Journal of Applied Economics, Vol. III, No. 1 (May 2000), 169-216

MACROECONOMIC POLICY LESSONS FROM LDC'S

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This paper focuses on several topics related to macroeconomic policies in LDC's. The selection is biased towards those cases I have dealt with during my last 20 years of professional experience, home based in Argentina. Inflation, dollarization, quasi-fiscal deficits, capital controls and stabilization policies are old friends of Latin-Americans. Currency Boards, Common Markets, Lender of Last Resort and Country Risk are newer concepts that have taken special relevance in the 90's, the decade of globalization.

JEL classification codes: E6, F3, F4
Key words: macroeconomics, structural change, Currency Board, country risk

I. Introduction

"Many of you are too young to remember, but it was not long ago that the policies pursued by many governments in Latin America, and the courses taught in most universities across the region, reflected more bad economics than good."
Arnold C.Harberger[1]

LDC's have provided the economic profession with a wide range of macroeconomic experiences. Many are experiences of failure, a few of success. It

* I want to thank the comments of Jorge Avila, German Coloma and Ricardo Schefer. This is the full version of the paper presented as Invited Lecture at the XII World Congress of the International Economic Association, August 23-27, 1999, Buenos Aires. Address comments to car@cema.edu.ar

[1] Arnold C.Harberger: "Letter to a Younger Generation", Journal of Applied Economics", November 1998.

is my belief that useful lessons can be obtained from all those experiences. Contrary to the widely held belief that it is not possible to transfer to LDC's theories and policies designed for Developed Countries, I hold the position that there is only one body of economic theory and that the best policies apply to all patients and are, for most cases, the simplest: market rules, free trade, and orthodox monetary and fiscal policy.

The numerous failed stabilization experiences of LDC's teach us what should not be done. They also tell us what to expect from markets subject to macroeconomic mismanagement. High country risk premiums and currency substitution (dollarization) are two of the most common responses. They also tell us about the fundamental role of credibility for the viability of a set of macroeconomic policies. Credibility is built on fundamentals and experience. Governments that have repeatedly fooled their populations in the past find they must pay much higher adjustment costs when they decide to follow the right policies.

LDC's by definition lack enough savings and need foreign capital to develop. They also need to follow the right policies. In previous decades, while institutional capital was flowing in, some could afford to use it to finance the wrong policies. Nowadays the big difference is that while LDC's continue to need investment, they are already in debt and private creditors are reluctant to continue financing without a much stricter scrutiny of the policies being followed.

Highly indebted countries following the wrong policies are punished twice: one by the wrong policies and another by investors taking away their money. The flight to quality experienced during the last crisis hit drastically the LDC's by raising to unprecedented levels the interest rates at which they should roll-over their debts. Nowadays, more than ever, it is imperative for LDC's to instrument the correct macroeconomic policies.

II. Economic Development and Country Risk

Less Developed Countries are not a homogeneous group. They differ as much between each other as from the developed countries. They differ in cultural level,

income level, degree of functioning of markets and of institutions. Some LDC's have culture and institutions similar to those of developed countries but they are poorer. Some LDC's were born poor and others impoverished themselves: the per-capita income of Argentina was 85% of that of the USA at the beginning of this century; today it is only 34%.

Since the 1970's, many LDC's have frequently tapered the world's financial markets. Perhaps due to an optimistic view of the development process, Less Developed Countries saw their name changed first to Developing Countries and later to Emerging Countries, a denomination more akin to the bullish spirit of financial markets.

There is not a unique listing of emerging countries. According to Bloomberg page on emerging markets, the set includes any country with a nascent stock and bond markets, as well as small economies. However, Bloomberg also mentions the World Bank definition of Emerging Country as one with a per-capita income smaller than US$8950!

In general, a common characteristic shared by the members of the Emerging Countries (EC) club, one which is useful to our macroeconomic analysis, is that they all possess an elevated degree of "macroeconomic weakness" that manifests itself into a high level of the denominated **"country risk"**. This is the additional return requested by an investor in order to put his money in the EC instead of placing it into a risk free country (like USA or Germany). We measure the country risk premium as the difference in return of a bond issued in hard currency by the EC and a similar bond issued in the same currency by the risk free country.

JPMorgan, one of the major traders in sovereign debt lists prices for sovereign bonds of 12 emerging countries (Table 1). The risk premiums differ grossly across countries depending on the creditors expectation of recovering their money. On that day Russia, Ecuador, Venezuela and Brazil were the least preferred EC's (for widely known reasons). In a couple of cases the risk premium exceeded 30% annual rate (in dollars) which was about five times the risk free dollar rate for the 10 years Treasury Note.

Table 1. Country Risk Premiums

Issuer	Average Spread over Treasury Bond (Basis Points)
Argentina (FRB)	722
Brazil (BRA C)	1081
Bulgaria (Discount)	1042
Ecuador (Discount)	3167
Morocco (Loan)	677
Mexico (Discount)	787
Panama (PDI)	409
Philippines (FLRB)	485
Peru (FLIRB)	555
Poland (Discount)	303
Russia (INT)	6026
Venezuela (DCB)	1473

*Spreads correspond to representative Brady Bonds on March 18,1999. Source: JPMorgan

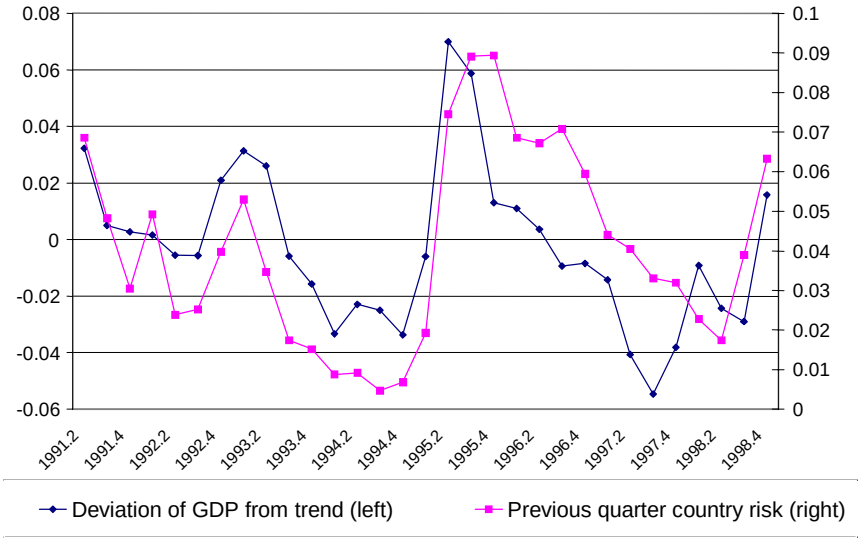
Ignoring the high variance of the individual risk premiums in the Table 1, we can illustrate the cost of high risk by assuming an average risk premium that is of 10% (1000 basis points) over the equivalent American Treasury bond. Assuming a representative average debt/GDP ratio of 50%, the average risk premium mentioned would imply that it is being transferred to creditors an amount equivalent to about 5% of GDP annually just in order to compensate them for investing in risky countries.

Economic activity is directly affected by country risk through its impact on investment flows and financial behavior. Some effects are of a short run nature -through the impact on aggregate demand- and others are long lasting, due to the modification in the capital accumulation path.

Figure 1 shows very neatly the negative effect of country risk on short run economic activity using Argentine quarterly data for the period 1991-99. The

output variable (recession) is the percentage deviation of GDP from the linear trend so that a positive value means GDP is below trend. The risk variable is the excess of the BONEX stripped yield over the Treasury of similar maturity. The data shows that it takes for a higher risk premium at least one quarter lag to start having significant effect on GDP. Figure 1 shows the relation with a one quarter lag.

Figure 1. Relation between Output and Country Risk. Argentina 1991-98



The obvious visual impact of a relation between risk and activity of Figure 1 is confirmed by the following OLS estimation:

Recession = -0.039 + 0.90 crisk(-1)
(-2.4) (4.2)
AR(1) = 0.76 (6.0)
Adj. R^2 = 0.72

The equation results indicate that a one percentage point increase in country risk is associated with a fall of almost one percent in the output gap. However,

trend GDP may depend on risk itself and therefore the permanent loss may be larger. We therefore run a regression between the logarithm of the level of GDP, a constant trend and a four quarter lag PDL on country risk (the regression also includes a correction for autocorrelation). The results are shown in Table 2 and confirm the hypothesis that the long run fall in GDP exceeds the short run impact effect.

Table 2. OLS with Linear PDL on Country Risk

Independent Variable: Log. of real GDP		
	Coefficient	T-Value
Constant	9.39	358
Time	0.0076	9.7
Crisk(0)	-0.47	-3.1
Crisk(-1)	-0.62	-6.8
Crisk(-2)	-0.611	-5.7
Crisk(-3)	-0.42	-4.7
Crisk(-4)	-0.07	-0.4
AR(1)	0.48	3.0

Sample: 1992.2 - 1998.4
Adj. $R^2 = 0.97$

The sum of the Crisk coefficients is –2.2 which means that a permanent increase of one percentage point in country risk generates a permanent fall in GDP of 2.2%. Jorge Avila, using a different approach estimates that the welfare cost of the total risk premium in Argentina was between 20% and 34% in the decade of the 90's.[2]

[2] Jorge Avila: "El Costo Económico de la Incertidumbre", Universidad del CEMA Working Paper No.143, March 1999. See also his paper "El Costo Economico de la Incertidumbre" CEMA University WP No.133, July 1998 where he finds an output elasticity of –3.8.

Clearly, being risky is an expensive business. We should therefore observe big efforts on the part of risky emerging countries to improve their appearance in the eyes of the investors. This implies improving on their institutions, and optimizing their macroeconomic policies. This last theme is related to the subject of our presentation: what lessons can be learned from the efforts made by LDC's in improving on their macroeconomic policies?

Perhaps in the 90's the economic profession has a much more uniform criteria about what constitutes an appropriate macroeconomic policy than in all the previous decades that followed WW2 (before then there wasn't even conscience about what constituted macroeconomic policy), and this criteria is shared by the most important leg in the equation: the investors.

In the globalized economy open to international capital flows, the principal jurors about the macroeconomic situation are investors. Investors in international markets lack ideology, sentiments or nationalism. International capital flows respond faster than any other economic variable. They can stop suddenly or reverse sign on the expectation of a policy change. The effect of these sudden changes on the real and financial structure of the economy may be drastic. Since LDC's need foreign capital, this behavior reinforces the case for reasonable and predictable macroeconomic policies.[3]

The globalized economy of the 90's differs fundamentally from that of the 60's and 70's when a good share of the funds going to LDC's were channeled by multinational institutions. These multilateral institutions, more than applying market efficiency criteria, often used other rules that contradicted conventional criteria for efficient resource allocation.

Nowadays it is much more difficult to obtain multilateral funds to finance pharaonic development projects not justified by efficiency rules based on market criteria. I must say, however, that it is still possible to obtain multinational money to finance crisis due to past mistakes, particularly if the country in question is a significant debtor in which case the funds help to roll over the debts postponing the unavoidable adjustment.

[3] On the economics of sudden tops see Calvo, G.: "Capital Flows and Capital Markets: The Simple Economics of Sudden Stops", Journal of Applied Economics, November 1998.

A common criticism these days is that multilateral funds (IMF, IBRD) are available on easier terms to those LDC's that do not do their macroeconomic duties. It seems also the case that IMF conditionality is harder on stronger countries than on weaker ones. This situation reminds me of a story during my student days at Chicago. The oral tradition had it that a brilliant student failed in a Prelim Exam while others less able did pass. When the failed student requested an explanation the "unofficial" response was: "you are more able than the rest therefore you should have done better". Apparently, the Marxist principle of "to each according to their needs and from each according to their abilities" is still in full use at both the IMF and The University of Chicago!

Aside from the unsolved problem about the proper role of multilateral institutions, it is clear that markets in the last decade have taught hard lessons to demagogues and ideologists. Gone are the widespread experiments with central planning that so much influenced the destinies of the communist world and a good part of the rest of LDC's after WW2. From a practical point of view, the collapse of the Soviet Union was much more due to economic than political reasons. It is quite clear to me that from an ideological perspective there are still many communists in the world but, luckily, they do not manage public resources anymore.

Perhaps less dramatic but equally effective has been the loss of presence of the policies of "entrepreneurial state" and "desarrollismo" that came about as a democratic alternative to central planning, probably influenced by the other big fiasco that was fascism and its economic arm of corporativism.

In the decades of the 60's and 70's, many LDC's lived a process of unsustainable growth based in good part on multilateral help, government borrowing and the inflation tax. The debt crisis of the early 80's marked the beginning of the decade of adjustment. In the 90's, with the globalization already in place, LDC's started the implementation of much more sensible macroeconomic policies from the viewpoint of their effectiveness and sustainability. I am talking about policies of fiscal prudence, monetary control and market oriented allocation of scarce resources.

III. Some Determinants of Country Risk: Macroeconomic Performance, Flight to Quality and Contagion Effect

We accept that lack of development comes hand by hand with high risk for investors which in turn implies a high cost for the needed capital. Breaking the vicious circle requires implementing policies and adopting institutions that allow for a decrease in the country risk premium as perceived by investors. We believe that such set of policies and institutions are those of a market economy with conservative monetary and fiscal management.

This belief seems to be shared by the largest of the international rating agencies assessing country risk for investors. A recent paper by Cantor and Packer[4] studies the determining factors for the sovereign credit ratings given by S&P and Moody's. Using econometric analysis they find that eight factors explain more than 90% of the cross sectional variation in the ratings. These variables are GDP per-capita, growth record, debt burden, inflation, default history, level of development, fiscal deficit and current account deficit.

Beyond the circularity involved in the fact that several of the variables are endogenous (development, GDP, growth, inflation) we rescue the fact that evaluators do pay attention to indebtedness, credit record and macroeconomic equilibrium as represented by inflation, current account and fiscal variables.

In spite of the importance attributed to conventional variables in the determination of country risk, past performance and performance by peers seem to be also overly important. Markets tend to hold to memories of past performances and, in the absence or inability to process new information, they tend to rate a country by the performance of what they consider to be similar countries. From this last perspective, being member of the club of emerging countries may imply receiving a high risk premium that may be quite irresponsive to policy improvements in the short run. This phenomenon has been called the **"contagion effect"** and

[4] Richard Cantor and Frank Packer: "Determinants and Impact of Sovereign Credit Ratings" FRBNY Economic Policy Review, October 1996.

implies that the risk premium of any single EC is partly determined by that of the average.

On the other hand, the risk premium for the "average" EC is set so as to equilibrate the market's risk perception for EC's as a whole versus the non-risky assets. As EC's become more risky, investors seek better assets and increase the demand for those perceived as "safe". This process has been called the **"flight to quality"** and was responsible, during the last crisis, for unprecedented increases in prices of US bonds and stock markets while the EC's real and financial markets crashed. Figure 2 shows the opposite impact of the Russian crisis on interest rates in EC's and USA, a result explained by the "flight to quality".

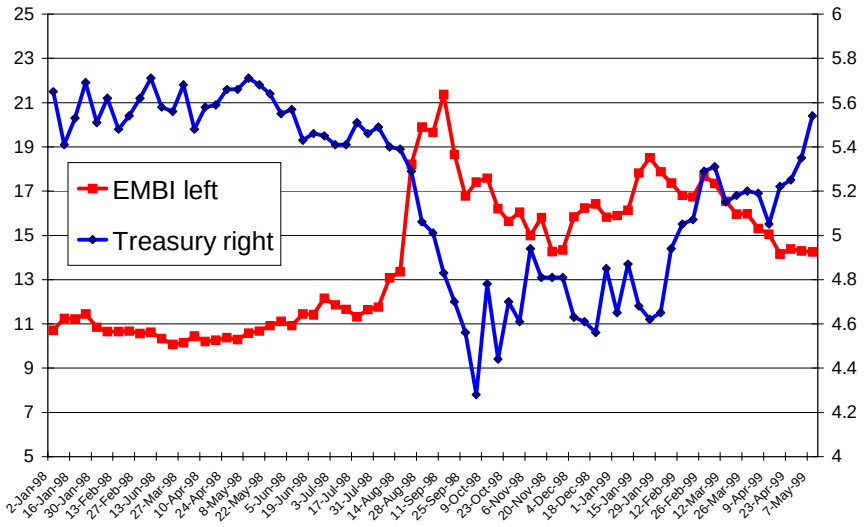
For a well managed but indebted EC, the contagion effect undeservedly raises the interest rate at which it has to borrow new funds. On the other hand, the service of the existing stock of debt is likely to be indexed to the risk free interest rate (like the US Treasury Bill) which is bound to fall due to the "flight to safety" effect. **We see therefore that upon a crisis, the "flight to safety" reduces the service cost of existing debt and the "contagion effect" raises the cost for increases in debt.**

The contagion effect may imply that in the middle of a crisis originated elsewhere the risk premium of an EC may raise and be irresponsive to any additional efforts at improving macroeconomic policies the country may do at the time. This does not mean the country should abandon the practice of good policies since the only chance of altering the perception of being a member of the EC club is to persist in the good policies.

In summary: good policies may have an accumulative effect. If they are followed for long enough time, investors may perceive the country as a different member of the EC club, as it happened to Chile that receives consistently better risk evaluation than the rest of the Latin American countries. In the case of Chile, the reason lies in that it is the pioneer of structural change in the region and also that it has always served regularly her foreign debt.

Chile, Uruguay and Colombia are the only large countries in the region that continued serving regularly their foreign debt during the crisis of the 1980's, and are also the only three that are ranked as investment grade by both Moody and

Figure 2. Flight to Quality (Stripped Yields)

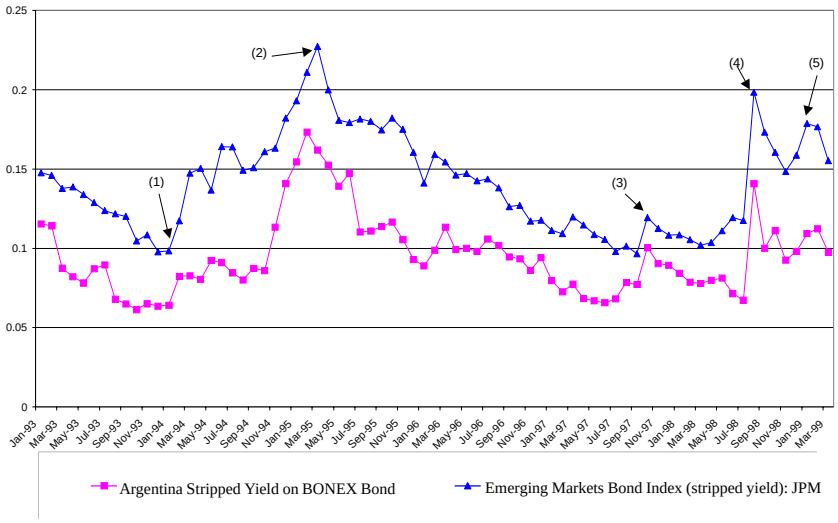


S&P. It is clear that regular servicing of foreign debt is one of the most important factors in determining country risk.

Figure 3 illustrates the significance of the contagion effect by comparing the stripped yield demanded by markets on a basket of sovereign bonds constructed by JPMorgan (the EMBI) and the stripped yield on the Argentine Bonex constructed by Office of External Financing of Argentina. It is quite evident that the two series respond to similar shocks most of the time, as predicted by the hypothesis of the contagion effect.

In some cases the common shocks are readily identifiable: (1) marks the turn around in FED interest rate policy (towards higher rates) that most affected the highly indebted group of LDC's and acted as the trigger for the Mexican crisis labeled as (2). After the peak of the rates at the beginning of 1995, comes a period of tranquility in world markets and rates fall sharply both for the EC's a group and for Argentina as well. Point (3) marks black October and the beginning of the Asian crisis, followed by the sharp peak due to the Russian crisis (4) and a so far smaller one due to the Brazilian crisis(5). It is clear that in all six years Argentina

Figure 3. Contagion Effect: Argentina vs. Emerging Countries Stripped Yields on Sovereigns



has not been able to differentiate herself from the overall group of EC's represented by the EMBI index.

The recurrent crisis enumerated above did also impact on the developed countries but in a very much reduced form. The Treasury Bill rate, for example, only experienced a fraction of the sharp oscillations shown by the EMBI or the Bonex indexes. Table 3 shows that the cross correlation coefficient between Bonex and EMBI was .83, while the correlation between the Treasury Bill rate and either EC index was less than half of that number.

Table 3. Cross Correlation Matrix for Selected Interest Rates

	Bonex (Argentina)	EMBI (Em.Countries)	Treasury Bill (USA)
Bonex	1	0.83	0.41
EMBI	0.83	1	0.33
T.Bill	0.41	0.33	1

Monthly data 1991.1-1999.3

IV. Policies for Differentiation: Are Fiscal Surpluses Contractive or Expansive?

In the short run, emerging countries are at the mercy of the mistakes made by other members of the group due to the contagion effect. Differentiation is the name of the game. However, there are fundamental reasons determining why a country is classified by investors as emerging and its position within the group. Even worse, it is very easy to quickly deteriorate one's positioning by following the wrong policies but very hard to improve fast by announcing the implementation of the right policies: **markets are fast to downgrade but very slow to upgrade.**

Differentiation is a slow process. Surviving the exogenous shock while doing better than those directly affected is one way to move in the right direction. Persisting in doing the right policies will eventually call the attention of investors and also will help in generating the needed credibility on the intentions to permanently follow those policies. A one semester fiscal surplus may do little to impress investors; a permanent surplus, however small, may call their attention and allow for some differentiation of a permanent nature.

Policymakers in EC face a dilemma when their economies are exposed to exogenous shocks that sharply raise the country risk premium. The raise in interest rates and reduction in capital inflows slows down economic activity and also reduces tax collection, contributing to a larger fiscal deficit. Standard textbook analysis indicates that the optimal policy response should be to allow for a larger fiscal deficit and to finance it through more debt.

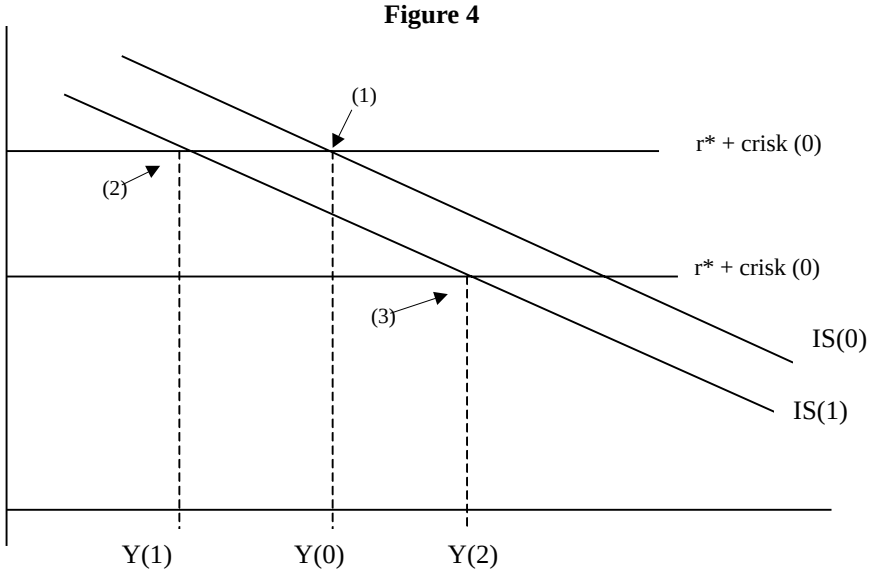
However, if investors determine country risk looking at fiscal performance and debt levels, it may pay not to allow the deficit to increase by raising taxes or lowering expenditures. Under these circumstances, fiscal surpluses may not be contractive as in the standard keynesian analysis, but expansive as they contribute to reduce country risk and promote capital inflows.

Figure 4 illustrates the policy dilemma created by the endogeneity of country risk. The equilibrium in the fixed exchange rate economy is determined at point (1) on the intersection of the IS curve with the supply of international capital at the fixed rate r*+ crisk(0), where r* is the risk free rate and crisk(0) is the initial level

of country risk. Aggregate demand is at the level Y(0). A larger fiscal surplus will shift the IS curve down to IS(1) and, if the supply of foreign funds remains unchanged the result is the lower level of demand at Y(1) as shown by point (2).

However, if the fiscal surplus has the effect of reducing the country risk premium to crisk (1), the reduction of the cost of funds will provide an expansive stimulus on the economy and aggregate demand may in fact raise, as shown by the level Y(2) in the Figure 4 where the equilibrium lies at point (3).

Figure 4



It may be argued that the expansive effects of a fiscal stimulus (deficit) are immediate whereas the effect of the deficit on the stock of debt and the risk premium will only take place later in time as the deficits accumulate. This may me true in a keynesian world with static expectations[5] but need not be the case with more rational expectations. The increase in the deficit may be interpreted by analysts as a

[5] This case was analyzed in Carlos A. Rodriguez: "Short and Long Run Effects of Monetary and Fiscal Policies under Flexible Exchange Rates and Perfect Capital Mobility", American Economic Review, March 1979.

signal that debt will raise, and therefore they will project greater difficulties for its service and in consequence they will raise country risk at once.

V. The End of an Old Belief: Is There a Country Specific Economic Policy?

A developing country has to learn about the experiences of other LDC's but much more from those of already developed countries that have been implementing sound economic policies for long.

Unfortunately, I believe LDC's have been an almost unlimited fountain of bad examples in the subject matter of macroeconomic policies. The fundamental reason for this result has been the belief that there is an economic policy (and theory) that is meant to apply to LDC's and another for developed countries. This erroneous appreciation has been used to justify a wide range of drastic policy errors and experimentation. These experiments have been very costly because they were applied on already poor countries that had little resources to spare.

The search for an autochthonous economic policy brought many poor countries to abandon the much needed policies of fiscal equilibrium, monetary control and to discourage the productive initiatives that would have been channeled thorough the markets by imposing various restrictive mechanisms such as price, wage, exchange rate and credit controls.

You are all familiar with Rostow's reference about four groups of countries: DC's, LDC's, Japan and Argentina. At that time the paradigm was to explain how did Japan do to grow so much and how had Argentina done to become underdeveloped after having been placed among the first ten top richest countries.

Now we know that neither Japan nor Argentina are unexplained paradigms. Rather, their performances can be quite well explained using conventional economics tools.

Table 4. Annual Growth Rates in GDP

	1960/69	1970/79	1980/89	1990/94	1995/99
Industrial Countries	5.1	3.4	2.7	1.7	2.4
Developing Countries	5.4	5.1	4.3	5.8	5.5
Japan	10.5	5.2	3.8	2.2	0.9
Argentina	4.7	2.7	-1.0	6.4	2.2

Source: IMF: IFS and World Economic Outlook 1998

Japan has seen her growth reduced every decade since the 1960's, has been virtually stagnant for some years and last year was at the doors of a crisis without precedent due to the lack of solvency of its financial system. Japan's financial system was based upon banks, with the complacence of public authorities making loans to related economic groups that did not recognize elementary prudential rules. Much of the unexplained competitivity of the country in foreign trade could have a lot to do with a negative counterpart in the balances of the financial system. A very similar situation appears to have taken place in explaining the competitive success of many of the "Asian tigers".

On the other side Argentina has implemented a significant structural adjustment during the 90's, following the collapse of the entrepreneurial state as a consequence of the hyperinflation of 1989-90. As soon as Argentine politicians stopped implementing policies based on the belief that Argentina was "different", the economy started improving and reversed a 30 years tendency of falling growth rate. The "miracle" was achieved through the application of a set of conventional orthodox policy measures that came to be known as the "Convertibility Plan".

The implementation of this set of "conservative" measures allowed for the complete elimination of inflation (it has been less than 2% accumulated in the last three years), and significant real growth in GDP and international trade.

The transformation of Argentina through the application of orthodox measures is not unique. Other countries in the region have replaced "stabilization plans" for

the more effective and long lasting structural adjustment.[6] Chile was the first to implement drastic economic adjustment that went beyond the standard stabilization attempts. The economy was opened unilaterally-and there was no crisis in the traded sector- markets were restored, and money financing was replaced by conservative fiscal behavior.

The process of stabilization and structural change was probably helped, and consolidated, by the resolution of the debt crisis through the Brady plan in the mid-90's. As a consequence of the solution for the debt hangover and the use of orthodox economic policies, the inflation rate of LDC's fell in the second half of the 90's to the lowest level in 40 years and to only one fourth of the level in the previous five year period, as shown in Table 5.

After the implementation of the Brady Plan, several other Latin-American countries got a breath to apply long lasting structural reforms, most significantly Peru, Bolivia and Brazil. The result has been a significant reduction in the inflation rate for the region, in the second half of the decade of the 90's. For the last five years Argentina experienced the luxury of having an inflation rate of one half of that of the group of industrialized countries!

Table 5. Inflation Rates in CPI

	1960/69	1970/79	1980/89	1990/94	1995/99
Industrial Countries	3.2	8.3	6.3	3.8	2.2
Developing Countries	14.2	14.8	36.0	48.0	12.5
Japan	5.6	9.1	2.5	2.0	0.6
Argentina	23.5	133.0	319.0	505.0	0.80

Source IMF: IFS and World Economic Outlook 1998.

[6] In 1987, well before the hyperinflation I made a case for replacing the "state managed rent seeking society" for a market economy. I argued that structural change should replace the stabilization policies being followed one after another. C. A. Rodriguez: "Estabilización vs. Cambio Estructural: La Experiencia Argentina" Academia Nacional de Ciencias Económicas, Octubre 1987.

VI. The Argentine Convertibility Plan

While many of the policies that were later to become the norm were already insinuated during 1989-90, a consistent and well defined economic strategy of stabilization and structural reform only takes place after the announcement of a new set of monetary measures on March 21, 1991 starting what came to be known as the Convertibility Plan. While this plan gets its name after the most popular instrument, the Convertibility Law, it represented a much wider set of measures aiming at the complete and permanent structural adjustment of the economy and state reform. The main pillars over which the Convertibility Plan was based are:

1. Monetary Reform, through the Convertibility Law[7] supplemented by the new Charter of The Central Bank[8] and the effective use of the Budget Law.[9] The three measures make the Central Bank operate like a Currency Board and close all doors for the Central Bank to grant credit to Government or private sector.

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[7] On April 1, 1991 Congress voted what came to be known as the Convertibility Law that established a 1:1 exchange rate between the local currency and the American dollar. The Law also established that the monetary base could not exceed the dollar value of international reserves. The Convertibility Law, in practice, made the Central Bank into a Currency Board through the mandating of a 100% reserve backing. By removing the power to devalue from the Economic Ministry and placing it into the Congress, the Law attempts to remove the instrument of devaluation from the set of easily available policy instruments and thus to provide more credibility to the new currency. The new currency, therefore, is to have a predictable value and full backing in terms of hard currency. To ensure that the full reserve baking was to be a reality and not a simple legal promise, other conditions were set on the behavior of the monetary authorities through the new Charter for the Central Bank.

[8] The new Charter of the Central Bank, approved by Congress on September 1992, establishes the independence of the Board of Directors, all of whom have to be ratified by Congress and provides fixed terms of tenure for the appointees, including the president. By reducing the dependence of the Bank's authorities from the Minister of Economics and the President, the Charter provides even more stability to the operation of the new monetary system.

[9] Since 1991 the Budget Law has always been presented and voted by Congress before the beginning of the fiscal year. Also, any increase in public debt or taxes has to be approved exclusively by Law.

2. Fiscal Reform, initially through a sharp improvement in the administration of the tax system (helped by the drastic fall in inflation) and later through a redefinition of the set of taxes and rates.
3. State Reform, through an ambitious and successful plan of privatization and deregulation.
4. Social Security Reform, changing most of the state run redistribution system into a private sector run capitalization mechanism.
5. Trade Reform, through the elimination of export taxes and most quantity restrictions on imports, and the reduction of the level and range of import tariffs. A Customs Union with neighbor countries was implemented under the Mercosur agreements that started full operations in January 1995.
6. Market Reform, through the elimination of all forms of controls on prices, wages, interest rates and, of course, foreign exchange.

The result of the Convertibility Plan has been a rare combination of stability and growth. CPI inflation fell from 1343% in 1990 to only 7.3% in 1993 and just 0.1% in 1998. Real GDP grew by 9% in 1991, 8.6% in 1992, 6% in 1993 and 8% in 1994. Since then GDP has followed fluctuations dictated by the frequent international crisis: Tequila, Asia, Russia, Brazil. During 1998, in spite of the disturbances in world financial markets, the country managed to grow by 4.2%.

Trade reform resulted in imports growing from barely 4.0 billion dollars in 1990 to around 20 billion in 1994 and 27 billion in 1998. The import boom was financed by the fluid capital inflows that quickly responded to the signals of structural adjustment. The abundance of foreign exchange due to the capital inflows led to a drastic real appreciation of the currency. Exports, albeit later and slower, did nevertheless increase, partly in response to fiscal incentives and also thanks to the productivity increase that was experienced across the economy.

VII. Dollarization is Irreversible: Uruguay, Peru, Argentina

One of the inheritances of the macroeconomic instability in the region during the preceding decades has been the preference of residents of many countries for

the use of dollars instead of the local currency. The dollarization phenomenon is at the core of many financial crises affecting LDC's. While in some cases Central Banks lose reserves to distrustful foreign creditors, in others it is the country's residents demanding the dollars in order to carry out the transactions that they previously carried in the local currency.

As more and more lines of activity start being transacted in dollars (including savings) the economy dollarizes. In a dollarized economy the Central Bank loses the role of lender of last resort for the simple reason that in a crisis the public wants dollars and not local currency and the Central Bank cannot print dollars (only the US FED does).

In 1992 I published a paper with Pablo Guidotti on dollarization in Latin America.[10] The thesis of the paper was that the dollarization phenomenon appears as a hedge against high inflation and that transitory increases in inflation may result in permanent changes in the degree of dollarization. Peru, Argentina and Uruguay are some examples of countries that started dollarization in response to the high inflation rates experienced in the 70's and 80's. In the 90's, all three countries have implemented significant adjustments and drastically reduced the inflation rates for several years. However, as predicted in our paper, dollarization did not show any sign of reversing.

In the case of Peru, annual inflation fell from 56% in 1992 to only 6% in 1998; the ratio of dollar to sol deposits increased from 2.64 in January 1992 to 3.78 in December 1998.

Uruguay also saw the dollarization ratio remaining practically unchanged between January 1992 and December 1998 in spite of the fact that inflation fell from 110% to only 10%. It is interesting to note that both Peru and Uruguay have managed exchange rates.

In Argentina the Central Bank operates as a Currency Board exchanging pesos for dollars at a 1:1 rate and holding 100% dollar reserves against all pesos issued. Inflation has fallen from 18% in 1992 to just 1% in 1998. In addition, the peso

[10] P. Guidotti and C. A. Rodriguez: ”Dollarization in Latin America”, IMF Staff Papers, September 1992.

Figure 5. Dollarization in Uruguay

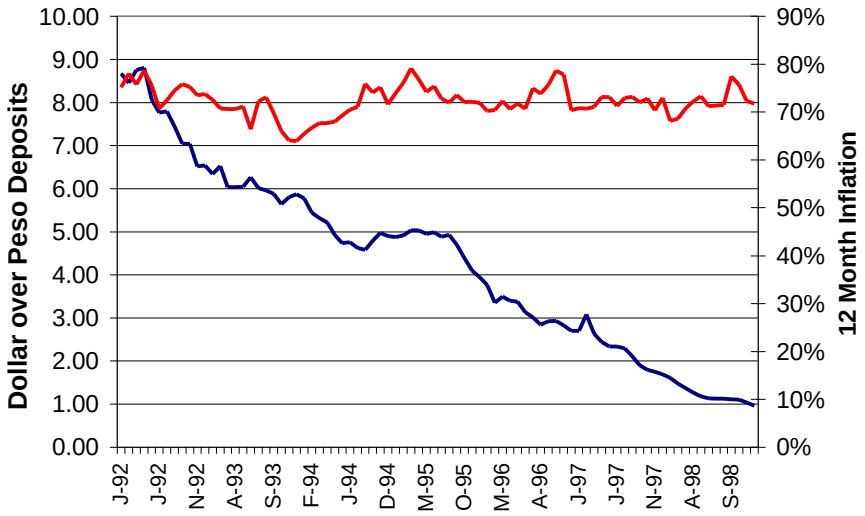


Figure 6. Dollarization in Argentina

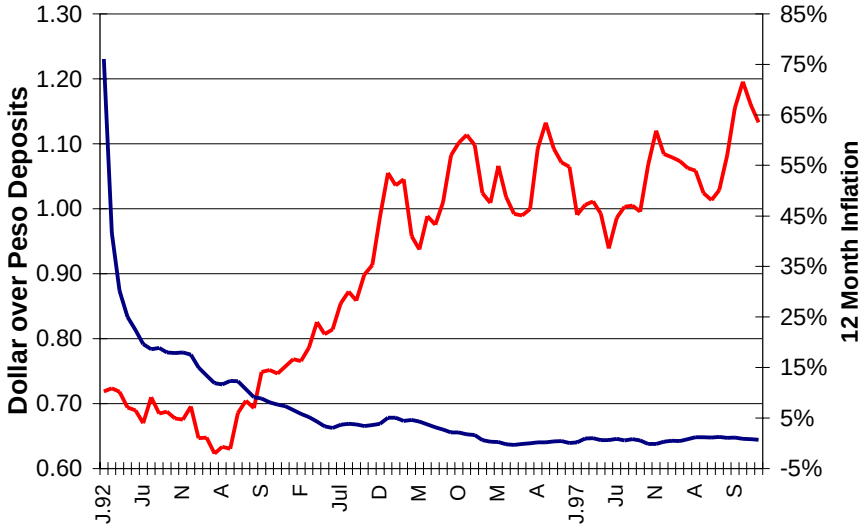
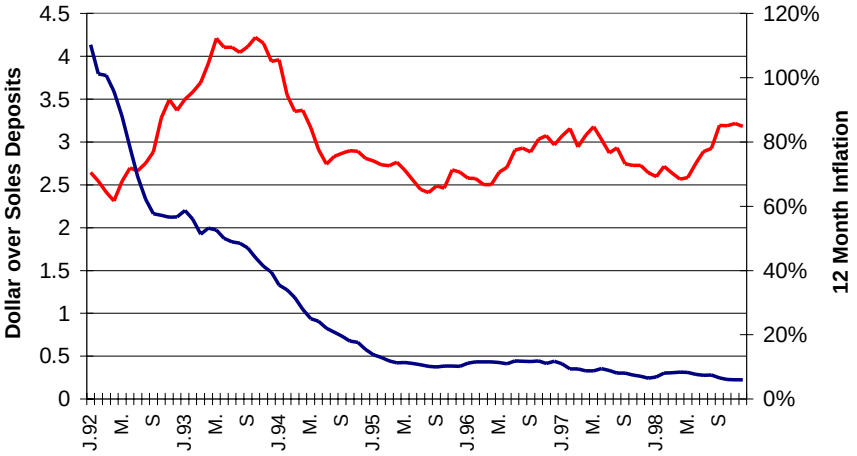


Figure 7. Dollarization in Peru



deposits pay a premium of about 2% annual over the dollar deposits. In spite of the interest rate premium and an inflation rate even lower than in the US, the ratio of dollar to peso deposits has increased from 0.72 in January 1992 to 1.13 in December 1998.

The recent financial crises in Asia, Russia and some Latin countries may result in new processes of dollarization starting up. Brazil, of course, is a likely candidate. So far dollarization has been prevented by the joint combination of debt indexation and high interest rates. However, those two instruments have resulted in unbearable levels of domestic government debt that are hard to keep servicing.

In other countries, already undergoing dollarization processes, the succession of one international crisis after the other over the last two years have clearly increased the prevailing degree of dollarization. In some countries, like Argentina, complete dollarization or a monetary alliance with USA is already widely discussed. In others, like Uruguay, there is less talk and more practice: dollar deposits are eight times peso deposits and it looks like the government will end up being the single important user of the local currency.

For those countries starting or deepening on dollarization the best message is: dollarization is practically irreversible so do not fight it. Rather accommodate institutions to let the public get what it wants without generating unnecessary disturbances in the payment mechanisms or the financial markets. Fighting dollarization may result in black markets, disappearance of credit and unbearable high interest rates in local currency.

VIII. Paying Interest on Money

In spite of all the problems brought about by inflation and the costs of the stabilization attempts, governments resist the market pressures on them to give up the source of the inflation tax, namely the national money. By whatever means they try to perpetuate the national money in order to create a demand for it so that it can be later taxed away through inflation and devaluation. Two of the most common tools used to prevent the appearance of a competitive money (dollarization) have been indexation and the paying of interest on local money. Indexed economies have been somehow more resistant to dollarization but much weaker on the inflation front.

In a high inflation-indexed economy it is common for banks to remunerate deposits at a rate roughly similar to the inflation rate. Otherwise the public will change their holdings to dollars that raise in price in proportion to inflation. In order to allow banks to pay a positive real rate on deposits the Central Bank is eventually led to reward the reserve requirements. But how can the Central Bank reward part of the monetary base if it has no profits? (remember the government must have a deficit to justify the existence of the inflation tax). The answer is just printing more money and thus giving way to what has been denominated the quasifiscal deficit.

The algebra of the quasifiscal deficit is simple. Denote by dM/dt to the rate of creation of money. Money is created to finance the deficit - Def - plus whatever is necessary to pay interest on reserve requirements. Assuming the interest rate -id - equals the inflation rate -Inf - and that reserve requirements are a fraction r of total money, we have:

$$DM/dt = Def + Inf \,.\, r \,.\, M \qquad (1)$$

In this case we have assumed that reserve requirements are a fraction of M and that they are remunerated. In some instances, instead of directly remunerating money, governments try to reduce the money supply by offering equally liquid short term bonds that do pay interest. I have heard often the argument that substituting 7 days Treasury Bills for deposits at banks should reduce inflation "because the money supply has been reduced". Of course this maneuver ends up with even more inflation, as the readers of Sargent and Wallace's "Some Unpleasant Monetarist Arithmetic" know well.[11]

One such (failed) experience of substituting bond financing for money financing was the denominated Austral Plan, a stabilization attempt tried in Argentina starting in mid-1985. The plan was based in the promise not to print any more money -made by the president-, and a price freeze. Since fiscal adjustment was not made, authorities resorted to issuing money substitutes at attractive rates. The interest on these issues had to be paid issuing more bonds. The situation turned explosive and the Plan was abandoned one year later when inflation returned to its unchanged long term trend given by the fiscal deficit.[12]

For all practical purposes, those short term government bonds are perfect substitutes for money and they should be included in the aggregate M used in our formulas. In this case, the reserve ratio –r – plays the role of the remunerated part of high power money (including short term T-bills and any other remunerated instrument used to sterilize expansions in the base).

Define velocity of circulation as the ratio of national income Y to money: V=Y/M . Replacing V, expression (1) becomes:

$$(1/M) \,.\, dM/dt = (Def/Y) \,.\, (V) + r \,.\, Inf \qquad (2)$$

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[11] Thomas Sargent and Neil Wallace: "Some Unpleasant Monetarist Arithmetic", Federal Reserve Bank of Minneapolis Quarterly Review, 5(3), 1981.

[12] The analysis that follows is derived from my comments on the Austral Plan published in Bruno, Di Tella, Dornbusch and Fischer, edits.: "Inflation and Stabilization", MIT Press, 1988.

In steady state equilibrium (assuming no real GDP growth), the rate of monetary expansion equals the rate of inflation

$$(1/M)dM/dt = Inf, \tag{3}$$

so that:

$$Inf = (Def/Y)V + r \,.\, Inf, \tag{4}$$

or

$$Inf = (Def/Y) \,.\, V/(1-r) \tag{5}$$

We see how explosive the system becomes when interest is paid on a fraction of the money stock: as the ratio of remunerated money approaches unity, inflation approaches infinity for any degree of deficit financing.

Why would a country enter into the silly situation of paying interest on reserve requirements or close money substitutes, and therefore giving up the source of the inflation tax and the seignorage? The answer is that this process comes from a succession of failed attempts at fighting dollarization. This dynamic process can be approximately described as follows: Initially the Central Bank raises reserve requirements in order to capture more inflation tax. It prints money to finance the fiscal deficit and sterilizes it by raising the reserve ratio. Banks increase the interest rate spread in response to higher reserve requirements. The lower deposit rates induce the public to shift to dollars. The higher lending rates generate the protests of debtors.

For all the above reasons the CB is induced to remunerate bank reserves in order to reduce the pressures on the spread. Soon we observe the Central Bank becoming the **borrower of first instance** of the commercial banks: banks capture deposits from the public and must place them as reserves at the Central Bank who must remunerate them at a rate high enough to induce the public to keep rolling

over the deposits as they mature. The market soon discovers the banking system is insolvent as all their assets are papers from a government that has fiscal deficits and no dollars.

The situation becomes a vicious circle: as the confidence in the solvency of the system falls, the public demands more interest in order to remain in local currency. In order to avoid a collapse of the banks, the CB is led to raise the interest rate it pays banks for their forced reserve requirements. Eventually the run takes place and hyperinflation cleans up the situation.

IX. Lender of Last Resort and Dollarization

In many LDC's the role of lender of last resort is often confused with the necessity to have some government institution that specializes in lending to those that nobody else wants to lend! In my country the National Development Bank, before being shut down specialized in lending billions of dollars to enterprises that went broke but whose owners remained rich. Of course, this has nothing to do with the concept of lender of last resort discussed in the context of monetary policy institutions.

To understand the role of the lender of last resort it is best to resort to an example. It is often mentioned that part of the blame for the depression of the 1930's was due to the fact that the Federal Reserve failed in performing its duty as lender of last resort. The reasoning goes as follows: with the collapse of the stock market the public becomes worried about the financial situation of banks and tries to get the deposits back. What happened was a fall in the demand for bank deposits and an equal increase in the demand for dollar bills. Since the FED could print dollar bills for free, it should have provided those bills until the public recovered confidence in the banking system. That is the role of the lender of last resort: to lend the currency to those who want to hold it, not to those who want to spend it!

Most LDC's have local currencies printed by their own Central Banks. Whenever it happens that the public loses confidence in banks and want local currency, the Central Bank can perform the role of lender of last resort and lend the bills to the banks so they can pay the public and avoid going broke. However,

whenever there is such a crisis in an LDC you can be almost 100% sure that what the public wants is to convert the deposits into hard currency, not local currency. What the public wants is dollars, not pesos. Therefore if the Central Bank feeds the banks with pesos what it will be doing is feeding a currency run.

When the public loses confidence in their national currency the local Central Bank cannot perform the role of lender of last resort for the simple reason the public wants to get rid of the local currency in exchange for hard currency.

The outcome of a weak local currency is typically indexation (with the loss of monetary policy) or dollarization. Argentina is an example of the last outcome: dollarization has been validated through a charter that makes the Central Bank behave like a Currency Board. However, the Central Bank of Argentina cannot print dollars and therefore cannot perform the role of lender of last resort. This real life impediment has been circumvented in the following ways:

1. By law all currency has a one to one counterpart in liquid dollar reserves.
2. Liquidity requirements are 20% of banks deposits and they are deposited in dollars in authorized foreign banks. Contrary to non-remunerated reserve requirements, the banks keep the interest earned on these liquidity requirements.
3. The Central Bank has arranged for Repurchase Agreements with foreign banks for an additional 12% of deposits.

Point 3 is the real innovation of the Argentine system that practically creates the lender of last resort using the capital market. If the Central Bank cannot print dollars it can assure a credit line in dollars to be used in case of crisis. So far the credit line (against the collateral of government bonds) has been arranged with commercial banks, but nothing precludes in the future that further REPO's deals be closed with international institutions, possibly the US Treasury or the Federal Reserve itself.

X. Currency Boards or Currency Areas?

The recent sequence of currency crisis has revived the discussion over alternative monetary arrangements, particularly in relation to the convenience of

staying with monetary arrangements that guarantee monetary independence. There have been several actions in recent years that imply a revival of the concept of "optimum currency areas" originally developed by Robert Mundell in the 1960's.[13] I mean the revival of "currency boards" and the implementation of the new European currency. There are also talks about creating a common currency in Mercosur.

Mundell's analysis dealt with finding circumstances under which it would be convenient for a country to give up monetary policy and join another country in a common currency. Mundell's analysis was carried on in non-inflationary Keynesian world in which the only role for the exchange rate was to change the relative costs of labor between the countries. Under those circumstances the analysis shows that labor mobility can substitute for relative price changes and therefore the countries can peg their exchange rates forming a "currency area".

The world of the 80's and 90's did not see nominal wage rigidity. Rather, it has been an inflationary world (until the last two years) and the main purpose for countries for pursuing monetary independence has to be looked in reasons other than the ability to devalue for changing competitivity. The main reason for monetary independence, at least among most LDC's, has been to be able to apply the inflation tax. However, in the globalized economy, capital does not want surprise taxes through devaluations and flows away from countries that may be seen prone to apply this tax. This creates currency crisis and generates incentives for providing for exchange rate stability in order to attract international capital.

Many countries have resorted to permanently fixed exchange rate arrangements of the Currency Board type in order to guarantee credibility to their monetary arrangements. On the other hand, the European community has significantly advanced in their integration policy by forming a multi-country currency board under the European Monetary System that basically instruments a single currency for the area.

In Argentina, we have adopted a currency board that pegs the peso to the US dollar. In practice, we have integrated ourselves unilaterally and freely to the Federal Reserve System. I say freely because even though we use the dollars we do not

[13] Robert Mundell: “A Theory of Optimum Currency Areas”, American Economic Review, Nov.1961.

share in other rights available to the members. These include representation in the Board and most importantly, we do not have access to the function of lender of last resort or share in the distribution of the seignorage.

The suggestion has been made that Argentina and the US form some sort of a monetary area under a pact for monetary cooperation that should incorporate some collaboration in the issues of representation, lender of last resort and seignorage. This possibility would imply a profound institutional change in the functioning of the FED that was not created to be a multicountry central bank. However, the European Central Bank is a multicountry organization, endowed with the institutional requirements for accepting new members.

I think the quality of the Argentine currency will be significantly improved if it were accepted formally to be part of either of the two dominant currency areas: the dollar (FED) or the Euro. The fall in the country risk premium would be drastic.

By logic and tradition Argentina should try to become a member of the federal Reserve System, with all the obligations and advantages that it will represent. We should even aspire to have some kind of representation in the Board. After all, nowadays we are a clear example of "taxation without representation" since we pay the seignorage for using dollars but have no say on the dollar monetary policy. The latest estimation accepted by the IMF shows that Argentines have non-interest earning dollar bills for $21 billion. In addition the Central Bank has dollar reserves for $25 billion (on which it gets some interest).

In a recent testimony presented before a Joint Subcommittee of the US Congress, Guillermo Calvo[14] indicated that a Seignorage-sharing Treaty between Argentina and the US, the US would gain 150 million a year and Argentina could set up a $10 billion stabilization fund. Clearly, under the envisioned cooperation arrangement both countries would gain.

The Argentine government has recently expressed its desire of getting to some treaty of monetary cooperation with the United States, allowing the process of

[14] Gulillermo Calvo: "Testimony on Full Dollarization", presented before the Joint Hearing of the Subcommittees on Economic Policy and International Trade and Finance, Washington, D.C. April 22, 1999.

dollarization of the economy to go beyond the actual currency board.[15] While some US authorities have reacted coldly to the proposal, the discussion continues at both the official and academic levels. It has also been mentioned that other countries may be interested in joining the Monetary Agreement (possibly Mexico and Canada).

The US has shown interest at hemispheric commercial integration. If we follow the European experience of first the Common Market and then the Euro, the proposal of a common currency for the Americas does not sound any more far fetched than the proposal for the Free Trade Area for the Americas.

XI. Devaluations: Can They Help?

Few policy measures are more powerful in affecting our daily lives and has been the subject of passionate discussion between academics, policymakers and groups of interest than devaluation. Latin-Americans have done a good deal of contribution to the history of this so often used and abused instrument. It is not clear, however, that all participants in the discussion have arrived to a clear agreement about what is what a devaluation can do. Perhaps, the best way to describe the present state of confusion about the topic is to describe three recent devaluation experiences in our region that systematically ended up creating a crisis of far bigger magnitude than the situation they were meant to correct.

First it was Argentina on February 1981: faced by the unanimous conclusion of the "experts" that the peso was overvalued between 10% and 20%, the outgoing

[15] While there has been no formal diplomatic communication, several public officials have expressed this position and informal contacts have taken place between economic authorities of both countries. Regarding the official argentine position see the working paper by Jorge Castro, Secretary of Strategic Planning " Foundations of the Dollarization Strategy and of a Treatise of Monetary Association", April 15, 1999. A more theoretical approach to same issue is presented by Catena and Laspina in "Seignorage and Rediscount Window: Framework and Issues for Discussion", Working Paper, Central Bank of Argentina, February 1999. This section draws on my views on the issue published in Ambito Financiero on September 3, 1998 in note titled: "Polemic: Argentina should be ruled by the Federal Reserve."

Economy Minister (at the suggestion of the incoming minister) abandoned the prefixed exchange rate rule that was in place since December 1978. The devaluation was 10%. The change in the rules of the game fired backwards: immediately afterwards started an unstoppable loss of reserves. Contrary to commonly held beliefs, the devaluation generated a run against the currency: the year ended with four devaluations more, each equal or larger than 30% (all implemented by the new Economy Minister, who lost his job at year end). GDP fell by 5.4% in that year while inflation was 131%. The year 1981 had the privilege of starting the sequence of three digits annual inflation that ended after the implementation of the Convertibility Plan in 1991.[16] Some refer to those years as "the lost decade".

Then it was Mexico on a fatidic December 20 of 1994 when, also counseled by "experts" talking about a 20% overvaluation, the Central Bank devalued by 13%. The next day 13 billion dollars of reserves were lost giving way to the Tequila crisis. After three months, the accumulated devaluation reached 114% and GDP that year fell by 6.2%.

Finally, it was the turn for Brazil. This time the "experts" also diagnosed serious competitiveness problems due to overvaluation. On 13 January 1999 the Central Bank devalues by 9% from 1.21 to 1.32. Financial panic developed and the resulting reserve losses forced authorities to float the Real. Two weeks later the rate reached 2 reales per dollar and interest rates skyrocketed, aggravating the problem of the public debt service. In only one month Brazil had three Presidents for the Central Bank. GDP is expected to fall between 3% in 1999. Official predictions of an unprecedented Trade Surplus of $11 billion for 1999 were soon revised downwards after the first quarter results showed a still negative result of half a billion dollars and a fall in the nominal value of exports.[17]

[16] The exemption was 1986 with 82%; this was due however, to the price freeze decreed under the Austral Plan.

[17] As of mid-May, the financial situation has improved significantly. Following the initial crisis a revised agreement was reached with the IMF and Congress passed all the required laws in the fiscal package. The interest rate has fallen from the maximum of 40% to 24%. Perhaps the best news is that in the first quarter of 1999 the primary surplus almost doubled the level required by the IMF conditionality.

The three crises described above have one element in common: all three countries experienced large fiscal deficits that were financed by issuing short term debt at interest rates that raised by the day. The high interest rates attracted short term capital that helped finance the fiscal deficit and the counterpart of the current account deficit. The "experts" saw the current account deficit as the problem and recommended devaluation in order to improve the real exchange rate and competitiveness.

The devaluationist diagnostic was square wrong: in all three cases the source of the problem was fiscal disequilibrium that had taken the governments close to bankruptcy. The correct solution was fiscal adjustment and debt restructuring to a level and maturity compatible with the best possible fiscal effort. Devaluations were totally unnecessary and they only triggered currency runs. In the Mexican case the resulting crisis helped in creating the political environment for a deep fiscal adjustment. However, in the case of Argentina in 1981, the devaluations only opened the way for a decade of three digit annual inflation. It is still too early to assess what the effect of the currency crisis will be on Brazil much needed fiscal adjustment.

The wrong appreciation of those favoring devaluation lies, as usual in most interesting problems in economics, in the confusion between nominal and real variables. **Nominal devaluations need not improve competitiveness, especially if they are the result of financial crisis and market panic.**

The distinction between nominal and real variables is fundamental to economic policy analysis. From pure theory we may say that devaluations per-se do not change relative prices, unless they do something else. **There are two things devaluations most often do: they increase the price level and they scare investors.** By raising prices, devaluation melts down the real value of cash balances and induces people to save in order to restore them to their desired level. The forced savings effect of the price level increase is bound to reduce aggregate demand and this may[18] temporarily improve the relative price of traded goods in terms of non-traded .

[18] This is the basic adjustment force behind the monetary approach to balance of payments and exchange rates. See Dornbusch, R.: "Currency Depreciation, Hoarding and Relative Prices", AER 1973.

The effect of devaluations on investors mood is less clear. If the devaluation is expected to be the last one for some time, investors are most likely to sell foreign exchange to get local money and take advantage of the usually much higher local interest rates. The game here is to stay in "pesos" earning the high local rates as long as possible before the new devaluation comes and melts down the "peso" earnings. However, the amount of hard currency that the Central Bank obtained is at most growing at the dollar interest rate so that the peso liabilities grow faster than the dollar assets.

Speculators know they are playing musical chairs and this is why in this game everybody is trying to outguess the rest. To survive is fundamental to have privileged information about the authorities intentions. This is a very unstable equilibrium and is likely to be permanently disturbed by any new piece of information, however irrelevant it may be. In many instances the authorities try to correct the growing exposure differential by a small devaluation and this is the signal that produces the stampede.

More often than not, devaluations are the last resort of a government financially strangled that chooses to debase the currency in order to melt down the real value of their internal debt. In other cases the fiscal imbalance is financed by printing money and devaluation is the necessary validation of the inflation tax. In these cases were devaluation operates as a tax instrument it is only natural that investors be scared away from the country generating a capital outflow.

When a country experiences a capital outflow, foreign exchange becomes scarce and expensive: the real exchange rate is high when capital flows out. The real depreciation is not the result of the nominal devaluation but of the panic of local asset holders. If confidence is restored investors will come back and real appreciation will take place, as many successful stabilization plans can attest.

The Argentine experience is ideal to illustrate the real effects of nominal devaluations. Table 6 shows the values in three selected years of four nominal variables: price level, wages, exchange rate (corrected by the US CPI) and money supply. The lower part of the Table shows the three corresponding real variables: real wages, real exchange rate and real cash balances. We can see that in the 25

year period the nominal prices increased by 3 trillions percent and money by 10 trillion! However, the real wage only increased 4% in the period and the real exchange rate only fell 2%. The real cash balances raised by 218% over the 25 years. The distinction between the universe of the nominal and the real variables is too clear to need any additional explanation.

Table 6 : Devaluation: Nominal and Real Effects

	Nominal Wage	Nominal Exchange Rate*	Money Supply	Wholesale Prices
1972	1	1	1	1
1980	852	452	1305	841
1998	34.831.460.674	33.087.800.382	107.047439.490	33.635.336.699
	Real Wage	Real Exchange Rate	Real Cash Balances	
1972	1	1	1	
1980	1.01	0.54	1.55	
1998	1.04	0.98	3.18	

* Nominal rate multiplied by the US WPI.

However, we should note that in 1980 the real exchange rate was about half of what it was in 1972 or 1998. The answer is that in 1980 the country was experiencing a much higher rate of capital inflow (that ended up in the debt crisis of 1982) than in the other two periods.[19] We also observe real cash balances to increase by 55% in 1980 and to more than triple in 1998. These variations can be explained by changes in the conventional variables determining money demand: inflationary expectations and GDP. On account of lower expected inflation and higher GDP,

[19] In Table 6 we use the official commercial exchange rate (from IFS). In 1972 there were exchange controls in place and the "free" market rate was about double the commercial rate as a result of capital outflows. Therefore, the real exchange rate using the "free" rate would have been closer to 2 instead of 1.

real cash balances tripled between 1972 and 1998 in spite of the fact that the nominal exchange rate had a trillionare jump.

XII. Two Lessons from Mercosur: Brazil Dependency and Stability of Commercial Policy

Negotiations about a regional common market started in the late 80's and were completed in January 1995 when the common external tariff and the free trade area were fully implemented among the four partners: Argentina, Brazil, Paraguay and Uruguay.

The four partners had a history of highly unstable commercial policy. Import substitution had been the rule during the past decades and the protectionist lobbies were politically very strong. Under those circumstances it was virtually impossible, at least for Argentina, to gather political strength in order to implement a unilateral trade opening (like Chile did in the 70's). However, the old dream of regional integration was politically attractive for the population as a whole and the access to the larger Brazilian market was attractive enough to lure the protectionist industrial lobby into agreeing to a common tariff.

The common external tariff of the four partners in very high (about 14 on average) and it clearly validates many production inefficiencies in the region. However, in the case of Argentina the common external tariff has had the advantage of completely discouraging the persistent efforts of the lobbies for using discretional tariffs and QR's in their favor.

Before Mercosur, government officials had been traditionally bombarded by lobbies trying to get higher import tariffs for their product and lower tariffs for their inputs. Congress had delegated on the executive branch the power to set tariffs, and these could be changed by a simple resolution of the Secretary of Commerce and Foreign Trade that depends from the Economy Ministry. There were times when this Secretary alone had the power to control all nominal prices, wages, as well as import duties and export taxes, and QR's. The result of the concentration of power and lack of transparency had been a very inefficient and mostly unstable commercial policy.

Mercosur changed completely this setup and freed the time of economic officials for more productive uses. Under Argentine law, international treatises are part of the Constitution and they have to be approved by a special -two thirds- majority in Congress. Mercosur is such an international treaty. The common external tariff of Mercosur is part of the international treaty and therefore it has Constitutional range. The Minister of Economy therefore lost all discretional power for modifying tariffs, except in a few instances that were specially allowed for in the treaty. The Ministry now has to concentrate the commercial policy efforts on implementing the anti-dumping procedures that are also highly regulated by GATT (WTO) and allow for very little discretionary margin.

Only those who have been in government (I spent two years at the Ministry) can fully appreciate how handy is the Constitutional range of the Common Tariff to close up the meeting with an investor who wants temporary tariff protection for producing an expensive gadget. Instead of spending hours explaining the uninterested investor all the battery of theoretical arguments against protection, one can now say that the request cannot even be discussed at the level of the Ministry because the Constitution forbids it!

Argentina has also recently signed as a full member of GATT and therefore the Ministry has luckily lost the power to apply discretional QR's unless it follows the strict GATT rules on the matter. In summary, we have relatively high tariffs but they are stable and we do not use discretional QR's any longer. I consider this to be an unexpected benefit from Mercosur and having joined GATT.

Common Markets usually induce some degree of Trade Diversion. As a consequence of Mercosur, Argentina concentrated a large fraction of her exports on Brazil, about 30%. Many international direct investment projects coming into Argentina depend also on expectations of exporting to Brazil. The concentration of exports and investments on the Brazilian market makes Argentina highly dependent on macroeconomic conditions in Brazil. This phenomenon has been called "Brazil dependency".

When aggregate demand falls in (larger) Brazil, smaller Argentina finds very hard to find another market for many of the expensive products it was selling to

Brazil thanks to the tariff concessions. In addition we suffer a special "contagion" effect that paralyzes direct foreign investment projects that were aimed at selling in the Brazilian market. **Recession in Brazil is immediately transferred to Argentina though the fall in export and investment flows.**

The "dependency" effect does not call for severing trade and investment relations between both countries but rather cries for the implementation of macroeconomic coordination among the country members, as required by the Mercosur Protocols. The difficulties of individual members for diversifying exports outside of the block is the result of the high common tariff and requires further efforts at improving competitiveness through significant reductions in this tariff. Macroeconomic coordination and tariff reduction are the next two unavoidable duties for Mercosur.

XIII. Capital Flows and Exchange Controls: The Argentine Experience

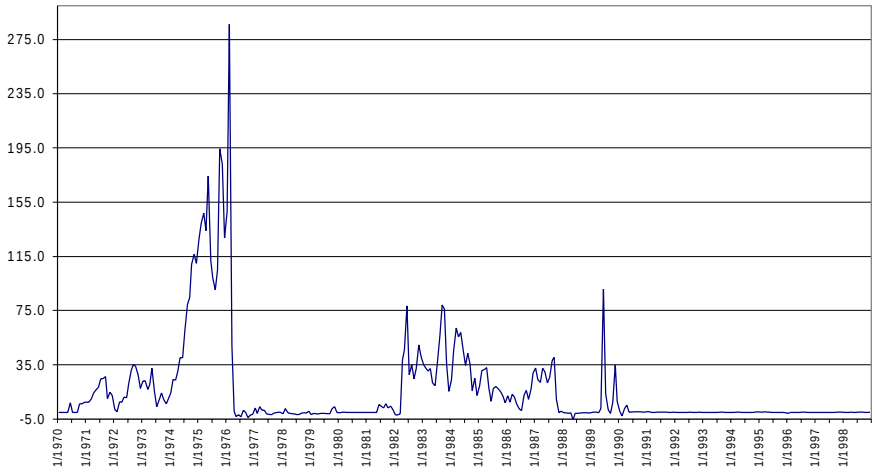
The Asian, Russian and Brazilian crisis have generated widespread discussion about the convenience of somehow regulating the international flows of capital. As a contribution to the discussion I describe next the Argentine experience with capital controls.

Standard capital flows are derived from the difference between national savings and investment rates. Argentina traditionally has had a low savings rate and a high investment rate, and therefore a tendency towards capital inflows. However, other factors have conspired against this "normal" outcome. These factors have to do with portfolio relocations in the financial markets and with illegal transactions in international trade.

Capital outflows are often the result of a weak national currency. The expectation of a currency devaluation induces holders of local currency to shift to foreign currency. Dollarization is common among high inflation countries, and Argentina has been no exception. Other factors that often induce capital outflow are profits from illegal activities derived from the existence of multiple exchange rates or high import or export taxes.

Illegal transactions are difficult to measure as they occur in the black market where their amounts are not recorded, although the "premium" usually is. In Argentina, restrictions on the sale of foreign exchange have systematically produced increases in the black market premium, a symptom of a higher demand for foreign exchange in the illegal market and therefore of capital outflows. Figure 8 shows the behavior of the black market premium, defined as the excess of the free dollar rate over the official rate. The magnitude of the Black Market premium shows that Argentines do not easily accept the imposition of price controls on their favorite commodity!

Figure 8. Black Market Premium in Argentina (%)



There were two recent experiences with exchange controls and restrictions on capital flows: 1971-75 and 1982-89. In both instances macroeconomic disequilibrium prevailed and inflation was rampant. These factors alone are enough to induce capital outflows as the public runs to foreign currency as an inflation hedge. In addition, authorities tried to cope with the situation by imposing a variety of controls that, in general, did more harm than good as they distorted markets, induced illegal

activities and distracted attention from the most needed macroeconomic adjustment, particularly on the fiscal front.

The period 1971-1975, was characterized by persistent fiscal disorder and government intervention through price controls, extremely high export and imports tariffs, import prohibitions and quotas, and a wide range of exchange rates supported by capital controls. Money creation to finance the persistent fiscal deficits rapidly made any official fixed exchange rate obsolete. Since devaluations were seen as cause of inflation (rather than the consequence) authorities relied on controls to sustain the official rate. This resulted in a black market premium for foreign exchange at times reaching 300% or more. Capital outflow in this period was clearly favored by the profit opportunities arising from state intervention in the price system and the search for dollars as an inflation hedge. In addition, the beginning of a guerrilla movement generated expectations of political instability, which also fostered capital outflow by reducing the rate of investment.

The illegal demand for foreign exchange was fostered by the existence of multiple exchange rates and export tariffs that made it attractive to overinvoice imports and underinvoice exports. Since there were strict foreign exchange controls, the dollars so acquired had to be kept abroad or used to finance smuggling. During these periods large fractions of local crops were smuggled (export taxes were more than 60% at times) to neighboring Paraguay which registered huge exports of crops it never actually produced. The premiums to be gained by illegal action were so large that efforts at custom controls failed completely. In fact, there is the strong presumption that the most corrupt were those working at customs. Corruption, potentially large gains because of the huge black market premiums, and low salaries for government officials made policing the illegal capital outflows virtually impossible.

Another reality is that the price distortions created by the government were unpopular and the public appreciated the possibility of operating in the black market (which was widespread both for goods and for foreign exchange). Severe penalties on transgressors, while leaving the incentives constant would have made the government even more unpopular.

It is clear that the capital outflows of the 1970's resulted from bad economic policy that created incentives for illegal transactions in foreign exchange. Argentina does not import food or energy so there was no pressing social need to maintain an elaborate system of exchange and trade controls so that these basic goods would be cheaper. Rather, the trade controls taxed agricultural exporters in order to subsidize the industrial sector.

The capital outflows of the 1970's were typical of highly distorted economies, which provide incentives to acquire foreign exchange illegally, and an economic setup where it is very unattractive to reinvest the funds locally. In consequence, the funds have to remain invested abroad or used for smuggling. It is estimated that about $7 billion of undeclared external assets were generated during the 1970's. This number is small in comparison with the $24 billion that were accumulated during the first half of the 1980's. However, the economic and regulatory environment that generated the capital outflows in the early 1980's differs substantially from that of the early 1970's.

With a military coup in March 1976, the peronist government fell and convertibility was restored at a single exchange rate for all transactions. Export taxes were eliminated, and import duties reduced. Large amounts of capital started flowing in and the government even put some restrictions to discourage capital inflows. Excessive borrowing during this period was seen as the major factor to the external debt crisis that took place in 1981 when the prefixed exchange rate rule was abandoned.

During the period 1976-81, the external debt grew by an amount larger than was needed to finance the current account deficits and reserve accumulation. This meant that some market participants were hoarding foreign exchange, which proved wise since there was a large devaluation in 1981. The government fell prey to the complaints of those with registered external debts and assumed those debts while offering the debtors easier terms to repay in local currency. The final result of this process of "nationalization" of the external private debt was that the government assumed the external debts while being paid minimal amounts from the original local debtors, about ten cents on the dollar.

This situation arose because the government had no record of who had acquired the foreign exchange that was the counterpart of the accumulation of external debt. At that time the monetary authorities only kept a record of external borrowings but no record of foreign exchange purchases by individuals at currency exchanges. In consequence, those who got in debt abroad could register the debt at the Central Bank, sell the foreign exchange for pesos and then repurchase it in any exchange house leaving no record of the last transaction. With a fully convertible currency the transactions described above are fully legal and under normal circumstances there would be no need to keep records of any of them (except if needed for tax purposes). In practice, however, the government had to pardon the debtors without being able to raise any tax on those who had the foreign exchange. **Hence, the government was left with the debt and the private sector with the dollars.**[20]

After the collapse of the exchange rate in 1981 and the conflict with England in the South Atlantic, the debt crisis exploded and currency convertibility was suspended in mid-1982.

Between 1982 and 1989, the foreign exchange market reversed to a situation similar to that of the early 1970s. Exporters were forced to surrender the foreign exchange to the Central Bank at the official exchange rate. Importers would obtain the foreign exchange at the official rate if their import demand application was approved. The most common sources of illegal capital outflows were the smuggling of exports and the overinvoicing of imports. In many instances exporters would ship the products and then simply manifest that they could not get paid by the foreign importers. Local importers would apply for import permits on low tariff items only to import pebbles, a maneuver facilitated by deep corruption at customs and the high profits offered by the significant black market premiums for foreign exchange.

At times, strict limits were set on amounts available for tourism and a special system was set for the service of the external debt, on which the country was in

[20] For a description of events in this episode see J.C.de Pablo and R.Dornbusch: "Debt and Macroeconomic Instability in Argentina", U.of Chicago Press 1998. See also: C.A.Rodriguez : "La Deuda Externa Argentina", CEMA University WP No. 54, Dec.1986 and "Managing Argentina's External Debt: The Contribution of Debt Swaps", CEMA University WP No.68.

arrears most of the period. In essence, private debtors transferred their dollar debt to the government who would then negotiate service with the banker's committee. In general, no foreign exchange was available for private debt service or amortization on the denominated "old debt" (originated before the debt crisis of 1982). New external credits were exchanged at the official exchange rate if they later were to provide access to funds for service and amortization. The Central Bank would issue a certificate of foreign exchange availability entitling the owner to access to foreign exchange for the service of his debt, at the ongoing official rate. No exchange rate insurance was offered in this case.

At times the Central Bank, pressed for foreign exchange, would offer forward contracts on the exchange rate in order to lure banks to bring dollars, exchange them for pesos and take advantage of the high local interest rates with a limited devaluation risk.

Under Argentine Law, first offenders to the foreign exchange regime would be penalized by the Central Bank who could only apply monetary fines. Only second time offenders were tried in criminal courts where they could receive jail terms. In practice, no one has ever gone to jail for violations to the foreign exchange regulations.

Foreign exchange holdings were never illegal in Argentina, although at times transacting in foreign exchange violated the exchange controls. However, the government issued a dollar denominated bond (the BONEX) starting in 1980 that was used to practically legalize black market transactions. This bonds could be transacted for dollars or pesos in the stock market. Therefore, anybody holding dollars and wanting pesos could buy BONEX with the dollars and then sell them for pesos. In this way, dollars could be exchanged for pesos without going to the black market and therefore violating foreign exchange regulations. Foreign exchange obtained through illegal trade transactions could be converted legally into pesos in this same way.

In general, it seems that the Argentine authorities were not fully devoted to preventing capital outflows and black market foreign exchange transactions during the 1980s. The economy had become heavily dollarized and the local currency was so unstable that any serious effort against the use of foreign currency would have seriously affected real economic activity. Rather, authorities tried to attack the

problem by offering attractive financial conditions to those bringing foreign exchange into the system. Unfortunately, the interest rates paid were inconsistent with the treasury's fiscal realities and the result was a complete lack of monetary control and hyperinflation in 1989.

Policing capital outflows and the black market proved not viable because of corruption and the unpopularity of the measures. The incentives offered to illegal transactions were huge due to the existence of exchange controls in the presence of significant macroeconomic disequilibrium which made the official rates unrealistic.

It seems apparent that the main incentive for illegal capital outflows has been the attempt to sustain a weak currency through exchange rate and trade restrictions. The official exchange rate generally has been set at levels inconsistent with macroeconomic equilibrium and resulted in black market premiums that were so large that illegal transactions simply could not be policed. Attempts to compensate the capital outflows by government borrowing transitorily helped the external payments situation, but soon proved devastating to the quasi-fiscal deficit and had to be abandoned.

In the argentine experience, as soon as a viable and credible macroeconomic policy was announced and the currency was made convertible at a single price, capital outflows reversed. This happened in 1976 and also after the hyperinflation of 1989. **In both cases, the foremost post-stabilization problem was the real exchange rate overvaluation due to the significant capital inflows.**

An interesting point is that the country did not have a significant collapse of economic activity despite important changes in exchange rate policy after the 1989 hyperinflation. Nowadays, (a decade later) the real exchange rate is one sixth of what it was at the height of the hyperinflation, while real output is about 53% higher. After the crisis of 1989, the exchange rate regime shifted from flexible to fixed, passing through a period of managed float. The common factor is that the currency is fully convertible (for both current and capital account transactions) and foreign exchange holdings and transactions are widely accepted and legal. In addition, the exchange rate convertibility is guaranteed by the Convertibility Law's requirement of 100% dollar reserves against the Monetary Base and the authorities' commitment to fiscal balance.

A non-convertible currency invites capital outflow for the simple reason that the holder of a dollar losses the right to repurchase it if he surrenders it to the government. A common fear among policy makers is that if convertibility is granted there will be a rush to purchase foreign exchange at any price. This presumption, however, has not been correct, in general, in the Latin-American experience. As soon as the public believes that it is possible to get in and out of foreign exchange, much of the incentive to hold foreign exchange is reduced. Local currency seems to be strengthened by convertibility, not weakened. Uruguay floated with full convertibility in 1974 and there was no explosion in the price. Their currency has been convertible since then. However the economy has remained highly dollarized. The difference is that with convertible currency the dollars are legally held in local banks whereas under currency controls the dollars are held abroad or under the mattress.

Most Latin-American countries have restored convertibility in recent years (Brazil, Argentina, Peru, Bolivia) and this has been one of the main factors for the observed inflow of foreign capital to the region until the Asian crisis started in 1997. In no place has the local currency been completely displaced by foreign currency because of convertibility. However, foreign currency has taken a significant part of transactions and coexists with local currency (quite significantly in the cases of Argentina, Uruguay, Bolivia and Peru).

Argentines have brought back a large fraction of the foreign exchange they sent abroad during the 1980s and have deposited it in dollar accounts in the banking system: as of 1999 dollar deposits are 120% of peso deposits. Beyond the implementation of the Currency Board in 1991, the government is making moves to give dollars the status of legal tender and has announced the intention to go for some sort of a Agreement on Monetary Cooperation with the US.

XIV. Are Currency Boards the Panacea for Macroeconomic Instability?

As a surprise to many, the Hong Kong currency Board was able to survive the sequence of currency attacks that tumbled most of its south Asian neighbors. Also

as a surprise came the performance of the Argentine currency board, which has been going by with both the Asian, the Russian and the regional crisis without even getting a single speculative attack.

It is often mentioned that because of these successful experiences, countries under speculative attack should try to implement currency boards. The suggestion has been made both for Brazil and Ecuador. The idea behind this suggestion seems to be that upon the announcement of the new policy the risk premium would fall and the normal flows of refinancing would be restored. I think this reasoning assigns money and exchange rate policies more power than what they effectively may have. I do not think that Currency Boards are the proper tool to cope with crisis that are due to structural macroeconomic disequilibrium, usually of fiscal origin.

If a country is under speculative attack because it cannot pay its debts, the only feasible set of instruments lies in a combination of fiscal adjustment and debt restructuring. In this situation the monetary system cannot play miracles: debts should be paid and convertibility alone cannot pay debts!

Of course, a firm commitment of the Central Bank to spend any reserves still left in defense of an exchange rate will discourage speculators for some time, but it cannot solve the fundamental fiscal disequilibrium. The same temporary result can be obtained by getting fresh money from the IMF and announcing it will be used to defend the currency, like Brazil did last March: the markets will rest only for while the fresh money lasts and then all participants will go back to paying attention to the fundamentals.

Hong Kong and Argentina survived the crisis because they had their houses in order and large stocks of reserves relative to short term debt so that speculators did not think they could succeed. A country facing a run because it cannot pay its short term debt would gain very little in credibility and possible lose whatever reserves it has left by trying to implement a currency board as a substitute to fiscal adjustment.

In summary, Currency Boards are not a substitute for macroeconomic adjustment and countries facing fiscal problems would do better by solving them straightforwardly.

There is, however, a situation in which a Currency Board may be warranted in the absence of any other way of obtaining some credibility. This is a situation of a country under hyperinflation and experiencing serious fiscal collection problems because of the price instability. In this vicious circle inflation feeds the fiscal deficit as it reduces tax collections and forces the government to print more money. To break the vicious circle some transitory price stability is needed in order to design and implement a new tax system and to restructure government spending.

Under normal circumstances, the announcement of the fiscal reform plan, if consistent, would be enough to raise demand for money and reduce price inflation. However, it may be the case that the government has already used all its credibility capital in previous failed stabilization attempts. In those circumstances credibility cannot be bought with words but with hard currency.

The initial devaluation needed to implement a currency board (with 100% backing) reduces (melts down) financial claims on the Central Bank. Whatever money is left is now backed by hard currency. In this situation the announcement of the Currency Board may prove to be credible and allow for some horizon of price stability during which authorities may produce and implement the required new fiscal proposal. The Currency Board should be viewed as one input in the process of fiscal adjustment and not as the alternative to it. The German stabilization after the second hyperinflation as described by Tom Sargent[21] may prove to be a case in which the creation of a strong currency was an essential input for the implementation of the required fiscal adjustment. In this case the initial mega devaluation of the Currency Board was replaced by the direct repudiation of the existing stock of currency.

One such a case where a Currency Board was warranted was Argentina in early 1989. At that time we wrote a press article with Aquiles Almansi titled "A Monetary Reform against Lack of Credibility and Hyperinflation". The basic point there was that the government had lost all credibility to instrument any credible fiscal adjustment because of the persistent practice of monetary financing that led

[21] Thomas Sargent: "The Ends of Four Big Inflations", in "Inflation,Causes and Effects", ed.Robert Hall: Un. of Chicago Press, 1983.

to the ongoing hyperinflation. Under those circumstances the only alternative we saw open was for the government to resign permanently to the ability to issue money. To make the promise credible we proposed a Currency Board administered by representatives of the private banks (model similar to the FED) whose only task would be to exchange local currency for foreign exchange. In addition we recommended that the exchange rate be set so that the available reserves at the time (2 billion dollars) be enough to rescue the totality of the local money supply in circulation.[22]

XV. Post Stabilization Temptations: Monetization and the Tanzi Effect

Countries usually have to stabilize because they are under distress caused by fiscal imbalance. In most cases prices raise because money is printed to finance the deficit. The high inflation reduces the value of real cash balances and also deteriorates real tax collections. The later is a temporary effect that has been called the Tanzi effect. It is due to the existence of some sort of rigidities and lags in the tax structure in the face of changes in the level of nominal prices. In the long run, it is logical to assume that nominal rigidities adjust so that real tax collection is independent from inflation. However, it is reasonable to assume that an unanticipated increase in inflation will have a real effect on tax collection lasting between 3 and 6 months.

If the government succeeds in announcing a stabilization plan that is believed by the public, inflation is most likely to fall drastically (and the currency will appreciate if it was floating). This fall in inflation on account of the change in expectations has the effect of raising the demand for money and of improving real

[22] Aquiles Almansi and Carlos Rodriguez: "Una Reforma Monetaria Contra la Desconfianza y la Hiperinflacion", Ambito Financiero, 26 de Abril de 1989. A description of all technical steps needed to instrument the reform are in: "Alternativas de Estabilizacion" CEMA Working Paper No.67, August 1989, also reprinted in Avila, Almansi and Rodriguez (eds.): "Convertibilidad, Fundamentacion y Funcionamiento", Cema University, 1997.

tax collections because of the Tanzi effect. These two effects are a gift from heaven to the government:

1. The increase in money demand means they can print money without generating inflation.
2. The raise in tax collection reduces the fiscal deficit before any change is done on tax rates or government spending.

The temptation is very clear: if taxes increase and money demand raises, the need for implementing the tough fiscal adjustment disappears. There is always a honeymoon at the start of a stabilization plan that has credibility. However, if the fiscal adjustment is delayed, as it has been most often the case (like under the Austral Plan in Argentina in 1985-86), markets start watching the fundamentals and discover there is nothing there. As nominal money supply keeps expanding and the Tanzi effects washes away, inflationary expectations soon came back and the country sets back to the inflation path supported by the fiscal imbalance.

It is very dangerous and costly to frustrate the market's expectations. Once the market is frustrated, the costs of regaining credibility will be higher than before: the country risk will be higher, capital flows will be less responsive and inflationary expectations will be more sticky. When all credibility has been lost, only drastic solutions may work: this takes us back to the Currency Board alternative discussed in the previous section.