Measuring Capital Flight from Argentina as a Response to Economic and Political Instability

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1 Introduction

The debt crisis occurred in the early 1980s when several developing countries had problems in servicing their debt obligations. The problem in Latin America was acute. Bolivia had its first debt-service difficulties as early as 1979, followed by Mexico and Argentina in 1982, and Brazil in 1983. Several studies in recent years[1] examine different aspects of the crisis and discuss possible solutions to the problem. A phenomenon which gained increasing attention was the fact that while governments in developing countries were accumulating external debt, private residents in these countries were transferring their assets out of the country. It is generally believed that the occurrence of capital flight precipitated the debt crisis.

Capital flight estimates are indicators of a nation's predicament and also an indicator of its riskiness. The debt problem would have been less acute if the assets held abroad by private residents could have been made available for servicing external debt obligations. Estimates of capital flight are thus an important signal to the international lending community as to the riskiness of further lending to these countries. International bank lending to developing countries slowed down because "it is unrealistic to call upon the support of voluntary lending from abroad, whether public or private, when domestic funds are moving in the other direction. ... ."[2]

It is generally believed that the flight of capital implies a loss of investible resources in the source country and is a direct loss in domestic capital formation. Cuddington [1986] lists it as one of the possible reasons why capital flight is considered harmful. It is presumed that the flight of capital leads to a decline in domestic investment.[3] Some studies adopt a different approach and

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1) See for example Sachs [1990], and Barletta, Blejer, and Landau [1984], among others on this issue.
2) See the statement by the U.S. Secretary of State, James Baker, in: Treasury News, Department of the Treasury, Washington D.C., October 8, 1985, p. 6.
3) Gordon and Levine [1988], however, question the basis of such an assumption. They reasoned that traditional capital theory provided no basis for the presumption regarding the nature and stability of the relationship between total resident capital outflows and capital formation. The complex and dynamic process of growth, technological change, and political evolution elicits a rich array of possible relationships among capital flows by residents and foreigners. Empirical evidence cited in their study demonstrated the instability of the relationship between capital flight and loss in investment. They provided four suggestive cases demonstrating the correlation between resident capital outflows and aggregate domestic investment could be positive or negative.

emphasize the overall investment climate as an explanatory factor responsible for the flight of capital.[4]

In view of the importance of evidence and estimates of capital flight this study measures and explains capital flight from Argentina. We focus our attention on Argentina, since it is one of the countries where, allegedly, capital flight has played an important role in the build-up of external debt[5]. Argentina has undergone major economic and political changes and is therefore a suitable case study for examining the factors which motivate capital flight. We examine how non-economic factors impinge on economic policy, how various social, political, and economic institutions interact and are important determinants of the economic policy choices in the country. Our premise is that these policy choices are important in explaining the flight of capital from Argentina. It cannot be denied that the world level of interest rates and prices, as also taxation policies in the haven countries do play a role in attracting capital out of developing countries, but in this study we concentrate our attention on the motivating factors in the source country which were responsible for the massive exodus of capital from this country.

In the next section we sum up the broad strains of literature in defining capital flight followed by a section on the measuring procedure used to estimate capital flight. We then go to discuss political instability and its influence on policy outcomes in Argentina. In the next section we discuss sectoral and class conflicts and policy outcomes in Argentina and outline events in the period 1976-88 which enable us to identify an event structure which motivated capital flight in Argentina. Section 6 presents the results of the regression analysis using dummy variables in an OLS estimating equation along with some other estimates of capital flight. Section 7 reports the results of flexible least squares followed by some concluding remarks.

Moreover, they reasoned that even if this relationship was known, it was not possible to classify changes in investment as efficient or inefficient by observing gross outflows of capital.

4) See for example, Dornbusch [1985], Conesa [1987], and Cuddington [1986 and 1987].

5) According to Dornbusch [1985], 23.5% of the increase in Argentine's foreign debt between 1978 and 1982 was due to capital flight. This same figure was equal to 47% according to Cuddington [1985] for the period 1974-82. According to the World Bank, capital flight as a percentage of gross capital inflow was equal to 65.1% in the period 1979-82.(cited from Giancarlo Perasso, Capital Flight and Foreign Debt Accumulation: A Note on Argentina, p. 16.)

2. Defining Capital Flight

The concepts of capital flight can be classified into three categories:

[a] The national utility definition in which gross capital outflows from developing countries are treated as capital flight. The definition equals measured acquisitions of foreign assets by banks and nonbank private residents plus errors and omissions in the balance of payments.[6] The national utility concept implies loss in economic returns to the economy in the form of perhaps lower investment, employment, income, and destabilized financial markets. The loss of capital through capital flight is equated with a loss in national welfare.

[b] Capital flight is one side of a two-way flow driven by the attempt to arbitrage a yield/risk differential. The measuring procedure identifies capital flight with the fraction of a country's stock of claims that do not yield recorded investment income.[7] The effects of capital flight are limited to erosion of the domestic base and the exportation of financial intermediation. This type of capital flight may even increase world welfare if capital flight is defined as a response to distortions. It may enable residents to overcome a distortionary tax structure. If the investors secure a higher rate of return on their investments abroad, it could be presumed that this type of capital flight could raise world economic growth.

[c] Capital flight is explicitly a subset of gross capital outflows. The measuring procedure corresponding to this definition specifies not only the causal factors inducing capital flight but normal outflows of capital as well.[8] The very magnitude of the outflows from heavily indebted developing countries suggest that they cannot be interpreted as capital flight equivalent to a real transfer. If this were the case, the outflows should have occurred over a considerably longer period of time. The magnitude of gross outflows is partly explained by capital flight, the remainder is a response to standard portfolio objectives and to transaction demand of traders and businessmen. The factors motivating capital flight vary from country to country and might also differ from one accounting period to another. For this reason the

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6) Some of the studies which use this broad definition of capital flight are: Bennet [1989], Duwendag [1986], Dooley et al. [1983], Erbe [1985] and the World Bank [1985].
7) See Dooley [1986], [1988], Khan and Ul Haque [1987], Rojas-Suárez [1990].
8) See Varman [1989].

operationalisation of this approach results in country-specific equations to measure capital flight.

The choice of definition depends on the type of capital flight being transacted.[9] The choice should depend upon the particular historical episode and country under investigation. A country could experience either one-way or two-way flows of capital. Reduction of the former necessitates an improvement in the overall investment climate brought about by macroeconomic adjustment. Bi-directional flows, as analyzed in the capital flight context, require policies that root out the causes leading to discriminatory treatment of domestic capital. In the case of Argentina we adopt a motivation-based definition of capital flight. This is because there is considerable evidence to show that residents in Argentina were accumulating external assets, even while borrowed capital was flowing in. There is also evidence to support the view that the Argentine economy experienced economic and political instability. Although the second definition presented does take into account two-way movements of capital, it is too limited in its scope to encompass the massive flight of capital from Argentina. Moreover the estimation procedure is very sensitive to the data employed to have confidence in them.[10]

3. Measuring Capital Flight

Studies on capital flight range from treating all outflows of capital as capital flight to regarding capital flight as a sub-set of these outflows. Studies also vary in terms of the factors used in explaining the flight of capital.

For this study we adopt the definition [c] discussed in the previous section. We treat capital flight as a sub-set of gross capital outflows, the other sub-sets being transaction balances, assets of the banking sector and portfolio investments. Although the literature abounds with studies which equate gross capital outflows as capital flight we regard gross capital outflows as a measure of external claims like in Varman [1989] and Varman-Schneider and Schneider [1990]. It is unrealistic to assume that developing countries would, in the course of their normal business activity with the rest of the world, not have any evidence of outflows of capital. Capital flight could be bracketed as those

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9) See Lessard and Williamson [1987] and Varman [1989] for a detailed discussion on this issue. A distinction is made between real capital flight and the intermediated variety of capital flight. The former is associated with a one-way outflow of capital, the latter with two-way flows of capital.
10) See chapter 3 in Varman [1989] for details.

outflows of capital which are not `normal'. Deppler and Williamson [1987] argue that

"... normal capital outflows comprise all outflows that are not motivated by the attempt to avoid large losses. Normal outflows, therefore, include those resulting from households' attempts to maximize returns through international portfolio diversification; enterprises' efforts to promote trade through providing trade credits, accumulating working balances abroad, and investing directly in the acquisition of working capacity abroad; and commercial banks 'efforts to expand their activities through accumulating deposits with foreign correspondent banks and acquiring claims on non-residents through portfolio and direct investment." (p. 41)

The definition and measuring procedure are adopted from Varman [1989] and Varman-Schneider and Schneider [1990]. Capital flight is only a subset of gross capital outflows motivated by discriminatory treatment of domestic capital, political upheavals and uncertainty, the other subset being normal portfolio investments and international transaction balances abroad. Varman [1989] tried to determine the normal component of gross capital outflows (explained by transaction balances of firms abroad) and measure capital flight as a residual explained by a particular event structure which caused capital flight. The econometric technique consisted in modelling the event structure by dummy variables and taking the estimated coefficients for the dummies as an estimate for capital flight. An obvious difficulty with this procedure is the fact that we have to identify the capital flight years a priori (i.e. setting up the dummies for the correct time periods) and under this maintained hypothesis estimate capital flight.
Varman-Schneider and Schneider [1990] used the data set from the earlier study and relaxed the assumption of a given specification of flight inducing event patterns and used a data analytical technique known as flexible least squares to identify the years where capital flight presumably took place.

We report the results of both these approaches for Argentina.

The basic approach adopted in the measuring procedure is to first define the components of gross capital outflows, KO, in an accounting identity.

$$KO = TB + BA + PI + CF$$

where TB are transaction balances flowing abroad, PI the portfolio investments, BA the assets of the banking sector and CF capital flight.

The gross capital outflows are changes in the stock of private foreign claims. The estimation procedure for gross capital outflows compares the sources of finance (i.e. the increase in gross external debt and net inflow of direct investment capital, both liabilities and assets) on the one hand, with the uses of finance (i.e. changes in official reserves, current account deficits and capital outflows) on the other. Since it is assumed that much of the accumulation of private foreign assets is not recorded, capital outflows are computed in an indirect way as a residual.[11]

The estimate of gross capital outflows for Argentina are given in table 1.

Direct investment
change in reserves
current account surplus

11) KO = δdebt + DI + CR + CA, where δdebt is the change in external debt, DI is net foreign direct investment, CR the change in reserves and CA, the current account surplus. We use the sign convention in the balance of payments here. All the variables in the equation are flow data.

Table 1
Argentina: Components of the Increase in Gross External Debt
1976-1988 (in millions of U.S. dollars)

Year	Debt	CA	DI	CR	δdebt	KO
	1975	6289	-1287	0	1071	
1976	8687	651	0	-921	2398	2128
1977	10055	1126	145	-1828	1368	811
1978	12217	1856	273	-2297	2162	1994
1979	19535	-513	265	-4381	7318	2689
1980	26386	-4774	788	2749	6851	5614
1981	36608	-4712	944	3437	10222	9891
1982	43248	-2353	257	758	6640	5302
1983	45705	-2436	183	2427	2457	2631
1984	46615	-2495	268	-16	910	-1333
1985	52857	-952	919	-817	6242	5392
1986	57783	-2859	574	984	4926	3625
1987	63961	-4239	-19	2213	6178	4133
1988	65145	-1615	1147	-1922	1184	-1206

Source:
CA (current account), DI (net direct investment), CR (total change in reserves) are from the IMF's International Financial Statistics. Data on gross external debt are from the OECD adjusted for short term debt and use of IMF credit prior to 1982. For details see Appendix A in Varman [1989]. δdebt is the change in debt. KO (gross capital outflows) are calculated as residual from the given data.

fuente de datos

The remaining components TB, PI and CF are not directly observable and have to be reconstructed by some estimating procedure. Behavioural equations are formed for TB and PI. Once estimated, CF then can be calculated as a residual.

In Varman [1989], pp. 76-80, the arguments for the behavioural equation for transaction balances was specified. A distinction was made between the portfolio and the transactions demand for foreign money. A case was made for leaving out the interest rate arguments in the equation explaining transaction balances: this was because the transactor usually does not bear the opportunity cost of holding foreign balances since that service in most cases is supplied by export credit agencies. The transactor is only the user of financial services, the risk is borne by the owner of foreign assets, i.e. the export credit agencies in this case. The

interest paid on trade credits is traditionally very low and does not vary much so that it can be treated as part of the overall regression intercept. The domestic interest rate can be omitted because domestic currency is not the currency in which foreign trade is carried out. We are left then with (x+m) as an indicator of the volume of foreign transactions.

$$TB = f(x+m), \quad f' > 0.$$

In this equation x denotes the value of exports and m the value of imports. We first estimate a simplified model in which we do not distinguish between portfolio investments, banking assets and capital flight. The objective is to explore the role of political instability in stimulating outflows of capital. Later another model will be developed which explores the role of economic variables in explaining outflows of capital.[12] For this simplified model PI and BA are dropped from the estimating equation.

The procedure thus amounts to estimating the normal component in KO as balances for transaction purposes and measures capital flight as a residual. Non-normal flows are initiated by certain events, the presence or absence of which we capture in the form of dummy variables. The econometric technique is a shifting regression analysis where the shift is attributed to capital flight.

4. Political Instability, External Debt, and Capital Flight

Policy decisions in developing countries are an outcome of the interaction of social, political and economic institutions. Capital flight takes place in response to changes in economic variables, but also in response to political and social variables as well. This point has been recognized in recent studies.[13]

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12) This simplified model actually does capture the impact of economic variables as well since, economic policy outcomes in Argentina are resolved through political conflicts. Overvaluation of the currency is a case in point.

13) See Ketkar and Ketkar [1989], Varman [1989], Varman-Schneider and Schneider [1990]. In another study Perasso [1988] the author concludes "Although our econometric analysis shows that economic variables did play a role in the Argentine case, we cannot think that the massive capital flight of 1980 and 1981 was completely unrelated to the political turmoil of that period and to the upcoming Falkland-Malvinas war. The analysis of the phenomenon of capital flight, therefore, cannot be carried out by employing strictly economic tools. Rather, it requires a joint effort on part of the economist, sociologist, and political scientist: for only by means of this joint effort will the phenomenon of capital flight be better understood." (p. 15)

In this study we model the importance of the political element in explaining capital flight. Later it is proposed to develop a model incorporating both economic and political variables. In particular it is proposed to examine the performance of the financial market in Argentina and its relationship to capital flight.

The international banking community is often blamed for overlending to developing countries in the 1970s. The supply shocks generated in the financial markets due to the two oil-price increases in 1973/74 and 1979/80 had adverse consequences for oil-importing developing countries. The external debt of many developing countries reached unsustainable levels and while these countries were borrowing abroad, private residents were building up foreign assets. It is generally believed that overlending to developing countries made resources available for financing capital flight. Recent studies support this hypothesis both on empirical and theoretical grounds.[14]

In this study we emphasize another adverse consequence of foreign borrowing. Foreign debt has important distributional consequences and thereby is often a source of domestic political conflict. Capital inflows, as debts are contracted, and capital outflows, as debts are repaid affect different economic agents differently. Some economic agents benefit during periods of heavy borrowing, while others are affected adversely during a contraction in new borrowing or a reversal in financial flows. Government intervention can affect the flow of benefits/loss to different economic agents. Frieden [1989] p. 24 writes:

"During financial expansions the government may channel foreign loans to favoured firms, while during times of crisis it may use taxpayers' money to bail out the indebted enterprises. External finance may be used to allow industrialists to purchase cheap capital goods from abroad, while a capital cut-off may be dealt with by repressing industrial wages to increase exports. In such instances, the relative distribution of costs and benefits in both boom and bust is amenable to government policy, and is thus the focal point of domestic conflict."

Social conflicts and the distributional impacts of foreign borrowing are important in analyzing the flight of capital not

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14) For theoretical models dealing with the role of external debt in financing capital flight see Khan and Ul Haque [1985], Eaton [1986], Eaton and Gersovitz [1986], Ize and Ortiz [1986], Diwan [1987], and Alesini and Tabellini [1987]. For empirical work in which excessive supply of external credit was an important explanatory factor in explaining capital flight see Conesa [1987], Williamson [1986] and Gemaelich [1989], and Varman [1989].

only from Argentina, but other countries in Latin America as well. It is crucial to understand how different groups are affected by foreign borrowing and how their interests are resolved by political conflicts. It is also necessary to understand the behaviour of different groups including the government in a crisis situation.

Given the structure of socio-economic and political interests, foreign borrowing affects the availability of capital, foreign currency and government finance in the borrowing country.[15]

Capital flows into developing countries do supplement domestic investment, but they also lower domestic interest rates. Savings become less attractive. The national financial sector benefits when the capital inflow is channelled through domestic financial intermediaries. In the short-run it is the borrower who benefits from the increased supply and the lower price of capital. The benefits to the saver depend on the long-term productivity and price outcomes.

An increase in the supply of foreign exchange cheapens foreign exchange relative to the domestic currency. In most cases this has the consequence of making the borrowing countries' currency stronger than it otherwise would have been and domestic prices rise relative to world prices. In the Latin American context, where there are many barriers to the imports of finished goods, this helps to protect domestic producers who use imported capital goods or inputs.

When foreign borrowing takes place to cover the public deficit, the impact is analogous to those of general government spending.

These effects are reversed when there is a cessation of new lending or an outflow of capital. When the access to foreign capital is cut off, domestic interest rates rise because of the decrease in the supply of capital. Foreign exchange reserves dry up and the currency depreciates, because it is no longer possible to support an overvalued exchange rate. The public deficit must be closed only through recourse to mobilizing domestic resources and foreign exchange has to be raised to meet payment on external debt. Either public revenue, exports, and savings should increase or government spending, imports, and investment should go down.

As commented earlier government policy can affect the distribution of the costs and benefit of capital inflows and outflows. Foreign

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15) This argument and line of reasoning is from Frieden, [1989], pp. 24-25.

exchange and capital can be channelled into benefiting the favoured sectors or firms. After depreciation of the currency the earlier beneficiaries can still be the gainers when private debt is converted into public debt.

In the phase where foreign funds were easily available, the rapid growth of the financial and commercial sector was evident in Argentina. The banking sector profited as an intermediator for foreign funds. The banking sector in turn supported the commercial sector with additional funds. There was a boom in consumer goods, financial and real estate markets. The uncompetitive industrial firms could not vie for foreign funds in the trade liberalized environment.

It is necessary to understand for our hypothesis of the causal influences on the flight of capital that during periods of boom in international lending to these countries, incentives existed to transfer capital abroad. The incentives lay in the belief that the boom was not going to last[16] imposing hardships on the economy. The problem of debt repayment and anticipations of depreciation of the currency loom large. Hence, periods of heavy inflows of foreign capital also create the incentives for the beneficiaries to transfer capital abroad. What might also be added here is that it is generally the importer who benefits from the foreign borrowing at the cost of the exporter. During periods of cessation of new international lending, the normal outcome is that the exporter should benefit. But by diverting foreign lending, when it was available to favoured sectors, the export industry could not expand its productive capacity. After the financial crisis, government policy intervention once again favoured the earlier beneficiaries. This is true not only for Argentina, but other Latin American countries as well. The argument has been summed up by Drake [1989]:

"As foreign loans dried up, the consequences of spending loans for personal consumption or short-term financial or commercial operations hit home. Many large and small industrial enterprises faced bankruptcy, particularly as devaluation made their dollar

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16) Argentina has a history of waves of international lending and subsequent defaults. Peters [1934] reviews the history of Argentine debt in the 19th century and documents the waves of lending and subsequent defaults. Metias [1982] contends that the 1970s constitutes the fifth wave of lending to the "backward regions." He identifies the periods 1817-25, 1860-76, 1900-1914, and the 1920s as the previous four waves. All ended in widespread defaults. Some of the same countries were involved in the lending booms in the latter three waves -- Argentina, Brazil, Egypt, Mexico, Spain, and Turkey.

debts harder to pay off. To help local elites and their international creditors, Latin American governments provided subsidized bail-out loans and/or took over private debts. Ironically, the devaluations made individuals who held assets abroad even wealthier in domestic terms. ... Thus, while wealthy business people's companies were bailed out by the state, their foreign assets remained untouched."[17]

5. Sectoral and Class Conflict and Policy Outcomes

A dilemma for the Argentine government, as also for most other Latin American countries, is the task of simultaneously satisfying the local population and international creditors. Recourse to international financial markets is important for the process of development, access to which involves stabilization programs that often arouse the strong opposition of major social forces. In order for any regime to continue to remain in office it should be able to satisfy its own support base and repress opposing social forces. The achievement of external objectives very often means implementing stabilization programs that conflict with the objectives of opposing social groups. Another source of conflict is due to the opposing interests of different economic groups in the society. The relations within the business community, the relations between the business community and the labour movement, and the relation of each social and economic group to the government in office gives rise to the dynamics of conflict in the society. The nature of this conflict determines the policies implemented. These policies in turn determine the nature of instability in the economy. Depending upon the respective bargaining strength of each group, instability could lead to capital flight and/or political unrest. A financial crisis would effect different groups differently depending upon the asset position of each group. It is assumed that anticipations of a financial crisis would lead to capital flight by holders of liquid assets and the crisis itself to protecting past wealth at home and abroad by these agents. The other half of the business community would respond to a crisis by political protest.

Political conflict as a consequence of foreign borrowing arose after the 1982 debt crisis. Prior to the crisis there were criticizms from some quarters of the "role of foreign borrowing in validating or reinforcing undesirable domestic resource transfers."[18] The opponents of the authoritarian regime in power were in dissent with the anti-labor bent of the military dictatorships and their supporters and policies of external

17) Drake [1989], pp. 77-78.
18) Frieden [1989], p. 27.

borrowing and freer markets. For them it meant strengthening of the status quo. Rising international interest rates in 1981 and 1982, and overvaluation of the domestic currency led investors (or economic actors in the group) to speculate against the national currency and transfer their portfolios to other countries. The debt crisis in 1982, and the difficulty of obtaining free access to renewed flow of external sources of finance, led to a rise in domestic interest rates, forced currency depreciations and a curb on imports. Public sector deficits and public borrowing pushed interest rates higher. The domestic financial sector was hit hard. The impact was also felt throughout the private and public sector. Debt financed consumption came to an end and thereby signalled an end to the prosperity of the middle class in the 1970s. This "drove economic actors into the political arena to fight for protection and support. The result was a bewildering array of domestic battles over economic policy in all Latin American nations."[19]

Our premise is that the political lobbying that took place in the 1976-83 period by the financial and commercial sector was an important factor in stimulating capital flight. In Argentina, Chile and Uruguay income distribution is correlated to the political orientation of the government. Two groups of agents identified by their productive role: the workers (wage earners) and capitalists (owners of physical capital and profit earners) have their own political representatives that alternate in office. Each party, when in office, attempted to redistribute income in favour of its constituency.

Income Distribution and Political Regimes

	Ratio of Compensation of Employees over GDP (averages)	Ratio of Operating Surplus over GDP (averages)	Index of min wage (non-agric) 1970 = 100
1967-72 right	0.44*	0.44*	92.2
1973-75 left	0.44	0.47	116.7
1976-83 right	0.31	0.57	51.2**

* Average 1970-72
** Average 1976-80

Source: Alberto Alesina and Guido Tabellini, Journal of International Economics 27 (1989), p. 201.

19) op cit., p. 29.

Some support for this hypothesis is found in the above table. It shows that income distribution is correlated to the political orientation of the government. Left-wing governments have generally increased the labor share of national income, and reduced the operating surplus; the opposite holds good for right-wing regimes. Also, minimum wages have been much higher during left-wing regimes.

Sectoral conflicts arising due to changes in political regimes are an important factor in explaining the massive flight of capital from Argentina. "...several governments did not attempt to prevent the capital flight, by imposing restrictions on capital outflows, by avoiding sharp appreciations of their exchange rates and by restricting their own public external borrowing. This behaviour is explained as the rational response of policy makers who maximize the welfare of their own constituency or social group as opposed to collective welfare, in politically and socially polarized economies." Alesina and Tabellini (1989), p.200.

A list of the presidents and economic ministers in the period under study will be useful for the exposition of events in Argentina.

Presidents and Economic Ministers, 1976-88

President	Period	Economic Minister	Period
Videla*	3/1976-3/1981	Martinez de Hoz	3/1976-3/1981
Viola*	3/1981-12/1981	Siguat	3/1976-12/1981
Galtieri*	12/1981-6/1982	Alemann	12/1981-6/1982
Bignone*	7/1982-12/1983	Dagnino Pastore	7/1982-8/1982
		Wehbe	8/1982-12/1983
Alfonsín	12/1983-	Grinspun	12/1983-2/1985
		Sourrouille	2/1985-6/1989

Note: An asterisk (*) denotes a military government.
Source: Dornbusch and Carlos de Pablo [1989], p. 64.

The period 1976-83, was a period of neo-liberal policies which meant that external finance went largely to financial and commercial sectors. These liquid asset holders also lobbied against exchange controls and for freer financial markets and for governments support for failing institutions. They were relatively protected against the financial turmoil following the crisis and

supported the orthodox macroeconomic stance of freer financial markets and other liberalization measures.[20]

The conditions that emerged are aptly summed up by Drake [1989]:

"In Argentina, extreme financial liberalization, an overvalued exchange rate, and the elimination of exchange controls encouraged capital flight. While the value of the Argentine currency was relatively high compared with the dollar, Argentines could buy dollars "cheaply" -- with relatively few pesos. The mechanism was for the government to use foreign loans to buy pesos, making them relatively scarce and expensive compared to relatively plentiful and inexpensive dollars. Without the foreign loans that made this government intervention in the currency market possible, the peso's value relative to the dollar would have fallen and the cost of capital flight much higher." (p. 77)

We also need to distinguish between activities and liquid asset and fixed asset holders. Liquid assets can be easily transferred from one application to the other or from one location to the other in response to government policy. Fixed assets such as industry and agriculture, are by their inherent nature immobile and often tied down to a particular activity. Liquid assets will be generally in a sector with a higher rate of return, while fixed assets are usually in sectors which have to struggle for viability and high returns. Liquid asset holders engage themselves primarily in asset diversification[21], while fixed asset holders involve themselves in the political arena. "Argentines chronic economic and political instability since World War II had made many investors wary of fixed assets, so flight onto overseas dollar accounts was widespread in Argentina."[22]

In the crisis situation economic actors responded either by taking their assets elsewhere or by struggling for economic existence in the political arena. Economic actors with immobile economic assets had to further decide whether to exert pressure on the ruling government and be in alliance with it or shift its allegiance to the opposition. The latter was a reasonable outcome when the expectations were of the opposition winning office. Liquid asset holders also, however, indulged in political action to ensure

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20) See van Wijnberger [1985] for arguments on trade reform and capital flight.
21) In Argentina the share of manufacturing in Gross Domestic Product declined between 1970 and 1980, while that of trade and finance rose. This sector had an important role to play in transferring assets abroad.
22) Frieden, [1989], p. 31.

continuing liquidity, availability, and profitability in financial markets.

In Argentina, therefore, a complex set of factors were at work. Foreign borrowing caused sectoral conflicts by benefitting financial markets and liquid asset holders. The phase of heavy foreign borrowing was in a period where the government was relatively rightist in its ideology. In the aftermath of the financial crisis, there was a shift in government business relations. Although in 1982-83 there were signs that the wage earners and manufacturing industrialist benefit and support the ruling class, events led again to a shift in policy and shifting allegiances. The result of all of this was that even governments with leftist leanings after a time were forced to give up protecting the interest of labor and follow policy of interest to the other group leading to an environment which stimulated capital flight.

A summary of events in Argentina in 1976-88 will make the existence of political and economic instability clear. It is also useful in understanding that although the entire period under study is unstable, the years 1983-84 were not capital flight years, because the nature of conflict was not conducive to capital flight. It benefitted wage-earners. The other economic actors were in the political arena to protect past capital flight. Moreover, as a consequence of the financial crisis problems with international creditors did not make easy funds available to finance capital flight.

1976-82: Argentina had used wage-price controls to stop inflation in 1975-76, and the experience ended in an outburst of repressed inflation. The military government overthrew the civilian government in 1976 and instituted far reaching reforms. The military government was rightist in its ideology. Martinez de Hoz attempted stabilization in 1976-78 with non-market approaches. But this attempt was not successful. In December 1978, a new plan was instituted to fight inflation by pre-fixed exchange rates (tabilita) using the influence of stabilized declining import price inflation to reduce inflationary expectations. Interest rates were freed and the barriers to entry in the financial market as also restrictions on international capital movements were swept away. Massive external debt was accumulated creating disincentives for real adjustment in the economy. There was a boom in the private financial sector and this grew increasingly concentrated, but neither was there increase in national savings nor in new net capital formation.

Argentina had eliminated most capital controls during 1977-78 which facilitated capital flight. The exchange rate had sometimes been maintained, even after reserves dried up, through the use of foreign exchange rationing and exchange controls. A black market exchange rate inevitably developed which was sharply depreciated relative to the official rate. The spread between the black market rate and the official rate had been to the tune of 30-50% in Argentina. The political situation also led to a situation in which the overvalued exchange rate was being defended. The fixed exchange rate policy of Martinez de Hoz, in place since 1978, was defended although the exchange rate was overvalued, as the best means of fighting inflation. Inflation is much more of a politically sensitive issue in Argentina than the exchange rate.

Although the Matinez de Hoz era sowed the seeds of financial turmoil, Martinez de Hoz purported to create stability via rules and consistency. But by pursuing a policy which gained on inflation, he shifted the costs of overvaluation and increased external debts to later administrations. Later the Dagnino pastore administration left behind more inflation, but reduced private and public debt burdens through a policy of negative real interest rates.

The exchange rate was not devalued until 1981. The Argentine tendency towards over-valuation on the official exchange rate at the end of the seventies and early eighties is illustrated in the table 2 below:

Table 2
Argentina: The Real Exchange Rate, 1978-82
(local currency vis-á-vis the U.S., 1978=100)

1978	100
1979	141
1980	179
1981	138
1982	59

Source: Dornbusch and Carlos de Pablo (1988) p. 12

"The inward-oriented trade structure in Latin America bolsters, in a political sense, the tendency towards an overvalued exchange rate. Since exporters are limited mainly to the primary commodity sectors, devaluations in Latin America are typically opposed by most of the influential economic actors. There is no countervailing pressure for timely devaluations from a large manufacturing export sector, as there is in Korea and,

increasingly in Indonesia and Turkey." (Dornbusch and Carlos de Pablo [1988] p. 13.)

In Argentina, as also in Bolivia and Mexico, the central banks borrowed heavily in the late 1970s and early 1980s to gain foreign reserves in order to support the exchange rate in the face of massive capital flight, which in turn was prompted by fears of an impending devaluation.[23] Capital flight was also a response to fears of economic and political instability. Foreign borrowing between 1976-82 was the heaviest. Two-thirds of the increase in external debt went to finance gross capital outflows (interpreted by many as capital flight). Since most of the borrowing was undertaken by the public sector or by the private sector with public guarantees, the public sector had to generate resources for debt servicing. In Latin America governments ran chronically large budget deficits in the years leading to the debt crisis, and often relied on foreign borrowing to finance current spending as well as capital expenditures. In the inward-oriented economy, foreign borrowing supported consumption, capital flight, and investment in non-tradables. These governmental policies were in the background of fiscal drain of state enterprises, limited tax capacity and weak export sectors.

1981-82: Foreign borrowing helped Argentine dictatorships' laissez-faire policy to last from 1976 to 1981. The period between March 1981 and the advent of democratic rule at the end of 1983 was one of political and economic confusion. The end of the boom in foreign borrowing pushed a significant number of large industrialists on the verge of bankruptcy. In 1981, industrialists owed between $4 and $8 billion in debt to Argentine banks and financial institutions that they could not pay due to high interest rates, the pesos' devaluation and severe import competition.[24] Although the wealth of the large industrialists was safe abroad they still indulged in political lobbying to influence government policy to help their enterprises and their interests. General Viola did begin to dismantle the orthodox policies of Martinez de Hoz but lacked a sense of direction and clear-cut policy. In 1981, the economic climate was very uncertain. Companies had unemployment, recession, financial problems, speculation and crippling high interest rates. There was social instability because Argentine Industrial Union demanded quick solutions to the industrialists problem. There was a growing demand for return to civil rule. General Galtieri, General Viola's

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23) See Feenstra [1985] for a theoretical model on anticipated devaluations, currency flight, and direct trade controls in a monetary economy.
24) Quarterly Economic Review of Argentina, First Quarter 1981.

successor, further contributed to instability by attacking the Falkland-Malvinas in April 1982 capped by Argentines defeat in the spring of 1982. The ensuing external debt crisis added to the turmoil in the country. Since private borrowers could not meet debt payments, private external debt was converted into public debt. The stimuli to keep capital out of the country could not have been stronger. The devaluations increased the real wealth of foreign asset holders who had bought their dollars at cheap rates paid in local currency and which were now worth much more in local currency. These agents also benefited from the bailing out operations of their companies. Not only were their assets at home protected but their assets abroad also remained safe.

1983-84: The years following the debt crisis witnessed a slow down in international lending. Foreign borrowing and depletion of international reserves had financed capital flight in the past. The political party in power was responsible for large real wage increases in 1983-84[25] which created problems for the budget and external balance. Negotiations with creditors and the IMF did not bring a solution. In the past, availability of external finance had financed capital flight. The change in policy was evident. The tilt now was towards the interests of the wage-earners. Negotiations with creditors and the IMF were not very fruitful. New funds were not available to finance capital flight.

1985: In 1985, Argentina reached once again near-hyper inflation conditions. Annualized monthly rates of inflation rose 1500 percent and more. The real value of tax collection was eroded and money was continuously created to finance an ever-widening deficit. The economy was disintegrating rapidly and the government took extreme measures. In April 1985, Argentina experienced a "heterodox shock" under Alfonsin. The Austral program was decreed in 1985 accompanied by price controls and conventional adjustments on the fiscal and monetary side. Kaufman and Stallings [1989] p. 210 write:

"The heterodoxy of the Austral plan reflected the strong resurgence of distributive politics within both the Radical and

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25) Economic policies also reflect the interests and ideological orientations of a government's support coalition. Since such coalitions are usually fragile and internally divided, this relationship is likely to be complex. A left-wing government, for example, may be impelled by circumstances to adapt to an austerity program even if this risks alienating its supporters. Conversely, right-wing coalitions of military nationalists and domestic business may well oppose IMF-type policies and populist appeals. Despite these reservations, however, support coalitions do influence choices of recovery strategies. Kaufman and Stalling [1989], pp. 203-204.

Peronist movements, substantive executive discretion, and strong political pressures to resist the orthodox, fiscal and monetary policies urged by the IMF and private creditors. At the same time, Alfonsín's room for manoeuvre was seriously limited by the financial disarray and trade problems inherited from the military government. By 1985, these constraints had led the administration to combine its heterodox approach to price controls with demand-management policies that were more acceptable to IMF creditors."

The Alfonsín administration was however unable to follow through these heterodox policies because of the inability to follow through with some fundamental trade and fiscal programmes.

1985-87: The government's intention to increase real wages was cancelled out because inflation increased faster than wages. It might also have been that the transitional governments may have decided to cut back after permitting increases that were themselves seen as contributing to inflation. Stabilization did not succeed because of the inability to control the budget and inflationary financing.
There were several economic plans based on a fixed exchange rate regime with periods of crawling peg and sudden high devaluations. Each new plan meant renegotiation of external debt. A complex system of subsidies to the industries (especially to state enterprises and privileged ones) and export taxes on the agricultural sector were imposed. This generated a continuous fight for the redistribution of income. Social conflicts worsened because of the intervention of trade unions in the distribution of income. The interests of wage earners, agriculturists and manufacturers suffered in favour of those with liquid assets. The latter, it is assumed, took their capital out of the country before the devaluations. The government was defeated in the 1987 elections. Its economic policy lost credibility. Capital flight, it is assumed, is the natural response to the existing climate in the country.
1987-1990

6. Capital Flight Estimates Using Dummy Variables

The estimation technique is based on the factors that motivate gross capital outflows. The equation is specified as:

$$KO = f(x+m,\ d_1,\ d_2), \qquad f_1 > 0\ ,\ f_2 > 0,\ f_3 > 0,$$

where KO is the calculated measure of gross capital outflows. (x+m) is the volume of external trade transactions, and d_1 and d_2 are the two vectors of dummy variables. We employ two vectors of dummy variables to separate out the effect of different events in

the Argentine economy. The two vectors of dummy variables are introduced to capture the influence of political uncertainty in those years where the dummy variable assumes the value one in motivating capital flight.
Gross capital outflows and the volume of external transactions are given in table 3.

Table 3
Argentina: Gross Capital Outflows and the Volume of External Transactions (in million U.S. dollars)

Year	Gross Capital Outflows (1)	Volume of International Transaction (2)
1976	2128	8749
1977	811	12381
1978	1994	13884
1979	2689	20402
1980	5614	27201
1981	9891	28300
1982	5302	21897
1983	2631	21980
1984	-1333	22315
1985	5392	21608
1986	3625	20543
1987	4133	21031
1988	-1206	24183

Source:
2) Gross capital outflows are calculated with the aid of the estimating equation for the broad measure of capital flight.
2) Exports plus imports, data from World Debt Tables (World Bank).

Event Structure

d_1: The period 1976-82 takes the value one in the first vector of dummy variables. In the last section we discussed how the military government in this period pursued liberal policies and also favoured groups in a way which created incentives for capital flight. Capital controls were also less restrictive during this period as compared to the period 1973-75.

d_2: the years 1985-87 take the value one in the second vector of dummy variables. It was a period of rampant inflation and sudden high devaluations. Subsidies to favoured private enterprises and

export taxes on the agricultural sector (the fixed asset group) again provided the impetus to keep capital out of the country. The period 1984 was also characterized by a lower level of capital restrictions.[26]

The remaining years in the period under study were by no means normal years in terms of political and economic instability. These years were years when the social conflict was resolved in favour of the labour class and fixed asset groups. The regime was forced to pursue sectoral policies to reinforce their social bases of support. The policy of higher real wages had however to be suspended on account of the near hyper inflation produced by the policies in this period. These years also witnessed rescheduling attempts with international creditors, the bail out operations protecting past capital flight and wealth, and the encouragement to exporters. Lack of foreign funds to finance capital flight and allocation of foreign capital was not in favour of liquid asset holders.

The results of the regression analysis are reported here.

Regression Output: 1

Constant	-1612.56
Std Err of Y Est	2838.925
R Squared	0.192049
No. of Observations	13
Degrees of Freedom	11
X Coefficient(s)	0.236826
Std Err of Coef.	0.146459

Regression Output: 2

Constant	-7852.18		
Std Err of Y Est	1805.741		
R Squared	0.732553		
No. of Observations	13		
Degrees of Freedom	9		
X Coefficient(s)	0.345345	5361.086	4962.316
Std Err of Coef.	0.097564	1301.536	1484.407
	(x+m)	(1976-82)	(1985-87)

Regression output: 1 reports the results of a regression which includes only the volume of transaction balances. The result shows that transactions demand alone could not explain the magnitude of gross capital outflows. In regression 2 we model capital flight as a shift in intercept by the use of two vectors of dummy variables.

26) See Alesina and Tabellini (1989), p. 212.

Transactions demand along with flight-motivated demand for assets abroad turn out to provide a much better explanation for gross capital outflows. On an average 5.3 billion dollars left the country between 1976-82 and another 4.9 billion in 1985, 1986, and 1987. In the period 1976-89 52.4 billion dollars left the country which roughly corresponds to the gross external debt in this period. This finding reaffirms the conclusion of the Morgan Guaranty Co. [1985] on how capital flight had exacerbated external debt in Argentina.[27] Like the Morgan Guaranty Trust CO. we also suggest that there would probably have been no external debt or a very small magnitude if there had been no capital flight in Argentina.

We introduce another vector of dummy variables in which the year 1981 takes the value 1, the other years the value zero. This was done even though the first vector of dummy variable included this year. We do this to relax the restriction of a single step function in the period 1976-82 which estimated some average amount of capital flight which took place every year over the period. This new vector of dummy variables is introduced to capture the economic, social, and political turmoil in the year 1981, which we assume, should have acted as an impetus to lead to higher levels of capital flight than the average amount captured by a single step function.

Regression Output: 3

Constant		-5164.37		
Std Err of Y Est		1502.640		
R Squared		0.835379		
No. of Observations		13		
Degrees of Freedom		8		
X Coefficient(s)	0.227593	4754.444	4289.597	4324.890
Std Err of Coef.	0.096779	1238.739	1184.395	1934.728
	(x+m)	1976-82	1955-87	1981

The plausibility of our hypothesis is supported by the above regression result. Introducing an additional vector does capture an additional amount of capital flight in the year 1981. There is also an improvement in the explanatory power of the equation. Introducing this additional hypothesis leads to a rough estimate of 50.5 billion dollars capital flight in the period 1976-88. As emphasized earlier this technique only leads to rough order of estimates. The new estimate therefore is broadly in line with that in regression 2. The advantage of this method is that it throws light on the factors that stimulate capital flight.

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27) See Morgan Guaranty Trust Estimates cited in Business Week, 21 April, 1986. p. 13.

It is difficult to compare the estimate of capital flight in this study with other estimates of capital flight because other studies were interpreting gross capital outflows as capital flight. Table 4 shows estimates of gross capital outflows from the present study and other studies.

Table 4
Estimates of gross capital outflows 1976-1984
(Millions of US Dollars)

Year	World Bank and Erbe	Present study
1976	132	2128
1977	940	811
1978	1852	1994
1979	3128	2689
1980	5036	5614
1981	5751	9891
1982	8455	5302
1983	2615	2631
1984	- 2617	- 1333

Estimates for the World Bank and Erbe method are from Cumby and Levich [1987], p. 53. The estimates are based on external debt data from the World Bank. External debt data used for the present study are from the OECD.[28] The change in data base with respect to external debt accounts for most of the differences.

Another study Gemaelich [1988] estimates capital flight through misinvoicing of trade documents. The estimates are shown in table 5.

28) Data on stock of external debt from the OECD was considered the most reliable series for this study since the OECD subscribes most adequately to the core definition established by the International Working Group on External Debt. See The World Bank et al. [1988], p.14 and pp. 89-90.

Table 5: Capital flight through misinvoicing of trade documents
(minus sign indicates capital imports)
in millions of US dollars

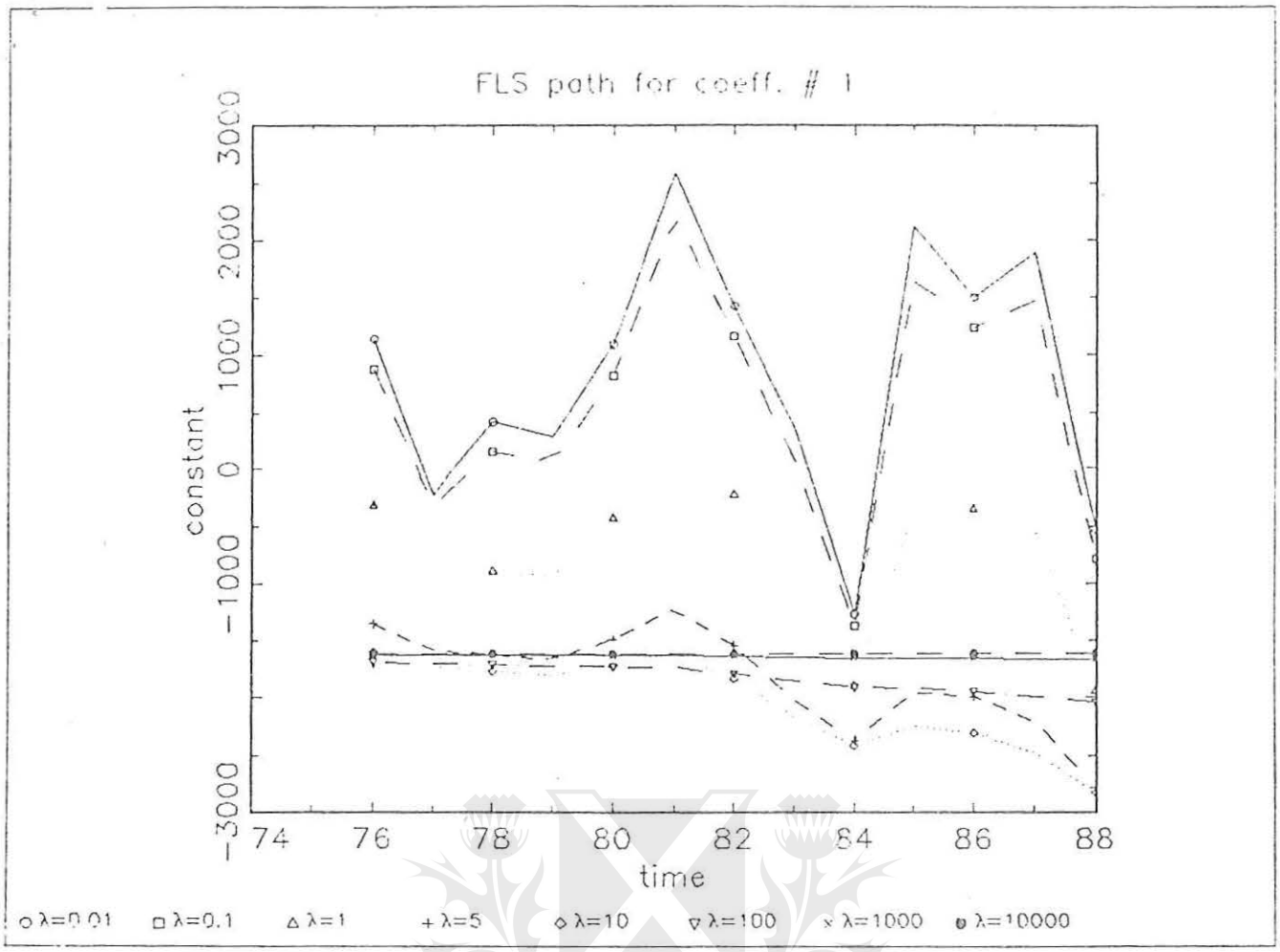
	Overinvoicing of imports	Underinvoicing of exports	Net illegal capital export
1971	- 573	-342	- 915
1972	- 133	27	- 106
1973	- 63	199	134
1974	- 330	233	- 97
1975	- 23	203	180
1976	- 120	143	23
1977	- 189	292	103
1978	- 712	357	- 355
1979	-1899	297	-1602
1980	-1429	154	-1275
1981	- 606	220	- 386
1982	- 388	332	- 56
1983	- 986	341	- 645
1984	- 674	403	- 271
1985	- 324	413	89

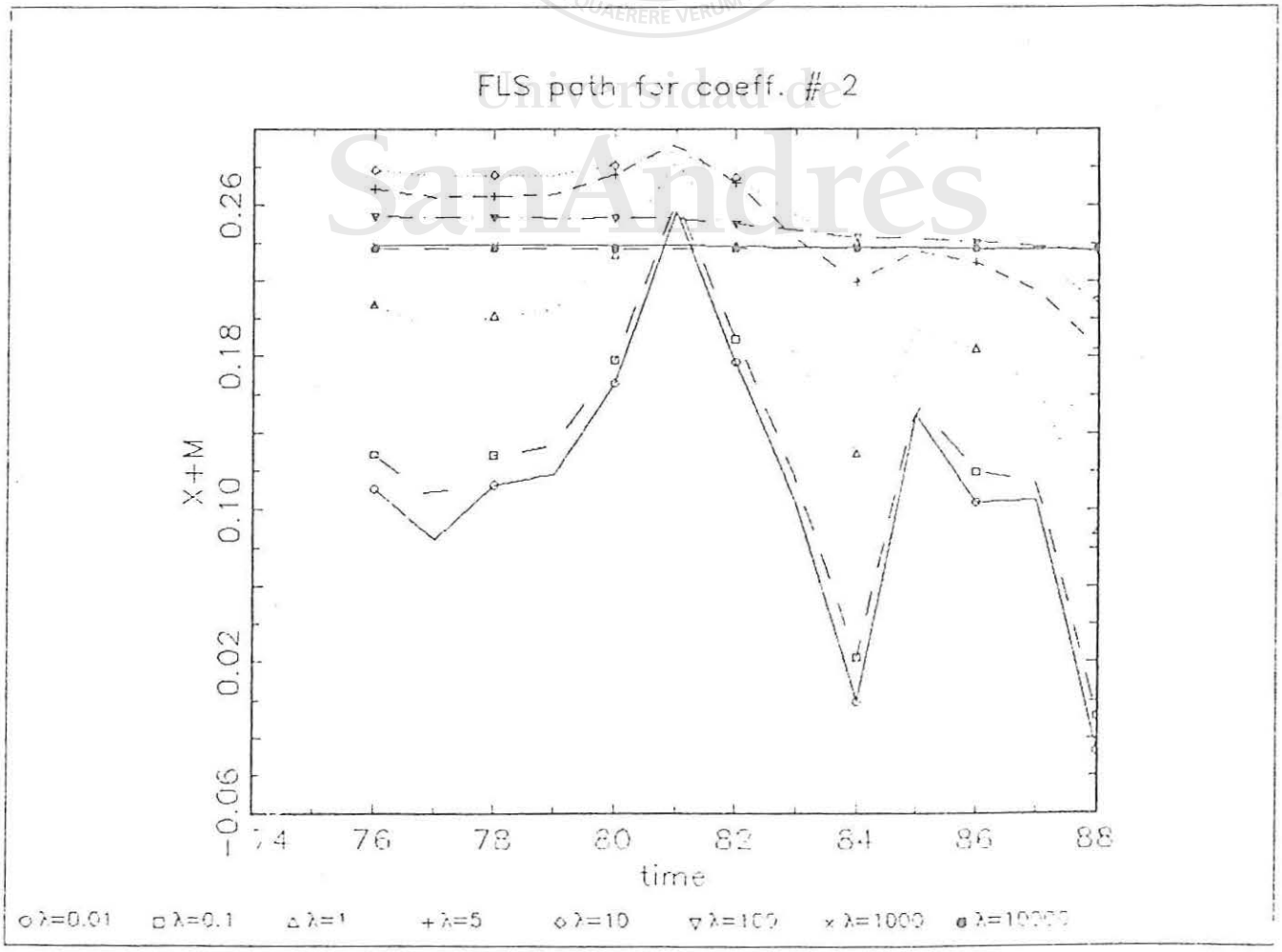
Source: The estimates are from Gemaelich [1988], p. 237.

It is to be seen whether additional capital is lost to the country through overinvoicing of imports and underinvoicing of exports. The above cited estimates show that capital was transferred abroad in Argentina by underinvoicing exports after 1971. Underinvoicing of imports was in evidence in all years leading to a net import of capital in most years.

7. A data analytical check of the event structure using Flexible Least Squares

In the preceding analysis we based our analysis on an event structure which we inferred from a particular interpretation of political and economic events in Argentina. It is desirable to check if there is another event structure which would produce a better fit of a time varying regression applied to the data $((y_t, x_t' = (KO_t, (x+m)_t) : t=1,2, \ldots, n)$, which would then cast doubt on the chosen particular event structure.





Recently a data analytical tool has been developed which permits us to perform a time varying regression analysis. The statistical method is known under the name of flexible least squares.[29]

In particular we will have confidence in our dummy variable approach if the time paths of the coefficients turn out to be step functions. And we will gain additional confidence in the special event structure chosen by us if this step function turns out to be piecewise constant over the time periods corresponding to the zeros and ones of our particular set of dummy variables.
This behaviour should persist for a wide range of weights lambda, in particular for those lambda, where there is a substantial trade off between measurement cost and dynamic cost.

Graphs 1 and 2 summarize this data analytical exercise for the data on KO and (x+m).[30] Our interpretation of these graphs is as follows: Graph 1 leads us to have confidence in the choice of the dummy variable in 1981 and also the dummy variables in the years 1985-87. The choice of dummy variables as a single step function in the period 1976-82 leads to some rethinking in our hypothesis for that period. But due to the limited number of observations we cannot introduce additional vectors of dummy variables in that period to separate out the events. Interpreting the FLS path of the coefficient of the constant would lead us to believe that capital flight went down between 1977-79.

8. Conclusion

With our choice of the event stucture summarizing the economic and political instability in Argentina, we explained its role in the flight of capital from Argentina. This event structure was used in a regression equation and we arrived at rough order of magnitudes of capital flight. The results lend credibility to the belief that in Argentina, external debt was primarily used to finance capital flight.

The results of the measuring procedure using dummy variables are only indicative of the occurence and magnitudes of capital flight.

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29) For details of the technique see Varman-Schneider and Schneider [1990]. The technique has been popularized in the econometrics literature under this name in two articles by Kalaba/Tesfatsion [1986,1988]. It is very closely related to Bayesian approaches using smoothness priors in time series analysis, see Gersch/Kitigawa [1988], Kohn/Ansley [1988]. For another application and some further discussion, see Schneider [1989].
30) The flexible least squares excercise has been carried out with the aid of a computer programme written by Wolfgang Schneider.

Using the technique of FLS in conjunction helped us to gain confidence in our choice of the event structure. However, when several events operate, FLS could not separate the net impact of these events.[31] In spite of some difficulties we can have confidence in our choice of the event structure that motivates capital flight. Identification of the causal factors is useful in obtaining clues to the remedial measures.

31) See the results for the Philippines in Varman-Schneider and Schneider [1990].

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Appendix A

Summary Portrayal of Economic Policy in Argentina 1976-88

1) The Martinez de Hoz period (1976-81)

Trade and capital market liberalization.
Attack on inflation.
Accumulation of external debt in the context of an incompatible set of policies.
Overvaluation of the currency.
Persistent deficits
Exchange rate policy: beginning in 1979, the rate of depreciation of the exchange rate was fixed with a tablita, that is, they announced ahead of time a series of gradual depreciations of the currency. This was to create confidence in the economy of the governments commitment to disinflation in the time table for reducing rates of exchange depreciation.

2) From Martinez de Hoz to Alfonsín (3/1981-12/1983)
Financial Crisis aggravated by sharply declining world commodity prices and high interest rates.
Reversal of overvaluation
Inflation explosion in 1981-84
Debt service problems
Budget deficits
Financial failures
Falkland/Malvinas conflict

3) Alfonsín (1/1984-1989)
Large wage increases in 1983-84 created problems for the budget and external balance. Negotiations with creditors and the IMF did not bring a solution.
Rampant inflation
Austral Plan (June 1985)
* A real depreciation and a sharp increase in real public sector prices; an export and import tax, a forced saving scheme and accelerated tax collection.
* A wage-price-exchange rate freeze.
* A new money, the Austral, and a promise not to create money to finance the budget.
* A conversion scale for existing contracts that would then adjust them to keep real burdens unchanged in the face of an unanticipated reduction in inflation.
* An IMF agreement and a rescheduling agreement with creditors.

Temporary stability. Stabilization did not succeed because of the inability to control the budget and inflationary financing.
There were several economic plans based on a fixed exchange rate regime with periods of crawling peg and sudden high devaluations. Each new plan meant renegotiation of external debt. A complex system of subsidies to the industries (especially to state enterprises and privileged ones) and export taxes on the agricultural sector were imposed. This generates a continuous fight for the redistribution of income. Social conflicts worsened because of the intervention of trade unions in the distribution of income.