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## Debt Management: Some Reflections Based on Argentina

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**Debt Management:  
Some Reflections Based on Argentina**

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## I. Introduction

In most countries, the government is the largest borrower in the economy, and its decisions on debt management have significant effects on the development of the domestic capital market, the fiscal deficit and the country risk, measured as the spread of government bonds over the U.S. treasuries. The debt management strategy has important implications for the economy as whole. A good liability management strategy should result in lower borrowing costs, fluid access to the international capital markets, while minimizing any crowding out effects on private sector borrowing.

The first stage in setting a sound liability management strategy is to select a benchmark which reflects the government's preferences about the main characteristics of the bonds issued. Typically, a benchmark must specify the average maturity and/or duration of the new issues, the desired profile of amortization of long term debt as well as the size of short term debt, the preferred basket of currencies in which debt is denominated, and the characteristics of the interest rate (fixed, floating or indexed bonds).

In most cases the choice of benchmark involves difficult decisions. For example, while one would choose short term over long term debt on a cost basis (Argentina pays 6.75% for 90 day paper and 9% for 9 year bonds), long term debt has less refunding risk and might be preferable in the end. After all, a better structure of amortization is likely to reduce the country risk. Thus, issuing longer term debt and having a longer benchmark could be somewhat more expensive in the short run, but cheaper in the longer term to the extent that it leads to a reduction in the country risk premium. Likewise, it is many times more expensive to borrow in the domestic currency, but to the extent that this helps to the development of the domestic capital market as well as to a diversification of the investor base, it might still help to reduce the overall borrowing costs.

In sum, a good liability management strategy is one that helps to minimize the cost of borrowing over the medium and long term. The objective is not to save the last basis point in each transaction, but rather to bring down the overall borrowing cost. And for emerging market countries, which have credit ratings below investment grade levels, a key element is to design a strategy that raises the credit ratings of the country closer to investment grade.

In this paper, we will use Argentina's experience to illustrate some important elements in the design of a liability management strategy. Of course, the paper will take into account the specific characteristics of the Argentine capital market and of the debt instruments that are available. In particular, while Argentina has a fixed exchange rate regime and a fully convertible currency, there is still a positive spread between peso and dollar issues. Although this spread has been falling over time, it now stands at around 100 basis points, pesos continue to be more expensive than dollars. Likewise, restructured debt, such as Brady bonds and those bonds issued to consolidate old debts (Bocones) usually have higher yields than eurobonds. Another important feature that affects the debt strategy is the profile of amortization, which remains roughly constant for the next four years and then drops significantly, meaning that it pays-off to extend maturity to keep the amortization manageable. Finally, Argentina's debt strategy is limited by the size of the domestic capital market, which shrank significantly over time as domestic savers lack instruments that protect them against inflation and devaluation.

All these special features have led to a strategy that resulted in less domestic currency debt than other countries, and relatively more reliance on the international capital markets. In addition, the

government has been making a special effort to ensure that the debt strategy is conducive to an improvement in the credit rating while limiting the size of short-term debt. If Argentina manages to become an investment grade country (and the debt strategy is one important element for that), it will save between 100 and 200 basis points on the new issues and will ensure fluid access to the international capital markets.

The remainder of the paper will be organized as follows. Section II discusses the main decisions that debt management offices need to make, such as the definition of the benchmark, and some trade-off that might arise in the process. Section III concentrates on Argentina's experience taking into account the special features of the economy including its history of hyperinflation, the small size of the capital market and lack of institutional investors, and the bi-monetary nature of the economy. In addition, we will try to explain the co-existence of different yield curves for what apparently are similar debt instruments and how can governments take advantage of these arbitrage opportunities. Section IV will take a quick look at the importance of credit ratings on the sovereigns borrowing costs. It will discuss some of the determinants of credit ratings, including some of the strengths and weakness in the methodologies being used. We conclude in section V with some policy implications on debt management.

## **II. Selecting a debt management strategy**

Borrowing costs for a sovereign country usually depend on the perceived ability and willingness to service the government's debt. Most economic analysis tries to measure the ability to pay, since the willingness to pay, in the end, will depend on the cost-benefit economic factors and hence be related to the ability to service debt. It is generally accepted that countries might face difficulties in servicing their debt if they encounter either liquidity or solvency problems.

### **i. Solvency and Liquidity**

The first step in analyzing the ability of a sovereign government to pay is to determine the solvency or overall credit-worthiness of the public sector. This requires taking a look at the government's intertemporal budget constraint and the net stock of assets to establish whether its "balance sheet" will permit the repayment of the debt. In an uncertain world, the analysis not only evaluates expected revenues and expenditures but also takes into account their variability. A risk averse lender will analyze the solvency of the borrower taking worse case scenarios about revenues, expenditures and asset prices.

A solvent government might still face liquidity problems that limit its ability to service its debt. For instance, an overly pessimistic view about the future of the economy might lead lenders to curtail the amount of financing temporarily even if the country is in fact solvent. Eventually, liquidity problems which affect the government's ability to service its debt, might affect its access to the international markets and eventually the problems could escalate and there might be difficulties distinguishing whether the country faces liquidity or solvency problems.

The debt crisis of the 1980's and the more recent external crisis following the Mexican devaluation of 1994, the so-called tequila effect, illustrate the difference between solvency and liquidity crisis. The debt crisis of the early eighties started with Mexico's default in August 1982 on external debt and quickly spread over to other developing countries that also faced problems in servicing their external

debt. The debt crisis resulted from a combination of domestic and external factors that limited the ability of governments to service their debt. Governments in the debtor countries followed expansionary fiscal policies and increased expenditures in the late seventies and early eighties taking advantage of a favorable international environment of low interest rates and good terms of trade. Optimistic projections about the evolution of commodity prices and interest rates led governments to “over-spend” and lenders to “over-lend”. Table II.1, clearly indicates that both Mexico and Argentina had very poor fiscal performances prior to the crisis as a result of the expansionary policies during the boom cycle.

Table II.1  
Macroeconomic Indicators. Mexico and Argentina

<b>Mexico</b>	<b>1977</b>	<b>1978</b>	<b>1979</b>	<b>1980</b>	<b>1981</b>	<b>1982</b>
Inflation (CPI, annual average)	29,0	17,5	18,2	26,4	27,9	58,9
GDP growth (%)	3,4	8,3	9,2	8,3	7,9	-0,6
Investment/GDP	22,8	23,6	26,0	29,6	27,5	22,7
Primary fiscal balance/GDP	-2,3	-2,4	-2,9	-3,2	-8,8	-7,5
Non interest expenditure/GDP	27,0	28,3	29,7	31,2	36,2	37,8
Current Account/GDP	2,1	-2,9	-3,8	-5,5	-6,4	-3,6
Total external debt (\$billion)	31,2	35,7	42,7	57,4	78,2	86,0
Total Public debt (\$billion)	20,8	25,6	29,2	33,6	42,7	50,4
External debt/Exports (%)	380,0	313,2	266,8	232,2	259,8	302,0
External Public debt/Exports (%)	253,3	224,6	182,4	135,9	141,9	177,0
External debt/GDP (%)	38,9	35,5	32,6	31,6	33,7	55,8
External Public debt/GDPI (%)	26,0	25,5	22,3	18,5	18,4	32,7
International reserves. (months)	2,3	1,8	1,7	1,5	1,4	0,6
<b>Argentina</b>	<b>1977</b>	<b>1978</b>	<b>1979</b>	<b>1980</b>	<b>1981</b>	<b>1982</b>
Inflation (CPI, annual average)	176,0	175,5	159,5	100,8	104,5	164,8
GDP growth (%)	6,2	-3,3	7,3	1,5	5,4	-3,2
Investment/GDP	27,2	23,9	22,6	26,4	23,8	19,6
Primary fiscal balance/GDP	-3,9	-4,7	-4,6	-6,7	-11,8	-10,6
Non interest expenditure/GDP	29,6	34,4	33,8	37,8	43,6	38,9
Current Account/GDP	2,2	2,8	-0,4	-3,1	-3,8	-4,1
Total external debt (\$billion)	11,4	13,3	21,0	27,2	35,6	43,6
Total Public debt (\$billion)	5,0	6,7	8,6	10,2	10,6	15,8
External debt/Exports (%)	169,0	169,6	211,8	242,9	301,0	455,9
External Public debt/Exports (%)	74,1	85,5	86,7	91,1	89,6	165,2
External debt/GDP (%)	22,6	20,7	20,0	17,9	29,7	71,6
External Public debt/GDPI (%)	9,9	10,4	8,2	6,7	8,8	25,9
International reserves. (months)	8,2	11,8	13,3	7,0	3,7	4,5

Source: IMF, World Bank, Ministrys of Economy of Mexico and Argentina

The rise in international interest rates from 8% in 1978 to 16% in 1981 and the deterioration in terms of trade of the early eighties surprised developing countries and international lenders. A sharp curtailing in voluntary international lending and the inability of government to generate alternative ways of obtaining financing quickly led many countries to enter into default on their external obligations. At the same time, these countries engineered an implicit “default” on their domestic debt as they eroded their value through maxi-devaluations and inflation, which in turn destroyed the domestic capital markets. Most developing countries were unable to meet their external obligations for the remainder of the decade, and they were forced to renegotiate the existing debts with foreign creditors. The end result were debt reductions and debt forgiveness for many countries, an indication that creditors and debtors recognized

that governments were unable to meet their debt obligations in the longer term. The countries were clearly facing a solvency problem.

In contrast, the tequila effect represented a liquidity crisis that was quickly overcome as adequate financing from alternative sources was obtained. The tequila effect represented a major test for many economies that had embarked on a major restructuring of their economies that included far reaching stabilization problems to end chronic high inflation and significant structural reforms aiming to ensure a new era of sustained growth. The impact of the tequila effect was much shorter than the debt crisis. After an initial period in the summer of 1995 (winter for the Northern hemisphere) in which the fears of defaults led to capital outflows, a collapse in the prices of bonds and stocks and the perception that once again some of the countries of the region could face a deep and protracted crisis, the situation turned around in the (Southern hemisphere) fall of 1995.

The depth of the crisis and the speed of the ensuing recovery in Argentina and Mexico can be observed in table II.2. Both countries suffered a deep recession in 1995, as GDP fell 4,6% in the former and 6,9% in the latter, but it was followed by a quick recovery in 1996 with rates of growth exceeding 4% in both cases. In addition, both countries quickly recovered their access to the international capital markets.

Table II.2  
Macroeconomic Indicators. Mexico and Argentina

<b>Mexico</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>
Inflation (CPI, annual average)	22,7	15,5	9,8	7,0	35,0	34,5
GDP growth (%)	3,6	2,8	0,7	3,5	-6,9	5,1
Investment/GDP	23,4	24,4	23,2	23,5	19,4	23,0
Primary Fiscal Balance/GDP	5,2	5,6	3,7	2,2	5,2	4,0
Non interest expenditure/GDP	20,6	20,5	22,1	23,2	20,9	20,5
Current Account/GDP	-5,3	-7,5	-6,6	-8,1	-0,3	-1,1
Total external debt (\$billion)	114,1	112,3	131,6	140,0	165,7	165,0
Total Public debt (\$billion)	77,8	71,1	75,0	79,3	94,0	99,7
External debt/Exports (%)	198,4	183,1	195,1	178,9	170,5	155,5
External Public debt/Exports (%)	135,3	115,9	111,2	101,3	96,7	94,0
External debt/GDP (%)	40,4	34,6	36,9	38,4	69,9	62,6
External Public debt/GDPI (%)	27,5	21,9	21,0	21,8	39,7	37,8
International reserves. (months)	3,0	2,7	3,3	0,7	2,1	2,1
<b>Argentina</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>
Inflation (CPI, annual average)	171,7	24,9	10,6	4,2	3,4	0,2
GDP growth (%)	10,5	10,3	6,3	8,5	-4,6	4,4
Investment/GDP	15,9	19,3	21,0	23,6	20,7	21,5
Primary Fiscal Balance/GDP	1,8	2,2	2,2	1,0	1,0	-0,2
Non interest expenditure/GDP	14,9	15,8	16,0	16,6	16,6	15,9
Current Account/GDP	-1,4	-2,4	-2,7	-3,3	-0,9	-1,3
Total external debt (\$billion)	58,4	59,1	67,8	79,5	89,7	99,7
Total Public debt (\$billion)	52,6	50,5	53,4	61,3	67,0	73,6
External debt/Exports (%)	397,3	402,0	434,6	429,7	375,3	367,9
External Public debt/Exports (%)	357,8	343,5	342,3	331,4	280,3	271,6
External debt/GDP (%)	32,2	26,0	26,3	28,2	32,0	33,5
External Public debt/GDPI (%)	29,0	22,2	20,7	21,8	23,9	24,7
International reserves. (months)	5,1	6,1	7,4	6,2	6,2	7,7

source: IMF, World Bank, Ministries of Economy of Mexico and Argentina

It is clear that Argentina and Mexico had a much easier time overcoming the tequila effect than the debt crisis of the eighties. Part of the reason probably was a much faster and larger response from the multilateral institutions and the US government. But this support would not have occurred if the governments of the region did not have in place sound fiscal and monetary policies. The strong fiscal position of Argentina and Mexico prior to the tequila effect was perhaps the key element that explains the success in overcoming the crisis of the mid-nineties.

The main difference between the eighties and the nineties was the strongest fiscal situation in the more recent period. In Argentina, for instance, while the fiscal deficit exceeded 13% of GDP in the early eighties, it was only 1% of GDP before the tequila effect. Likewise, Mexico had a deficit exceeding 12% of GDP prior to the crisis while it ran a balanced budget in the years preceding the tequila. This stronger fiscal position illustrates the difference between liquidity and solvency problems and the ability of both countries to leave the crisis behind in both episodes.

#### I Rules, time consistency and domestic currency debt

A second element that usually affects the cost of borrowing, especially in domestic currency, is the ability of governments to stick to rules. A history of inflation and unanticipated devaluations has been a recipe for destroying the domestic capital market. Argentina provides perhaps one of the most dramatic examples in this respect, as a long history of high inflation repeated devaluations following balance of payments crisis led steadily to a reduction in the size of the domestic capital market. At its worst, M3 collapsed to just 6% of GDP after a long period of inflation that culminated in a hyperinflation episode in 1989-90. Without a domestic capital market and with a currency that had all but collapsed, the government was unable to issue debt in domestic currency at reasonable interest rates.

Governments in developing countries have had difficulties issuing long-term debt a fixed interest rate in the domestic currency. This has certainly been the case in Latin American countries that by and large have only issued domestic currency fixed interest rate for short maturities. The only alternative that governments with low reputation have found to issue longer-term maturities, say longer than two years, is by offering floating interest rates instruments, indexed debt, or dollar linked debt (as the Tesobonos in Mexico). And experience shows that the tendency to issue indexed or dollar linked debt can remain in place for many years even after inflation is brought under control. In Chile, for instance, most of the domestic currency debt continues to be indexed through a unit, called *unidad de fomento*, in spite of experiencing low inflation for almost a decade.

The use of indexed debt, however, does not necessarily mean that the economy is inflation prone. In fact, some economists (e.g. Barro (1997), and Shiller (1997)) argue strongly in favor of long term-indexed debt and argue that this type of instrument is superior to regular nominal, fixed rate debt. And the United States, currently enjoying a period of very low inflation, recently launched indexed bonds as a way to reduce the overall borrowing costs.

In practice, most governments issue debt in domestic currency, even if it means paying a premium on foreign currency debt. The role of domestic currency in a borrowing strategy is a key component in the design of a benchmark, a topic that we will address in more detail in the next section.

ii. The choice of a benchmark

The perceived solvency and liquidity of a country is clearly the major factor affecting borrowing costs and the credit rating. Nevertheless, governments can affect these aspects by adopting a sound liability management strategy. A key element in the strategy is the choice of benchmark, which establishes the views of the government on the desired structure of its liabilities. The benchmark sets the preferred combination of domestic and foreign currency debt, the proportion of fixed rate, floating rate and/or indexed debt, the maturity and average duration of government debt, and the size and liquidity of the various instruments.

The choice between domestic and foreign currency debt is not always easy, especially in developing (or emerging) countries where the domestic capital markets are not large. As a result, the issuance of domestic debt would have a significant crowding out effect on domestic borrowers, who do not have access to the international markets. Besides, there are other considerations that affect this choice. For instance, some countries might prefer to issue in the domestic currency, even if it is more expensive, because that is the currency denomination of most tax revenues, thus providing a natural hedge for a possible devaluation of the currency.

Other countries might prefer to issue domestic currency debt because governments can eventually resort to seignorage in order to meet the debt service payments. In other words, it allows them to be time inconsistent (see Calvo and Guidotti (1990)). While this outcome will lead to inflation and hence an erosion in the value of the debt, credit rating agencies and other analysts do not equate it to an outright default and so governments are not necessarily cut off from borrowing in the international markets. In practice, we find that governments more frequently resort to devaluations and inflation to deal with large debt burdens than to outright defaults on domestic debt.

The preference of many governments to issue domestic debt in spite of a somewhat higher cost than foreign debt could be related to some of the considerations mentioned above. A quick look at the recent evidence for a number of developing countries indicates that in fact it has been more expensive for governments to borrow in domestic than in foreign currency (table II.3). The combination of real appreciation, and high interest rates in domestic currencies meant that in some cases returns in domestic currencies were as high as 211% per year (Figure II.1). Of course, there were also periods in which as a result of maxi-devaluations governments managed to erode the value of domestic currency debt. But on the whole, it seems that domestic currency ended up being an expensive choice in the 1990s.

EMERGING MARKETS				
Ex-Post annual yields in U\$S of local currency bonds				
MONTH	PRE 1 (per month, end of period)  (Argentina)	TR Reference Rate (per month, end of period)  (Brazil)	90-day PRBC (Indexed) Rate+Consumer prices All Items, April 1989=100 (Per Month, End Of Period)  (Chile)	DTF Interest Rate (per month, end of period)  (Colombia)
Jan-93	NA	6.99%	14.52%	13.55%
Feb-93	NA	5.02%	5.82%	13.28%
Mar-93	NA	3.11%	4.69%	13.18%
Apr-93	NA	-1.16%	3.08%	13.10%
May-93	NA	-2.87%	2.35%	13.72%
Jun-93	NA	-3.75%	5.83%	13.57%
Jul-93	NA	-3.64%	7.17%	14.03%
Aug-93	NA	-5.98%	8.64%	14.47%
Sep-93	NA	-6.51%	11.44%	14.52%
Oct-93	NA	-7.75%	8.27%	14.46%
Nov-93	NA	-7.21%	10.85%	14.84%
Dec-93	NA	-6.92%	6.72%	14.33%
Jan-94	NA	-7.45%	6.76%	14.40%
Feb-94	NA	-6.63%	9.26%	14.47%
Mar-94	NA	-6.83%	11.32%	31.03%
Apr-94	NA	-7.02%	14.59%	30.27%
May-94	NA	-4.48%	14.62%	29.44%
Jun-94	13.67%	-2.52%	15.15%	32.96%
Jul-94	13.45%	28.55%	15.71%	36.46%
Aug-94	13.34%	41.66%	16.41%	39.01%
Sep-94	13.47%	51.59%	16.64%	38.55%
Oct-94	13.62%	60.44%	17.84%	39.13%
Nov-94	14.02%	64.79%	15.27%	42.37%
Dec-94	15.00%	67.51%	22.85%	45.83%
Jan-95	16.51%	76.84%	23.16%	45.49%
Feb-95	18.53%	80.72%	20.23%	46.93%
Mar-95	20.94%	73.63%	21.44%	28.17%
Apr-95	24.11%	77.09%	24.01%	30.16%
May-95	26.20%	81.57%	29.78%	32.07%
Jun-95	27.49%	81.96%	28.73%	31.66%
Jul-95	28.64%	40.11%	27.28%	27.71%
Aug-95	29.44%	30.56%	24.15%	21.48%
Sep-95	30.13%	24.75%	21.10%	19.84%
Oct-95	31.25%	20.53%	16.84%	18.46%
Nov-95	32.35%	18.41%	15.73%	15.11%
Dec-95	33.15%	17.28%	13.00%	15.97%
Jan-96	32.68%	14.30%	14.22%	15.21%
Feb-96	31.32%	11.86%	14.99%	13.68%
Mar-96	29.39%	16.60%	14.39%	13.93%
Apr-96	26.77%	16.88%	10.94%	14.02%
May-96	24.67%	11.76%	7.21%	12.74%
Jun-96	23.46%	10.28%	5.57%	11.62%
Jul-96	22.18%	9.00%	6.46%	14.64%
Aug-96	21.05%	7.25%	8.52%	22.39%
Sep-96	20.02%	5.80%	9.17%	26.87%
Oct-96	18.67%	4.65%	11.57%	32.76%
Nov-96	17.20%	3.60%	11.93%	37.00%
Dec-96	15.66%	2.73%	10.84%	34.75%
Jan-97	14.81%	2.45%	10.45%	33.77%
Feb-97	14.27%	1.93%	13.45%	29.76%
Mar-97	13.75%	1.44%	14.59%	32.40%
Apr-97	13.10%	1.27%	12.30%	32.43%
May-97	12.60%	1.05%	10.66%	31.67%
Jun-97	12.17%	1.11%	11.31%	30.63%
Jul-97	11.68%	1.15%	11.44%	26.33%
Aug-97	11.13%	1.20%	NA	19.97%
Sep-97	10.55%	NA	NA	NA
Oct-97	10.08%	NA	NA	NA

Table II.3.a

<b>EMERGING MARKETS</b>				
<b>Ex-Post annual yields in U\$S of local currency bonds</b>				
<b>MONTH</b>	<b>90 days Government Paper Yield (per month, end of period) (Venezuela)</b>	<b>28 days Cetes Rate (secundario) (promedio por mes) (Mexico)</b>	<b>Rate on 13-Week Treasury Bill (per month, end of period) (Poland)</b>	<b>Rate on 91-day treasury bill at tender (per month, end of period) (Philippines)</b>
Jan-93	13.16%	15.40%	9.14%	22.86%
Feb-93	15.67%	15.94%	12.50%	20.37%
Mar-93	16.27%	16.03%	22.70%	18.07%
Apr-93	15.15%	17.07%	22.96%	13.85%
May-93	14.99%	17.58%	20.42%	11.60%
Jun-93	17.36%	18.55%	15.34%	10.31%
Jul-93	14.36%	18.43%	8.66%	4.78%
Aug-93	13.38%	17.65%	5.17%	0.57%
Sep-93	13.54%	17.16%	0.30%	-0.64%
Oct-93	21.03%	18.17%	1.14%	-3.87%
Nov-93	22.18%	15.87%	3.00%	-0.98%
Dec-93	21.99%	17.22%	2.26%	3.17%
Jan-94	21.20%	16.59%	2.00%	3.35%
Feb-94	21.24%	15.25%	1.38%	3.88%
Mar-94	21.16%	8.76%	4.07%	4.49%
Apr-94	19.27%	5.39%	2.07%	7.84%
May-94	3.66%	7.61%	2.97%	14.01%
Jun-94	-17.81%	6.12%	5.44%	15.58%
Jul-94	-15.44%	5.01%	9.36%	19.85%
Aug-94	-6.85%	5.50%	10.56%	22.33%
Sep-94	-5.07%	5.02%	15.42%	25.28%
Oct-94	-4.44%	4.59%	16.92%	31.68%
Nov-94	-2.89%	5.18%	18.00%	34.00%
Dec-94	-1.88%	-9.32%	15.93%	30.88%
Jan-95	-0.87%	-34.99%	17.94%	27.43%
Feb-95	0.10%	-35.45%	18.66%	24.58%
Mar-95	1.35%	-40.63%	21.26%	20.00%
Apr-95	2.14%	-32.26%	22.83%	18.96%
May-95	16.38%	-25.82%	23.50%	17.68%
Jun-95	43.41%	-25.30%	26.23%	18.05%
Jul-95	43.70%	-21.38%	24.35%	16.41%
Aug-95	33.86%	-20.91%	22.02%	14.88%
Sep-95	34.85%	-20.55%	21.96%	12.06%
Oct-95	36.36%	-23.57%	22.95%	9.92%
Nov-95	38.31%	-31.19%	23.63%	4.30%
Dec-95	-5.98%	-18.90%	24.98%	3.72%
Jan-96	-16.62%	19.10%	24.78%	5.91%
Feb-96	-15.57%	23.08%	23.16%	8.07%
Mar-96	-15.21%	43.43%	18.48%	11.59%
Apr-96	-31.60%	33.54%	16.11%	12.18%
May-96	-45.49%	23.02%	13.07%	11.33%
Jun-96	-44.83%	23.42%	8.77%	10.40%
Jul-96	-44.82%	18.60%	9.34%	9.66%
Aug-96	-45.97%	20.34%	11.68%	10.50%
Sep-96	-46.74%	21.12%	10.12%	11.66%
Oct-96	-46.99%	25.25%	7.22%	11.66%
Nov-96	-47.91%	37.52%	8.10%	12.67%
Dec-96	-25.05%	35.71%	7.66%	12.71%
Jan-97	-17.04%	31.37%	4.69%	12.59%
Feb-97	-18.59%	30.21%	2.34%	12.05%
Mar-97	-20.49%	26.62%	1.81%	12.04%
Apr-97	-2.34%	23.86%	2.22%	11.59%
May-97	21.49%	21.86%	2.52%	11.27%
Jun-97	19.37%	21.97%	1.99%	11.16%
Jul-97	17.04%	23.40%	NA	5.80%
Aug-97	16.86%	21.98%	NA	-0.09%
Sep-97	NA	NA	NA	NA
Oct-97	NA	NA	NA	NA

Table II.3.b

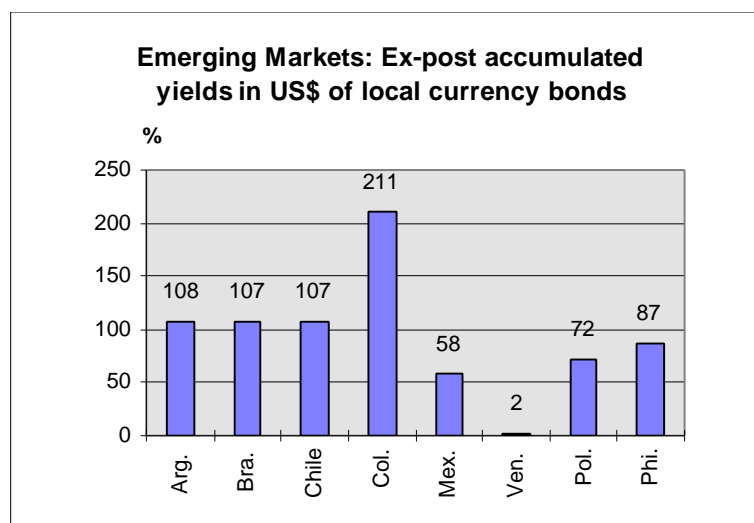


Figure II.1.

As shown in tables II.3.a and II.3.b, most emerging countries generated attractive rates of return in the nineties. Part of it was a real appreciation following the significant depreciations of the decade of the debt crisis. A second factor was the high interest rates that countries were paying in domestic currency, partly as a result of their misbehavior in previous years.

A second important decision is related to the maturities of the new issues. Once again governments usually face a trade-off, as short-term debt is usually cheaper but is subject to refunding risk. Thus, for shorter maturities governments will face uncertainty about the interest rates at which they can rollover the debt, or about the possibility that the country is unable to rollover the debt at maturity. The choice of duration for government should aim at striking a balance between costs and the risks discussed. The benchmarks for domestic and foreign currency debt could be different, as the government might have a captive demand for domestic currency debt which is likely to be absent for foreign debt.

The importance of a balanced profile of amortization, and a limited amount of short-term debt has been highlighted by the Mexican crisis of 1994. The biggest problem that Mexico faced was the rollover of the Cetes and Tesobonos, two domestic short-term instruments that represented an important part of total debt. Since then, Mexico has been making an important effort to extend the maturity of its debt and to avoid concentration of amortization in any given year. In addition, it has limited the amount of short-term debt in order to reduce the rollover risk that they suffered in the Tequila. Argentina has been following a similar debt management strategy in this respect.

To complete the benchmark, it is necessary to establish the preferences on the interest rates and on the basket of currencies. The choice between fixed and floating interest rates depends on the views that governments have on the evolution of interest rates over time and on the spread between fixed and floating rates for a given duration. In some cases the choice is determined by the nature of the borrowing instrument. For instance, syndicated loans and those from multilaterals, that are typical at floating rates. The benchmark could also include a proportion of indexed debt. Finally governments have a preferred basket of foreign currencies that matches either the trade patterns that they have or is based on the capital flows that they are subjected to.

### **III. Argentina's Debt Management**

#### **i. Economic developments and debt management**

A brief background of the main developments in Argentina's financial markets in the eighties and the main features of the Argentine capital markets will help to understand the current debt management strategy. During the seventies and eighties Argentina experienced high chronic inflation, and recurrent balance of payments crisis which led to a very poor macroeconomic performance resulting in low growth and small levels of investment.

Chronic large budget deficits financed by money creation in an environment where money demand was falling eventually led in 1989-90 to a hyperinflation episode in which confidence in the peso collapsed and the demand for money fell dramatically. At the same time, a number of measures reduced confidence in domestic financial instruments. In previous occasions the government rescheduled domestic debt (e.g. the indexed Valores Nacionales Ajustables). More recently, in 1989, it forcefully converted some of the deposits in the banking system into government bonds. The lack of confidence in the domestic currency and the difficulties in securing confidence in the domestic capital market generated an uphill battle to attract capital back into the economy.

The convertibility plan, which fixed the exchange rate at one peso for one dollar and ensured full backing of the monetary base with international reserves, and the new charter of the central establishing its independence set the basis for a new monetary regime. The combination of the monetary reforms, a major fiscal adjustment and far reaching structural reforms succeeded in bringing down inflation and restoring growth. Today Argentina enjoys low rates of inflation and high rates of growth, an enviable situation by almost any standards.

This long history of high inflation and lack of rules had very negative implications for the development of the domestic capital market. First, it led to capital flight, as Argentines sent their money abroad to protect themselves from possible capital losses resulting from taxation or inflation. While figures on capital flight are difficult to determine precisely, it has been estimated that in the mid-eighties Argentines held over 60 billion dollars abroad, a figure larger than the size of the Argentine banking system at the time. Second, the recurrent episodes of inflation and devaluation and the lack of financial instruments to protect savers in a credible manner from the variability in policies essentially eliminated the role of the peso as a saving instrument. By the late eighties the economy had become fully dollarized as this currency was used as unit of account, store of value and medium of exchange.

The overall environment for the capital markets started to change in the nineties as the country recovered macroeconomic stability and maintained a fixed exchange rate since the convertibility plan in 1991. The convertibility law validated the use of the dollar in the economy as it made it legal to use that currency in local contracts. This decision was particularly important as it allowed to bring on shore many financial transactions and allowed the growth of the domestic banking system and other financial institutions with instrument in pesos and dollars.

The restructuring of foreign debt through the Brady plan was another important step in regaining access to the voluntary capital market, as it provided a long-term solution to the debt overhang. In addition, it removed the uncertainties associated with debt that was already in default. Argentina offered

three alternative bonds to pay its debts. The Par and Discount bonds were thirty year bonds and had a guarantee on the principal through the purchase of zero coupons US treasuries, while the Floating rate note (the FRB) was shorter in duration and had no guarantees. The government also restructured the domestic debt by issuing the so-called Bocones which provided a liquid instrument to regularize the debts with pensioners, government suppliers and other creditors.

Some additional factors are also helping the development of the domestic capital market. First, the private pension funds, that started functioning in July 1994, are providing an important pool capital that invests primarily in Argentine bonds and stocks (figure III.1). At the moment, they are the largest institutional investor and hold around 9 billion dollars in assets (around 3% of GDP). Second, there are other institutional investors that are becoming important players in the economy, such as the mutual funds (which now manage assets equivalent to almost 2% of GDP), the insurance companies and the commercial banks. The wide de-regulation of the domestic capital market, the liberalization of the financial sector and the elimination of controls on the capital account of the balance payments have also played an important role in this respect.

### Domestic institutional investors portfolios are growing at high rates

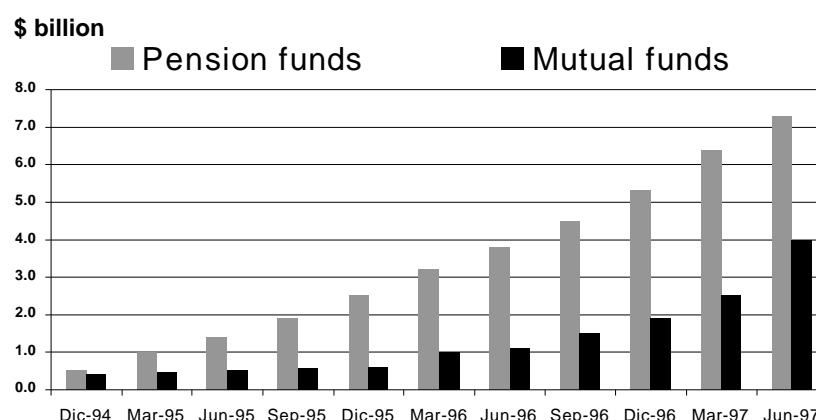


Figure III.1

A third important factor was the policy response of the authorities to the balance of payment cum banking crisis following the Mexican devaluation of 1994. In the past this type of crisis usually ended up with devaluations, increases in inflation and a bail out of the banking system that generated large quasi-fiscal deficits. But this time the policy response was different. The authorities maintained convertibility and the fixed exchange rate, and the banking crisis was overcome without resorting to any massive bailouts to depositors or to the bank shareholders. This policy response marked a wide difference with previous

policies and signaled a new commitment to rules that has increased confidence in the regime and helped to develop the domestic capital market.

## ii. The multiple yield curves on Argentine Financial Instruments

One key difference among Argentina's debt instruments is whether they were issued on voluntary basis at market prices, or if instead they are part of the restructured debt and placed on a compulsive basis at a discount relative to market prices. The Brady bonds and the Bocones represent the bulk of the restructured debt and at the moment they are approximately 40% of total government debt. On the other hand, eurobonds and global bonds are quickly becoming the standard debt instruments for the international capital markets and are issued voluntarily at market conditions. More recently, there has been an effort to develop the domestic treasury market through the creation of the Letes (our T-bills) and the Bontes (the treasury bonds), which are issued domestically in pesos and dollars in regularly held auctions.

An interesting feature is that Argentine government bonds have different yields depending on the nature of the instrument. For instance, restructured debt generally has had higher returns than voluntary debt. In addition, peso denominated debt has typically carried a spread over dollar denominated debt, although there is a fixed exchange rate system and the exchange rate has remained fixed since 1991. Finally, bonds issued domestically under Argentina's law usually pay a small premium over bonds issued under New York or European country law.

Figures III.2.a and III.2.b show the yield curves for the different instruments in 1995 and in 1997. There are at least three easily identifiable yield curves. The highest yields are in foreign currency denominated bonds and are observed in the Bradys and the Bocones, that in 1995 had a spread of around 800 basis points over the eurobonds. The peso bonds showed the highest yields, and on average they exceeded the return on restructured debt by around 300 basis points. Over time there has been a dramatic reduction in the spread between the different yield curves. For instance, the spread of the stripped yield on the Par bond that exceeded the one on Eurobonds by 500 basis points in 1995 fell to 100 basis points in 1997. Likewise, the spread of the shorter duration Bocones (the PRE2) over the global bonds has dropped dramatically from 450 basis points in 1995 to 50 basis points today. And this has happened in an environment where the overall spreads on government bonds have been falling.

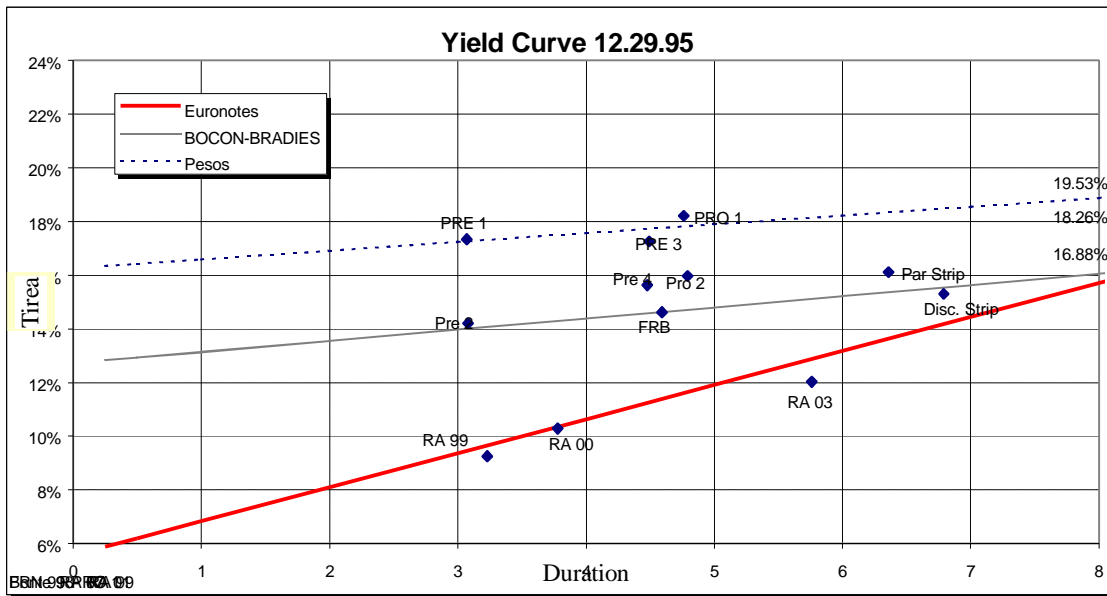


Figure III.2.a

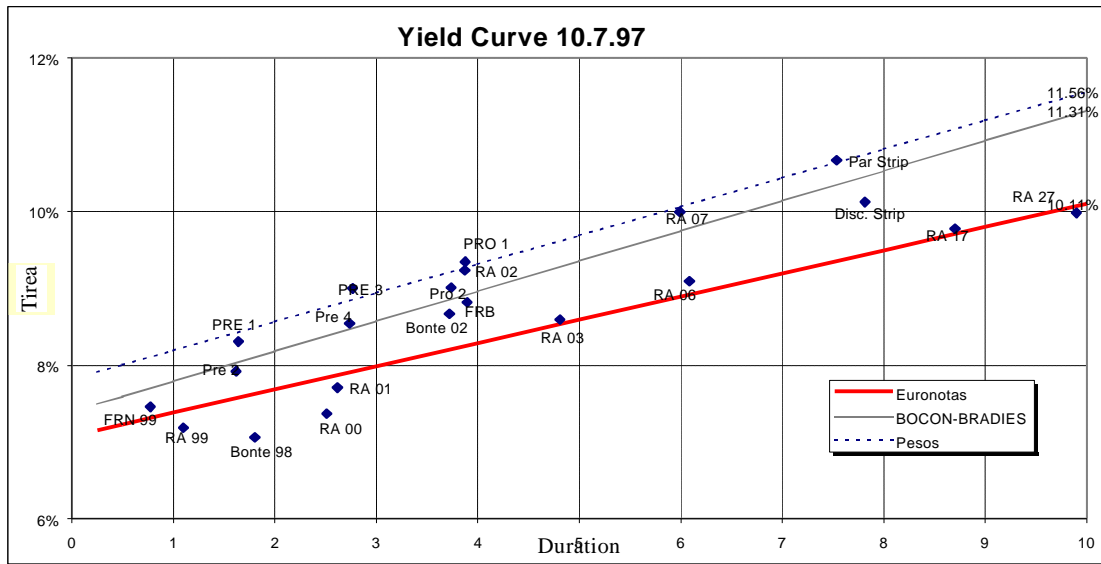


Figure III.2.b

### iii. The debt management strategy

The main objectives of the Argentine debt management strategy are to reduce borrowing costs, to ensure a fluid access to the domestic and international capital markets and to minimize the vulnerability to any shocks in the international capital markets. In addition, it attempts to develop the domestic capital market and to minimize any crowding out effects on private sector borrowing.

The strategy has four main elements. The first is improving the structure of amortization to avoid excessive concentration of refinancing in any particular year. In order to meet this goal the government has issued most of its new bonds at longer maturities (mainly 5 years and more) to take advantage of periods when the amortization schedule is lighter. In addition, there has been an effort to limit the size of short-term debt, which at the moment represents less than 3% of total debt. This policy is helping to smooth out the schedule of amortization (figure III.3). We are now converging to amortization of long-term debt of around 10 billion per year, equivalent to 10% of total debt.

## Amortization Payments

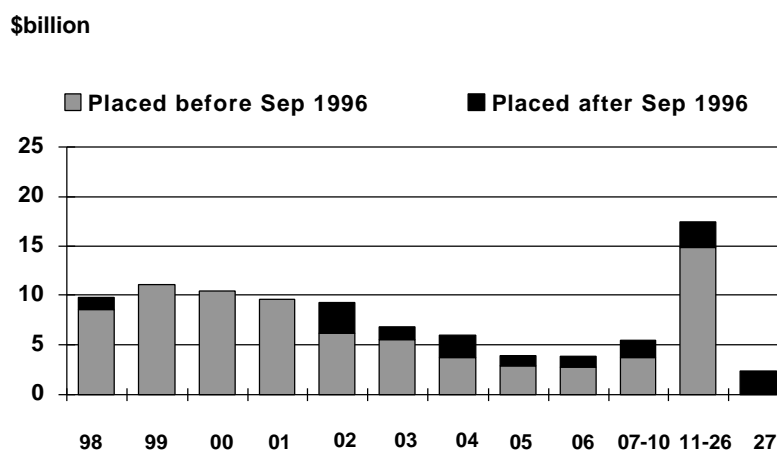


Figure III.3

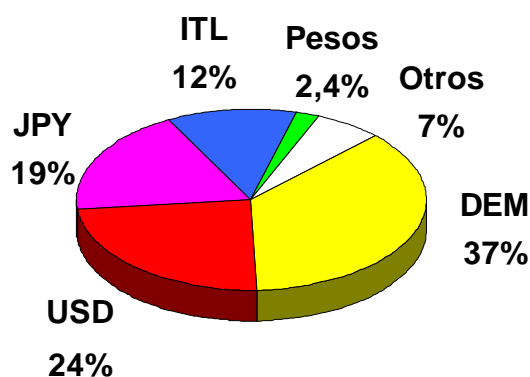
Given that we foresee that Argentina's credit rating will be improving over time, and hence that the borrowing costs will be falling, we are concentrating our borrowing between five and ten years, a range that brings a reasonable balance between improving the profile of our debt while controlling the borrowing costs. When possible, we also issue debt with call options, that will allow the government to refinance at lower spreads as our rating improves.

The second element is to diversify the sources of financing and increase the number of domestic and foreign investors that hold Argentine debt in order to guarantee access to capital markets at all times and at the lowest possible cost. Proof of the success of this strategy is the structure of our financing in the

last year (figure III.4) 37% in German marks, 19% in yen, 24% in US dollars and 12% in Italian Lira. In addition, the government is working to develop the peso market, as it issued the first peso bonds at fixed interest rates with maturities of 5 and 10 years.

## Diversification of international funding sources

1996 Total placements: \$10.4 billion



\*As of October 20

Figure III.4

The third element is to secure enough liquidity at the treasury to increase flexibility in financing throughout the year and avoid the need to go to the markets in times of large volatility or high interest rates. In other countries, this might not be necessary because the central bank holds international reserves that can be used when the market conditions are not appropriate. But in Argentina, central bank reserves are used to back up the monetary base, and given the independence of the central bank and its new charter, they can not be used to finance the treasury. For this purpose, the policy of the treasury has been to generate a liquidity cushion by staying one quarter ahead in the financial requirements. We are now analyzing alternative ways of generating liquidity reserves, including a contingent line of credit similar to the one that Mexico negotiated recently.

The fourth element is the development of the domestic treasury market, by issuing Letes (T-bills) and Bontes (T-bonds) in pesos and dollars, reflecting the BI-monetary nature of our economy. These new instruments differ from most of the other domestic bonds because they are issued on a voluntary basis and their yields are determined by market conditions.

The development of the treasury market was based on the successful experiences of industrialized countries such as France, Italy, Spain, the United Kingdom and the United States. The Letes and Bontes are issued through regularly held Dutch auctions with the participation of twelve banks, the primary dealers or market makers. These banks guarantee the success of the auctions, by ensuring enough bids, and in addition, they agree to provide enough liquidity to these instruments to make them more attractive to investors. These instruments can be cleared through the central bank, the Caja de Valores, Euroclear and

Cedel, providing investors with sufficient alternatives. Furthermore, these are the only local instruments that than have delivery versus payment in Argentina, and we anticipate that they will be the first domestic instruments to trade in the futures and options market that is being developed at the Argentine stock exchange.

The local debt market is growing rapidly, largely reflecting the vigorous growth of the domestic capital market, where institutional investors have taken a leading role. Issues of Letes and Bontes have grown in less than two years to \$6.0 billion and the objective is to use these instruments to place all peso denominated debt and dollar issues of short and intermediate maturities. These instruments will be used to replace the Bonex, Bocones, Botes and other local bonds in pesos and dollars that will be redeemed in the next few years.

The success of this market can be measured by the growing volume of offers received, with auctions that have been oversubscribed between four and six times, and by the reduction in the spreads on Letes and Bontes over time. There is now a balanced stock of Letes (table III.1), covering the most relevant maturities in pesos and dollars, and the next stage is to develop the Bontes in pesos. In addition, we envisage that the Bontes will be large and liquid issues that will serve as benchmarks to develop the Argentine yield curve in both currencies.

Table III.1

Looking forward, our aim is to continue the present strategy. There are three fundamental

### **Treasury market (Letes)**

\$ million	days			Total*
	91	182	364	
<b>Letes</b>				
U.S. Dollar	---	761	500	<b>1,261</b>
Arg. Peso	753	503	521	<b>1,777</b>
<b>Total</b>				<b>3,038</b>

Outstanding as of October 20,1997

factors that will help to boost Argentina's ability to successfully satisfy its financing needs in the future. First, to maintain the macroeconomic policies that have been so successful in restoring stability, growth and confidence in the economy. This will ensure continuous access to the capital market and further reduction in borrowing costs. Second, strong growth in the domestic capital market, of the type that we have seen in recent years and the increasing participation of institutional investors will provide a broad investor base that will help to satisfy the financing needs of the public sector. Finally, Argentina has good

prospects of continuing to improve its credit rating over the next few years and this undoubtedly will improve its access to the capital markets.

#### IV. Argentina's Credit Ratings and the Risk Premium

Argentina has a BB rating with Standard and Poor's, Duff and Phelps and IBCA and a Ba3 rating with Moody's (table IV.1). This means that the country is two notches away from the investment grade rate for most rating agencies and three notches away for Moody's. The advantages of becoming investment grade are well known, as it would mean access to a larger number of investors and a significant reduction in the spread over US treasuries (figure IV.1). An upgrade to investment grade could mean a reduction of around 100 or 150 basis points depending on the duration of the debt.

#### S&P and Moody's ratings

S&P	Moody's
A- Chile	A3
BBB+	Baa1 Chile
BBB	Baa2
BBB- Colombia, Hungary, Poland	Baa3 Colombia, Hungary, Poland
BB Argentina, Mexico Philippines	Ba2 Mexico, Philippines, Venezuela
BB- Brazil	Ba3 Argentina
B+	B1 Brazil
B Venezuela	B

Table IV.1

## Spread over the yield of an AAA corporate

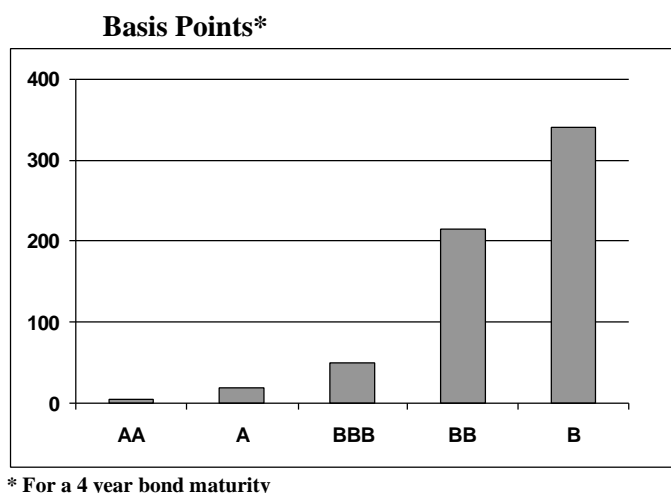


Figure IV.1

The credit rating of a country generally depends on a number of economic, political and social factors.<sup>1</sup> Among them, economic factors such as the per capita level of income, the inflation rate, the fiscal deficit, the rate of growth the size of the domestic capital market, the trade balance and the debt to exports ratio appear as the most important ones. The willingness to pay is another key determinant of the rating, and because it is difficult to measure the rating agencies many times use past defaults as a proxy. One characteristic of credit ratings agencies is that in general they give significant weight to past behavior and they tend to move slowly.

Argentina's credit rating was upgraded by Standard and Poor's and Moody's this year, largely reflecting the improvements in economic policies and performance in the nineties and the impressive recovery that the economy displayed following the 1994-95 recession. Despite the recent improvement in the ratings, Argentina's economic indicators are strong, and in many instances stronger than countries that already received an investment grade rating. As shown in table IV.2, Argentina performs well in most economic indicators. The rate of inflation, the budget deficit, and the debt to GDP ratios are smaller than most countries with BBB rating, while the GDP per capita and the rate of growth are higher. The only variable in which Argentina underperforms the investment grade countries is external debt to exports ratio.

<sup>1</sup> For a discusión of this topic see Cantor and Packer (1995) and (1996), Gallagher (1996) and Kiguel and Lopetegui (1997).

### ***Argentina's fundamentals in comparison***

	<b>Argentina</b>	<b>BBB</b>
➤ GDP per capita (\$)	8.666	4.981
➤ GDP Growth (%)	4,3	4,2
➤ CPI Inflation (%)	0,1	11,6
➤ Fiscal Balance/GDP (%)	-1,9	-3,0
➤ Public Debt/GDP (%)	32,7	47,0
➤ External Debt/Exports (%)	272,3	146,0
➤ Current Account/GDP (%)	-1,3	-4,4
➤ International Reserves/Imports (months)	7,8	5,0

Table IV.2

Nevertheless, there are strong reasons to believe that the Argentine foreign debt to exports ratio does not appropriately measure Argentina's ability to service external debt. First, foreign debt appears to be over-estimated because many times these figures include all debt in foreign currency, which in Argentina is much larger than in other countries, due to the strong dollarization of the economy. In contrast to other countries much of the domestic debt (including domestic instruments such as the Bonex, and the Bocones) are denominated in dollars. This feature makes it especially difficult to have a good measure of the size of the external debt.

Another, and probably more important reason that casts questions on the relevance of this ratio is that Argentine exports, measured in a conventional way, tend to underestimate the capacity of the economy to generate foreign exchange. First, Argentina is a large country in terms of the diversity of natural resources and its production capabilities. In contrast to other countries, Argentina is well endowed with food, including cereals, fruits and vegetables, fish and meat, with oil and gas, with minerals, and produces a wide variety of industrial commodities such as steel, aluminum, petrochemicals, etc. As the country does not have any apparent shortage of goods, it does not need to trade as much as countries that lack either food, energy, mineral resources or industrial products.

Second, Argentina exports goods with high value added that are not intensive in imported inputs. This is a crucial difference with respect to other countries who might have a much higher debt to GDP ratio, but where the ability to export crucially depends on the ability to import the intermediate goods. Unfortunately, there are no good measures of domestic value added in the export sector making it particularly difficult to obtain better indicators of the ability to pay. Until those indicators become available it will be difficult to quantify Argentina's capacity to generate foreign exchange relative to other countries.

In summary, while Argentina has been improving its credit rating, the strength of most economic indicators suggest that the country is likely to continue to improve its rating over the next few years. To the extent that the country maintains its fiscal and monetary stance and that the profile of the amortizations of government debt remains at manageable levels everything indicates that the history of poor macroeconomic performance and defaults will be a smaller burden on the present evaluation of Argentina's ability and willingness to service its debt.

## **V. Final Remarks**

This paper has reviewed the main factors underlying a liability management strategy, analyzed Argentina's experience in this area, and discussed the importance of credit ratings and how they could affect the strategy chosen. This section will try to summarize some key issues in these three areas.

All countries, implicitly or explicitly, have a liability management strategy. One message of this paper is that it is always better to design a strategy and make it explicit than to improvise and react to market events without clear guide. A sound liability management strategy can help to reduce the overall borrowing costs, which ensures good access to the international capital markets. Liability management is becoming more sophisticated over time as governments have access to new financial instruments (such swaps, futures and options) that can help to reduce risks. But the use of derivatives is not the first, nor the major decision that a government needs to make. More important is to have a clear idea about the duration of debt and the weight of domestic borrowing in total debt.

In the case Argentina, our objective has been to put in place a strategy that helps to reduce borrowing costs over the longer term while helping to the development of the domestic capital market. It is not always easy to combine these objectives, at least in Argentina, where the cost of issuing debt in the domestic markets has traditionally been higher than in the international markets. But our experience indicates that the introduction of standard debt instruments, with good liquidity and internationally accepted settlement practices can help to reduce those costs significantly. This has certainly been the case with our local instruments, the Letes and Bontes. In addition, there are advantages in having a well known annual financing schedule, stating dates, amount and maturities of the auctions. This greater predictability helps to reduce the uncertainty of the financial program and helps to ensure a continuous supply of funds.

The Argentine experience also indicates that the public sector can play an important role in developing the domestic capital market, in part through the creation of a yield curve with liquid instruments in the most important maturities. This serves as a reference for the private sector to manage their liabilities and helps to measure appropriately the country risk and the foreign exchange risk.

Finally, it is important to understand better how to measure country risks and credit ratings. In Argentina, the large percentage of foreign currency denominated, due to the bi-monetary nature of the economy, and the relatively low levels of exports as a share of GDP, as a result of our diversified natural endowments and our high domestic value added, have been a source of continuous debate. This, of course, is a challenging issue to analyze, but one that deserves more attention than it has received in the past.

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