexation. On 25 February a new set of economic measures were announced, including

[17] These figures include the quasi-fiscal deficit of the Banco Central de la Republica Argentina. The Central Bank' deficit results from the forced lending to the government at below market interest rates in the latter's effort to appropriate for itself the benefits of zero cost financing through monetary base issuance. Another sources of Central Bank losses are subsidized lending to priority sectors and interest payments on mandatory reserve requirements. See Tejeiro (1989).

a freeze on wages and prices at the level of February 23. Before the freeze, workers were authorized a 3% increase on top of the raises already granted for the first quarter of 1987, and public tariffs were increased by 2%. The austral was devaluated 6.6% against the dollar. The exchange rate was to remain frozen during March and April, after which a crawling peg was to be introduced.

The February Plan led to a reduction on the inflation rate to 3.3% in April. However, the government's wage policy was modified after the appointment of Carlos Aldarete, of the Peronist party, as Labor minister. On 9 May, a 6% increase in wages (effective June 1) was decreed, along with a 9% average increase in public tariffs. With the flexibilization of price controls in June, and the reintroduction of indexation in wage contracts, inflation reached double-digits in July 1987 for the first time since the Austral plan was launched in June 1985.

*The Austral Plan II* (*October* 1987)

In mid-October 1987, a third heterodox stabilization program was launched by the government. Its main measures were:

(*i*) A rise of 12% in wages to compensate workers for the effect of the inflation in September, and of 15% in public utilities and transport tariffs, followed by a freeze in wages and prices.

(*ii*) A targeted reduction in the budget deficit from 7.5% of GDP to 3.5%, through increases in taxation and raises in public sector tariffs.

(*iii*) Devaluation of the Austral by 16.5%, and the introduction of a two-tier exchange rate system.

(*iv*) Privatization of state-owned enterprises and trade liberalization.

In January 1988, price and wage controls started to be lifted, a new tax on cheque payments was introduced, the forced savings scheme was reinstated for a period of two years, and the tax rates on cigarettes and fuels were raised. Import tariffs were increased as well.

In April, state enterprises and provincial governments were legally prevented from further financing from the Federal Treasury. In return the central government assumed the debt-service obligations of the state companies. Throughout this period inflation rose rapidly, reaching 28% in August 1988. Kiguel (1989) indicates that the repeated use of incomes policies contributed to the increase in the rate of inflation: firms expecting a price freeze, would attempt to enter the period of price controls with a high absolute price that would prevent them from having losses while the freeze was in effect.[18]

*The Spring Plan* (*August* 1988)

In early August 1988, an economic package was announced whose main goals were the reduction in the budget deficit and the inflation rate. It included a 10.5% devaluation of the Austral. The commercial rate, applicable to "traditional" exports, was set at 12 Australes per US dollar. The financial rate, for imports and 50% of the value of exports of manufactured goods, was set at 14.4 australes per US dollar. Public sector tariffs and wages were increased by 30% and 25% respectively, and then frozen until October 1988. The value added tax was cut from 18% to 15%, while import duties on capital goods were reduced to 5% and for some goods were eliminated. Sharp cutbacks in government spending were envisaged from curbs on consumption of electricity and fuels, the elimination of government agencies, the disposal of assets, the compulsory retirement for those reaching statutory age, and the voluntary retirement for 30000 civil servants. A set of strict guidelines was announced for price increases and wage negotiations in the private sector to be in forced until February 1989. Accordingly, the inflation rate fell from 27.6% in August to 5.7% in November.

In early February 1989, the Central Bank ceased to intervene in the foreign exchange market. With a run on the Austral and demands for wage increases, the agreement between the government and

[18] Large increases in wholesale prices were observed in June 1985, October 1987 and June-August 1988, prior to each of the major freezes [see Kiguel (1989, p. 34)].

the private sector regarding price adjustments fell apart. Consequently, inflation rate in March reached 17%. Juan Sourrouille, who had been Economy Minister since February 1985 resigned in April 1989.

## 5. Conclusion

The above account would suggests that, despite the initial design, the stabilization programs launched in Argentina and Brazil differed from the Israeli plan in that in the later case the government successfully reduced its budget deficit. Up to the extent that these governments actively employ seigniorage as a source of revenue and that the rate of inflation is determined by the clearing of the money market, the fiscal policy is the main exogenous determinant of the inflation process in the countries under examination. From the perspective of a researcher interested in the issue of inflation stabilization, it would then seem more plausible to model government expenditure as exogenously determined rather than the money supply.

**Appendix A: Periods of Price and Wage Freezes in Argentina and Brazil**

A certain degree of price and wage controls are routinely in effect in both Argentina and Brazil. These controls are the result of government's participation in the production of goods and services through state enterprises, the regulation of various monopolies and oligopolies in the economy, and deliberate attempts to affect the inflation rate. On the other hand, extensive price and wage freezes are applied less frequently, usually as part of heterodox programs, and their influence on the inflation process are more significant. Below we present a summary of the periods in which price/wage freezes were in effect.

**Argentina:**

(*i*) From 14 June 1985 to 4 April 1986. The Austral Plan.

(*ii*) From 25 February 1987 to early June 1987. The February Plan.

(*iii*) From mid-October 1987 to early-January 1988. The Austral Plan II.

(*iv*) From early-August 1988 to February 1989. The Spring Plan.[19]

**Brazil:**

(*i*) From 28 February 1986 to mid-November 1986. However, price controls were nominally in effect until February 1987. The Cruzado Plan.

(*ii*) From Mid-June 1987 to early September 1987. The Bresser Plan.

(*iii*) From Mid-January to end-of-April 1989. The Summer Plan.

[19] Note however that in the Spring Plan, incomes policies were applied in the form of "guidelines" for the private sector's prices increases. Only the prices of publicly provided goods were freezed.

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Fig 1. Monthly Inflation Rate.  Brazil

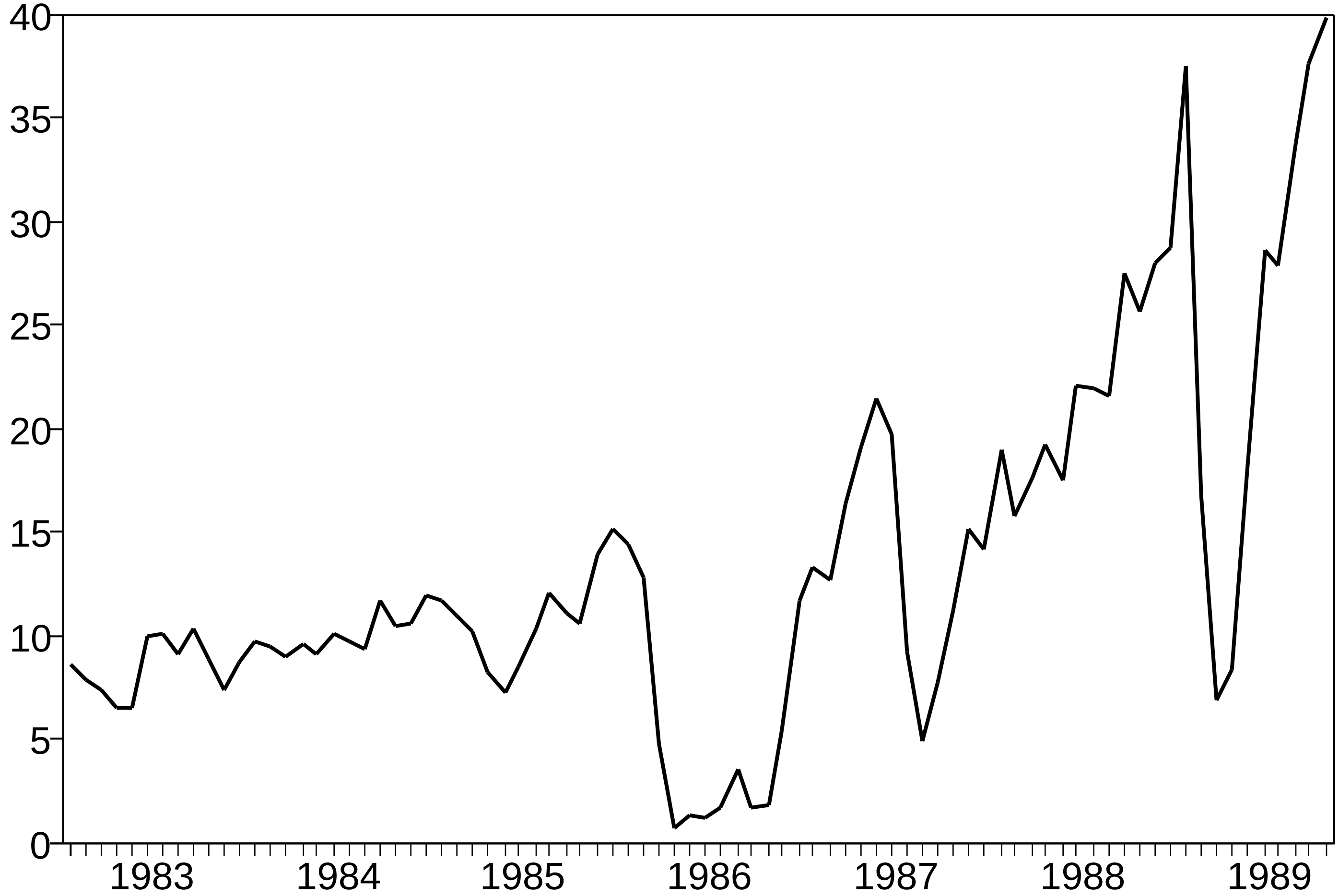

Fig 2. Monthly Inflation Rate.  Israel

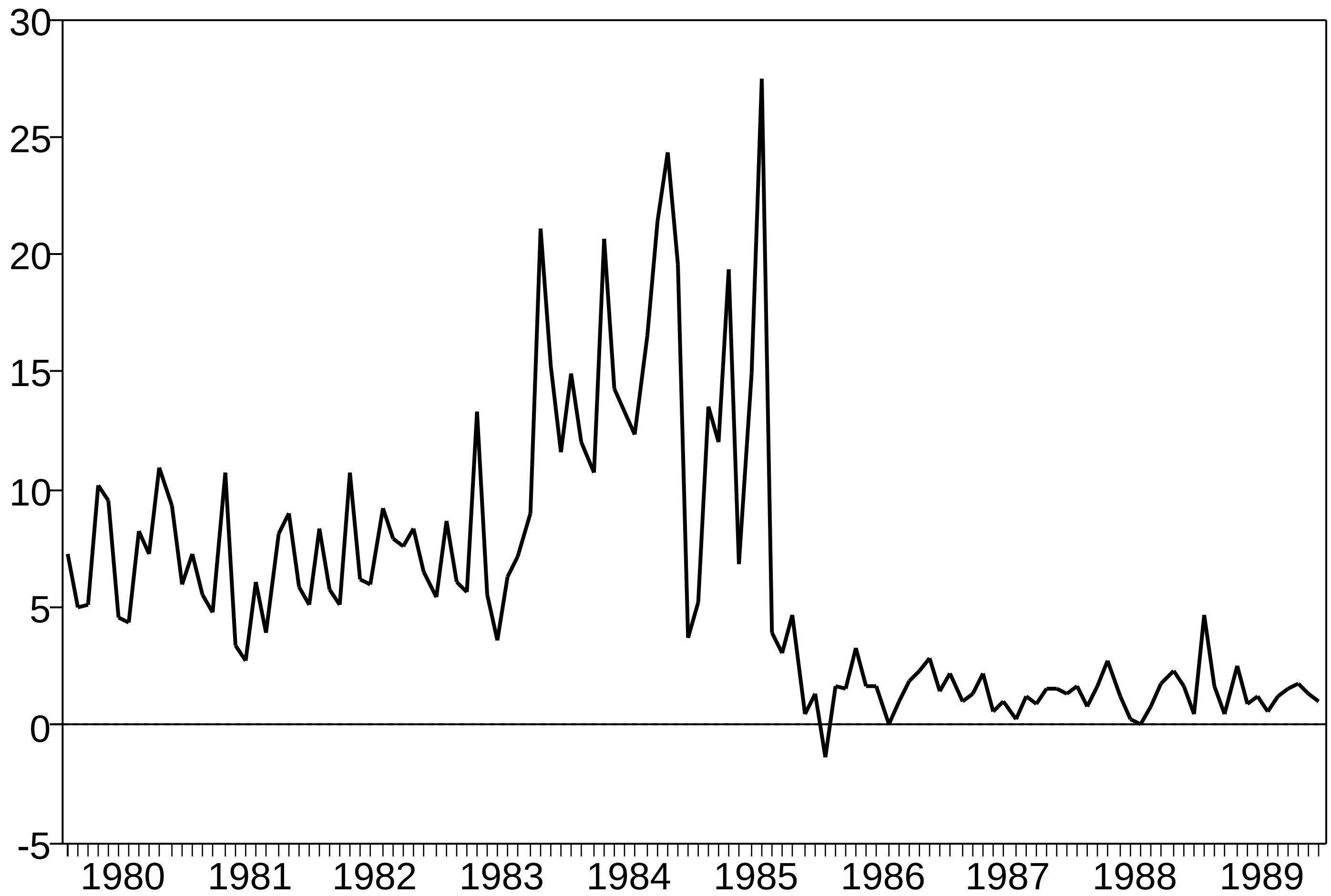

Fig 3.Monthly Inflation Rate. Argentina