

Debt Restructuring and Economic Recovery: Analysing the Argentine Swap¹

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Abstract

When Argentine sovereign default in December 2001 led to a collapse of the peso, the burden of dollar debt became demonstrably unsustainable. But it was not clear what restructuring was feasible, nor when. Eventually, in 2005 after a delay of more than three years, a supermajority of creditors accepted a swap that essentially involved the ‘pesification’ of dollar liabilities.

With the IMF not playing its customary role in arranging a swap, we consider whether a bilateral bargaining approach can help explain the final settlement and the delay in achieving. We find that the swap broadly corresponds to a bargaining outcome where substantial delay occurred for both political and economic reasons. Even after political legitimacy was assured by general elections, negotiators seeking a sustainable outcome -- at a time of deep recession, profound currency under-valuation and high sovereign spreads -- realised it was better to wait before settling.

Other factors discussed include the definition of sustainability criteria, the effect of inter-creditor conflict and the role of third parties in promoting ‘good faith’ bargaining. We suggest that, while these issues need further investigation, there are institutional changes that could make them less problematic.

Keywords: Bargaining, debt negotiations, endogenous growth, efficient delay

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1. INTRODUCTION

More than three years after sovereign default was declared, most of Argentine government debt involved was successfully restructured in early 2005. As in the Russian default of 1998, creditors took a substantial haircut (loss of face value): but compared with all other debt restructurings since 1998 shown in Table 1, the Argentine swap involved the largest amount of debt and took the longest time to be restructured.

This episode is important not just for those directly involved and but also as a marker for insolvency crises to come: for it challenged the idea that the IMF must play a central role in arranging sovereign debt swaps, Roubini and Setser (2004a). The IMF's proposed Sovereign Debt Restructuring Mechanism – first advanced in late 2001 when Argentina was sliding towards default – was blocked by a broad coalition of borrowers, private lenders and sovereign states including the US; and the Fund itself, stymied by conflict of interest and criticised by both debtor and creditors for its handling of the situation,² had to withdraw to the sidelines and let creditors and debtor sort things out for themselves.

TABLE 1
Sovereign Debt Restructurings 1998-2005

Sovereign	“Delay”	Face value	Hair cut	Restructuring negotiations
Russia	20 months	\$ 29.1	69%	11/ 1998 – 7/ 2000
Pakistan	10 months	\$0.6	30%	2/1999 – 12/ 1999
Ecuador	12 months	\$6.5	60%	8/ 1999 – 8/ 2000
Ukraine	3 months	\$ 2.6	40%	1/2000-4/ 2000
Argentina	40 months(a)	\$79.7	67%	(12/2001 - 9/ 2003) 9/ 2003 - 4/ 2005
Uruguay	1 month	\$3.8	26%	4/2003 –5/ 2003

Note : (a) Includes the period after default before formal negotiations began (12/2001 - 8/ 2003)

Sources: Sturzenegger and Zettelmeyer (2005) Tables 14 and 15 Roubini and Setser (2004b) TableA.3

² Graphically described in Blustein (2005).

What are the new rules of the game? Some look for a return of the IMF to handling crisis resolution. For Jérôme Sgard, the key role it played in the 1980s during the Latin American debt crisis provides an appropriate benchmark: “Since at least the 1920’s and especially under the classical regime of the 1980s, renegotiation regimes were established under a multilateral umbrella which locked together three key functions: economic expertise and information, third-party arbitration and guarantees of execution. This indeed allowed [reconciliation of] the efficiency and equity criteria which are preconditions for the resolution of any insolvency crisis” (Sgard, 2004, p 29). For their part, Roubini and Setser (2004b) assert: “It is unrealistic to think that ... a better process for restructuring sovereign bonds will allow the IMF to disengage from the sovereign debt restructuring process. ... We like bond clauses, but they are no substitute for an active IMF in the resolution of debt crises.”

Given the *status quo*, however, we examine the current Argentine debt swap to see whether bargaining theory can help to explain both the final settlement and the delay in achieving it. In the absence of institutional changes, this could be the shape of things to come.

In the next section, after a brief account of the Argentine convertibility plan of the 1990s and its collapse in 2002, we describe both the proposals made by the Argentine government at Dubai in 2003 (expressing the constraints of sustainability) and the actual swap of early 2005, accepted by a super-majority of the creditors. In their strategic analysis of debt restructuring, Bulow and Rogoff (1989) outlined a framework in which creditor and debtor bargain over a determinate “pie” representing the gains from trade for the debtor. Here we adopt the alternative approach of Merlo and Wilson (1998), where the size of the pie is uncertain and ‘efficient delay’ can occur as both parties wait for economic recovery

(fearing that early agreement will lock in the recession)³. We find that a swap involving the ‘pesification’ of sovereign debt is broadly consistent with the predictions of bilateral bargaining; and that the notion of ‘efficient delay’ helps to explain the considerable lapse of time taken to achieve the swap.

Factors not explicit in the formal framework are considered in section 3 - how the bargaining outcomes relate to the sustainability criteria adopted at Dubai, for example, and the effects of inter-creditor conflict. We also discuss institutional features that may have helped enforce ‘good faith’ bargaining -- political and economic pressure by G7 creditor countries (or by the IMF acting as their agent), and the legal decisions made by Judge Griesa in New York, who is responsible for adjudicating creditors’ claims under US law. We suggest that, while these issues need further investigation, there are institutional changes that could make them less problematic.

2. THE ARGENTINE DEBT SWAP: A BARGAINING APPROACH

a. Background

(i) The Convertibility Plan and its collapse

Following a bout of runaway inflation in 1989-90, Argentina adopted a Convertibility Plan “which stipulated a one-for-one parity between the Argentine peso and the US dollar and guaranteed the right to convert pesos at that rate, meaning that devaluation would require a

³ We are grateful Stephen Morris for first suggesting this approach to us.

new act to be passed by Congress” (Williamson, 1995). For the following decade Argentina was the largest country in the world employing a currency board system, a monetary arrangement in which the country abandons its monetary sovereignty in favour of a rule which links its monetary base to the inflow and outflow of dollars on its overall balance of payments.

Inflation ended promptly; and the economy grew rapidly in the early 1990s. But the strength of the dollar against the euro and successive devaluations by trading partners such as Mexico and Brazil made it increasingly difficult to maintain the convertibility regime. Finally, with capital outflows leading to repeated bank runs, the peg proved unsustainable, and the end of the currency board was likened to a ‘slow-motion train crash’ both because it was widely foreseen and because its effects were so catastrophic. Izquierdo (2004) explains why a highly-indebted, highly-dollarised and relatively closed economy like Argentina was particularly vulnerable to sudden stops; and Bleaney (2004) discusses the relative contributions of weak policy and bad luck.

Sovereign debt default was declared in December 2001, and the currency soon fell by more than two thirds of its value against the dollar. With banks closed, unemployment rising to 20 per cent and half the population falling below the poverty line, the country was thrown into political chaos and economic despair; and negotiations over debt restructuring were postponed until a new president was elected in 2003.

Shortly before default occurred, the IMF had proposed a Sovereign Debt Restructuring Mechanism modelled on Chapter 11 of the US Bankruptcy Code which allows the debtor to manage the restructuring of creditor claims under court supervision, Krueger (2002). But this effort to formalise the process - and to put the IMF at the centre of the stage - was dropped in the face of objections from creditor representatives, large debtors and the US

Treasury; and the process of restructuring was essentially left as a matter for negotiation between the sovereign government and the bondholders, using the procedures of the courts under whose laws the debt was issued. The US court in New York plays a key role, the judge there having to decide whether or not the debtor is negotiating ‘in good faith’: and, if not, what sanctions may be applicable. Before sketching a framework for analysing good faith bargaining, we first outline the size of the problem to be resolved, the sustainability constraints outlined by the debtor, and the swap effected in 2005.

(ii) Drowning in debt

After the peso collapsed from its peg of one dollar, the ratio of Argentina’s dollar-denominated sovereign debt to its national income rose alarming from an already high level. As shown in Figure 1 below, there had since the mid-1990s been a history of weak fiscal discipline and small primary fiscal surpluses⁴ on the part of the federal government. With emerging market crises in East Asia and Russia, debt roll-over costs increased sharply so the government accounts inclusive of interest payments moved increasingly into deficit.⁵ As result of this Ponzi game, of borrowing more to pay interest on previous borrowing, public debt rose inexorably towards 60 per cent of GDP.

⁴ i.e. the surplus excluding interest payments on debt.

⁵ “In our view, the dynamic evolution of public debt was principally due to the cumulative effect of increased interest rates, beginning with the crises of east-Asia and Russia. Interest payments were the principal factor of the increment in the fiscal deficit in the period 1998-2001” (Damill et al., 2005a, p.1)

By 2003, the amount of dollar debt outstanding came to around \$180 billion, of which about \$80 billion was owed to Preferred debtors⁶ with the remainder, around \$100 billion including unpaid interest, owed to private creditors, see Table 2. At an exchange rate of three pesos to the dollar, however, sovereign indebtedness stood at almost one and a half times 2003 GDP, more than double Maastricht target of 60 per cent, and almost five times the analogous figure of 30 per cent suggested as appropriate for emerging markets by Stanley Fischer (2001). At a real interest rate of ten and a half per cent,⁷ the cost of servicing the debt to private creditors (including accrued interest due) would have been over ten billion dollars. This cost (which, after default, was not being paid), together with the figure for preferred debt that was being serviced (\$2.8bn), gives a total cost of over 13 billion dollars: so fully servicing government debt from a GDP of \$130 billion without further borrowing would have required a primary surplus of *over ten percent of national income*. This was clearly infeasible, so a write-down was essential - as the Argentine Government argued at the IMF/World Bank meetings in Dubai in September 2003.

(iii) The Dubai initiative – a commitment to sustainability

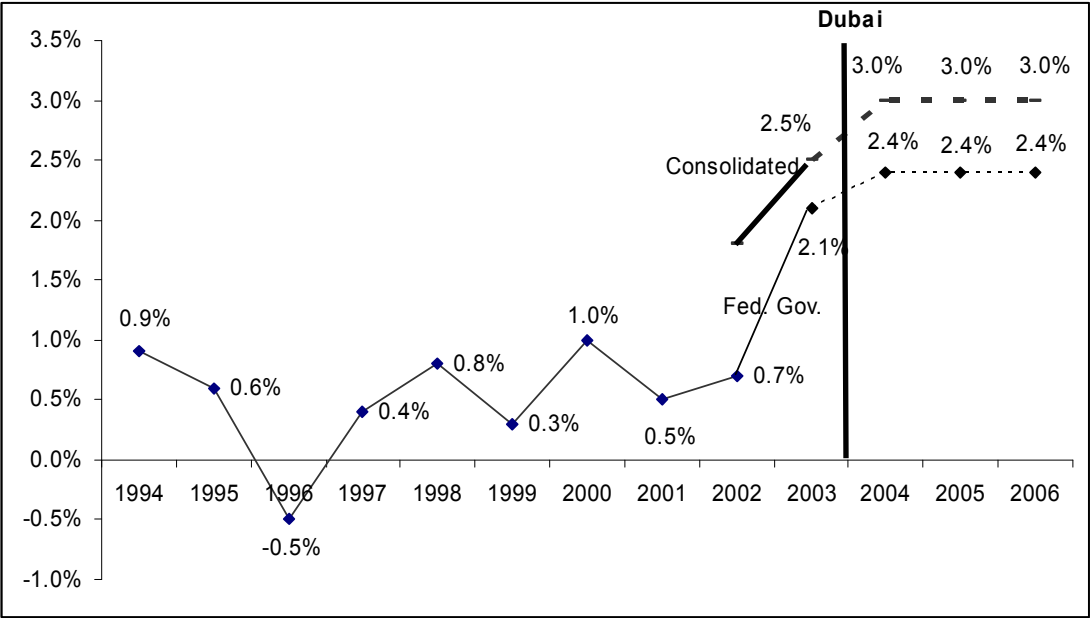
The first element of the Argentine strategy unveiled at Dubai involved a decisive break from the history of weak primary surpluses during the latter half of 1990s: there was

⁶ International Financial Institutions and holders of ‘new issue’ bonds (those issued during the crisis to compensate domestic depositors and to recapitalise the banks).

⁷ Damill et al (2005b) report a discount rate for emerging market of 12-14 per cent at that time. An inflation correction can be obtained by subtracting the yield on medium-term indexed securities (TIPs) from US benchmark government bonds, giving a figure of about 2.75 per cent. We round this to 2.5 per cent and subtract it from the lower end of Damill’s range to give a real rate of 10.5 per cent used in the table.

instead a commitment *to run a primary surplus of three per cent of GDP* from 2004 onwards (measured on a consolidated basis including the Provinces, see dashed line in the figure).

FIGURE 1
Argentine Primary Surplus as per cent of GDP



Source: Speech of the Secretary of Finance, Dr Guillermo Nielsen, Dubai 22 September, 2003.

The second element of the Argentine strategy was *to stop playing the Ponzi game*, and use only the primary surplus to service debt: this, of course, implied a debt write-down. The final element was *to privilege preferred creditors with full compensation* despite the threefold increase in the price of the dollar in pesos. Given the cost of servicing these preferred creditors and the depressed level of GDP in 2003 with Argentina in recession, these sustainability constraints left a sum of only about a billion dollars - a ‘Dubai residual’ of *less than one per cent of GDP* - for servicing private debt holders after the swap (Table 2, column 3).

Table 2
The Dubai proposal: debt outstanding and sustainable debt service.

	Sovereign Dollar debt	Service cost ⁽²⁾ @ 10.5%	Debt service proposed at Dubai	Recovery Rate ⁽³⁾
Total debt	\$182 (140% of GDP)		\$3.9 (3.0 % of GDP)	
Preferred Creditors	\$81		\$ 2.8	
Others <i>including</i> past-due interest	\$101	\$10.6	\$1.1 (0.8 % of GDP)	10c
Others <i>excluding</i> PDI	\$81	\$8.5	\$1.1	13c ⁽⁴⁾

Notes (1): 2003 GDP approx \$130bn (GDP at current market prices of 376bn pesos⁸ converted at 2.90)

(2): For source of real rate of 10.5% see footnote.

(3): Recovery rate = debt service / service cost

(4): Market value of \$1.1bn capitalised at 10.5% = \$10.5bn which is 13% of \$81bn

At a post-crisis real interest rate of about five percent, a settlement on those terms in 2003 would have represented a recovery rate of only 27 per cent on debt of \$81 billion without past due interest (PDI); and this was how it was described by the Argentine government. But at the real interest rates prevailing at the time, the recovery rate was only about half that: which was how it was treated in the press, e.g. "... Argentina's offer is worth less than 10 cents on the dollar." *Financial Times Intelligence*, 8 March, 2004. The figures in the last column, capitalised at the rate of 10.5 per cent, imply a recovery rate for creditors of only 13 cents in the dollar on debt without PDI; and ten cents on debt with interest accrued.

Why should the Argentine government have chosen to impose such a tight constraint on the resources available to private creditors? The principal reason was surely its determination to avoid a repeat of the sovereign default which had led to historically unprecedented social and economic disruption. But privileging of multilateral creditors might also have been part

⁸ Ministerio de Economía y Producción (2005)

of a negotiating strategy designed to set private creditors at odds with the international agencies normally concerned with protecting their rights (Cooper and Momani, 2005).

(iv) The Buenos Aires swap

When a formal offer was finally made in early 2005 it involved par bonds (with no write-down of principal but reduced coupons and longer maturity), discount bonds (with a substantial principal write-down but less write down of coupons) and so called ‘quasi-par’ bonds designed to be attractive to Argentine pensions funds.⁹ In addition, attached to each bond, was a small strip of GDP-linked securities (which creditors did not value highly although, with economic recovery, they could prove quite valuable). While bondholders could choose the currency of denomination, there were clear incentives to opt for peso-denominated debt, locally- legislated. Unlike the defaulted bonds, the new issue bonds included Collective Action Clauses (CACs) – provisions allowing a supermajority of holders to overrule holdouts and alter the financial terms of the contract in any future restructuring.

We estimate that the swap was worth about 37 cents in the dollar.¹⁰ Strong recovery of the economy and some appreciation in the real exchange rate had - given the fixed dollar cost of servicing preferred creditors - generated a substantial increase in the resources available to pay private creditors, Damill et al. (2005b); and the decline in real interest rates had increased the market’s valuation of service flows on offer. As a crude estimate of the

⁹ For further details, see the Prospectus Supplement from the Ministerio de Economía, Argentina (January 10, 2005)

¹⁰ This was the cum-dividend offer made to holders of dollar par bonds after Judge Griesa allowed the swap to proceed (see Sabina Amboage, *Clarín*, 5 June, 2005).

“permanent” flow of real resources implicit in the swap we take 37 per cent of the full cost of servicing dollar debt at a post crisis real interest rate of 5.5 per cent:¹¹ this gives the figure of \$1.65bn for private creditors¹² shown in Table 3, a real flow of approximately 1.1 per cent of 2004 GDP measured in dollars.

But the recovery rate of 37 cents in the dollar on defaulted debt of about \$80 billion takes no account of past due interest. The value of the new debt, approximately \$30 billion at post-crisis real rates, represents a recovery rate of only 30 cents in the dollar on debt including past due interest which had grown to about \$100bn, see row 1 of Table 3.

TABLE 3
Buenos Aires swap: flows available for servicing non-performing dollar debt

	Sovereign Dollar debt	Service cost @ 5.5% ⁽²⁾	Debt service estimated from market prices	Recovery Rate ⁽³⁾
Debt to be restructured (<i>including</i> past-due interest)	\$101 (66% of 2004 GDP)	\$5.56	\$1.65 (1.1% GDP)	30c
Debt to be restructured (<i>excluding</i> past-due interest)	\$81 (53%)	\$4.46	\$1.65 (1.1% GDP)	37c

Notes (1): 2004 GDP approx \$153bn (GDP at current market prices of 447bn¹³ pesos converted at 2.92)
 (2): Obtained by subtracting 2.5% for US inflation from the figure of 8% given for the EMBI without Argentina, Calvo, 2005.
 (3): Recovery rate = debt service / service cost

b. The Bargaining Framework

¹¹ Obtained by subtracting 2.5 per cent for US inflation from the figure of 8 per cent given for the EMBI without Argentina, Calvo, 2005.

¹² Together with \$2.8 billion needed for preferred creditors, the primary surplus needed for debt service is 2.9 per cent of 2004 GDP.

¹³ Ministerio de Economía y Producción (2005)

Can bargaining theory help explain such an outcome? Bulow and Rogoff (1989) applied Rubinstein's (1982) canonical formulation of non-cooperative bargaining with alternating offers to debt negotiations. Creditor and debtor bargain over a fraction of GDP representing the value of the gains from trade to the debtor;¹⁴ and a settlement is when both agree on the share to be allocated to the creditors. Where all the parameters are common knowledge and both agents are rational, a Pareto-efficient settlement is reached without delay. In a paper written soon after the Dubai initiative to anticipate what might emerge from the debt negotiations, this approach provided a forecast settlement of between 31 and 40 cents in the dollar depending on the relative rates of discount of the parties concerned, Miller and Fronti (2003).¹⁵

While it may have produced a reasonable forecast of the final outcome, this approach failed to explain the delay. But Merlo and Wilson (1998) showed that both parties might accept delay if the pie is expected to increase with economic recovery and there are no contingent contracts. Their analysis also captures the important idea that early settlement might endanger recovery: it is a primitive form of an 'endogenous growth' model where the resources available for a swap are expected to increase in the future, but there is uncertainty about when the recovery will take place and concern that pressing for early restructuring (and the implied resumption of interest payments) will abort recovery.¹⁶ They argued, for example, that restructuring of Latin America debt in the 1980s was postponed to allow US banks to provision for losses involved in a write-down. This is the bargaining framework

¹⁴ Trade being the hostage to the debt negotiations, the gains from trade will be lost if they fail.

¹⁵ In the paper cited the estimates ranged from 31 to 35 cents; but press reports (Clarín 18 December, 2003) referred to an earlier estimate of 40 cents based on different assumptions as to relative interest rates.

¹⁶ Merlo and Wilson make the stark assumption that *any* settlement will abort recovery: more realistically, the rate of recovery would depend on the size of the haircut.

adopted in this paper (with technical details of the analysis available in Dhillon et al., 2005), although on this occasion it was concern for debtor sustainability that may have caused delay.

c. Bargaining in the Case of Argentina

(i) Defining the pie

How best to define the pie to be divided between debtor and creditors? We use an estimate based not on explicit calculations of gains from trade, as in Bulow and Rogoff, but on “looking at the cards” of the creditors to see what they revealed of the gains they hoped to extract. When confronted with the limited resources indicated by the sovereign debtor in the Dubai initiative, the creditor response was to *more than double* what the Argentine government estimated was sustainable at that time: specifically, the Argentine Bondholders’ Committee (ABC) called for a recovery rate in the region of two thirds of the debt outstanding. Scaling up the ‘Dubai residual’ in line with this demand, implies a pie worth about 2.64 per cent of GDP.¹⁷

What this implies for the situation in 2004 is shown in the first row of Table 4, where this percentage is applied to a level of GDP which reflects continued recovery in the economy and the real exchange rate. It implies an *annual flow* of about \$ 4 billion at constant 2004 prices as an estimate of the resources available for debt service. Allocating everything to

¹⁷ $2.64\% = 60/25 * 1.1\%$ where 60 per cent is the ABC response, 25 per cent is Dubai proposal and 1.1 per cent is the Dubai residual.

The procedure used here is as described in Miller and Garcia-Fronti (2003): in conversation, Rogoff considered it to be a neat alternative to estimating the gains from trade.

the creditors would have violated the Dubai sustainability constraint, however.¹⁸ So how was it to be divided?

Table 4
Dividing the Pie: Creditor payoffs on restructured debt

	Fraction of pie for the creditors	Percent of GDP in 2004	2004 Dollars Billion	Recovery Rate ⁽¹⁾ (on debt w/o interest)	Required primary surplus ⁽²⁾
Size of pie ⁽³⁾	100%	2.6 %	\$4	90 cents	4.4 %
Unconditional Bargaining outcome ⁽⁴⁾	50%	1.3%	\$2	45 cents	3.1%
Bargaining Outcome with Argentina as first mover ⁽⁶⁾	46%	1.2%	\$1.85	41cents	3.0%
Actual Buenos Aires offer ⁽⁵⁾	47%	1.1%	\$1.65	37cents	2.9%

Notes (1) Calculated as ratio of interest paid to interest due, with the latter estimated to be \$4.46 (applying an interest rate of 5.5% - the EMBI rate without Argentina from Calvo (2005) less 2.5% for US inflation – to the debt total of \$81bn as in Table 3).
(2) The primary surplus (including \$2.8bn for senior creditors, see Table 1) needed to stabilize government debt in real terms (and not relative to GDP).
(3) Based on the ABC response in Dubai, updated to 2004 GDP.
(4) Source: Table 3. The required primary surplus is calculated as \$2.8bn + \$2bn = \$4.8bn, which is 3.1% of GDP of \$153bn in 2004.
(5) See Table 3, row 2
(6) Conditional on Argentina making the first offer.

(ii) *Ex-ante forecast: “splitting the pie”*

To see the predicted settlement of bargaining in good faith (and how it compares with the offer which was finally accepted), we turn to the Merlo-Wilson framework. We start the unconditional prediction when the identity of the proposer (who actually makes the offer leading to the settlement) is not yet determined. Assuming equal probability of being the proposer, the prediction is simply to “split the pie”: if neither player knows whether it will

¹⁸ As indicated in the first line of Table 3 it would have implied a recovery rate of 90 per cent (on debt excluding rolled up interest) and a total servicing cost of over 4.4 per cent of GDP when account is taken of the cost of senior debt.

have “first mover” advantage, *each expects half the pie*.¹⁹ In this case, creditors would expect a flow transfer of about \$2bn dollars at 2004 prices – 1.3 per cent of 2004 GDP (see Table 4, second row); at post-crisis real interest rates, this represents a ‘recovery rate’ of 45 cents in the dollar on debt without past due interest.²⁰

(iii) *The case where Argentina has ‘first mover advantage’*

When it is the debtor who makes the offer after the economy has recovered, it has the tactical advantage of knowing that any counter-proposals will involve delay: so it gets rather more than half the pie.²¹ If it is the debtor who has “first mover” advantage, the Merlo-Wilson calculus in this case implies that creditors will get only 46 per cent of the pie,²² receiving a flow transfer of about \$1.85bn dollars at 2004 prices, Table 4 line 3. The implicit recovery rate on debt without interest falls to 41 cents; but the creditors still do better than in the actual Buenos Aires offer (see column 4 of Table 4). In brief, the framework we use predicts an outcome for the creditors close to -- but somewhat more generous than -- the actual Argentine offer of early 2005.

¹⁹ As Binmore (1992) points out, this prediction corresponds to the outcome of *cooperative* bargaining where both parties have the same bargaining power, Nash (1950)

²⁰ It represents a recovery rate of 36 per cent on debt including past due interest (PDI), which admits an interesting interpretation: it implies that debt including PDI is broadly written down in line with the peso, i.e. dollar debt is ‘pesified’.

²¹ In the special case where there is no opportunity for any counter offer -- the so called ‘ultimatum game’ -- the debtor will get all the pie.

²² This is on the assumption that there is equal ex-ante probability of being proposer, that the annual discount rate is 4 per cent and assume also that settlement only takes place after economic recovery. For further details, see Dhillon et al (2005).

FIGURE 2
Settlement after economic recovery: from Dubai to Buenos Aires.

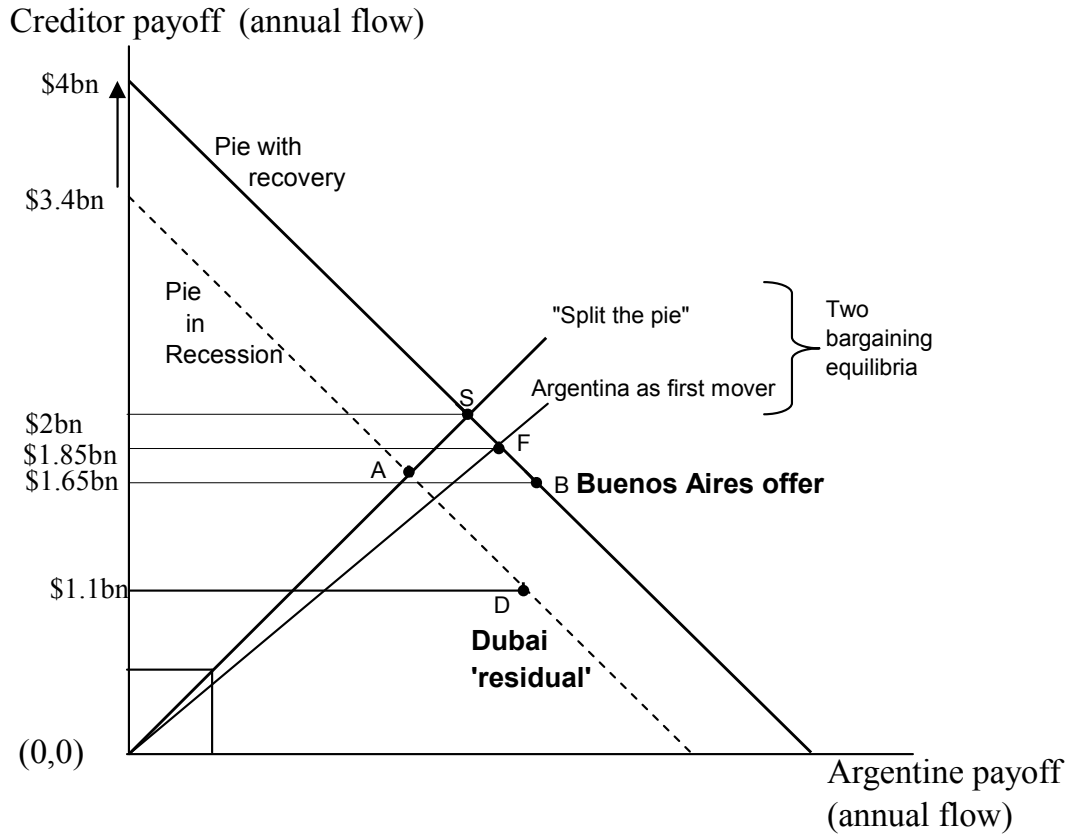


Figure 2 indicates schematically how the increase in available resources can affect the size of the settlement. The pie after recovery in GDP is shown as the solid line (estimated at \$4bn, being 2.64 per cent of 2004 GDP) and the bargaining predictions are shown labelled as points S (Split the pie equally) and F (where Argentina has first mover advantage). The actual Buenos Aires offer, shown at point B, gives creditors less than either of these bargaining outcomes – and gives the debtor correspondingly more. The improvement for Argentina over splitting the pie is a reduction of eight cents in the recovery rate (Table 4,

column 4): half of which can be explained by the tactical first mover advantage.²³ An alternative approach would be to consider explicitly how the sustainability conditions may have influenced the bargaining outcome: this is the avenue explored in Ghosal and Miller (2005).

The smaller pie in recession (a figure of \$3.4b, 2.64 per cent of 2003 GDP) is indicated by the dashed line in the figure; and point D indicates the flow of resources available for the creditors announced in Dubai, clearly a good deal less favourable to the creditors than either of bargaining outcomes discussed above.²⁴ From a comparison of the payoffs at points A and S, it seems likely that the negotiators would be tempted to delay to share in the extra resources expected to become available - due to both the recovery of the economy (about nine per cent in real terms) and the rise in the GDP deflator (about nine per cent). But the cost of waiting and uncertainty about economic recovery must also be taken into account.

(iv) Why the delay?

There is no doubt that political factors played an important role in the timing of the events. There was, for example, a problem of legitimacy as the country was being governed by an interim administration immediately after default. When President Duhalde took office in early 2002, it was to complete the remainder of the term for which President De La Rúa had initially been elected; and he “took the decision to be only a transition between the

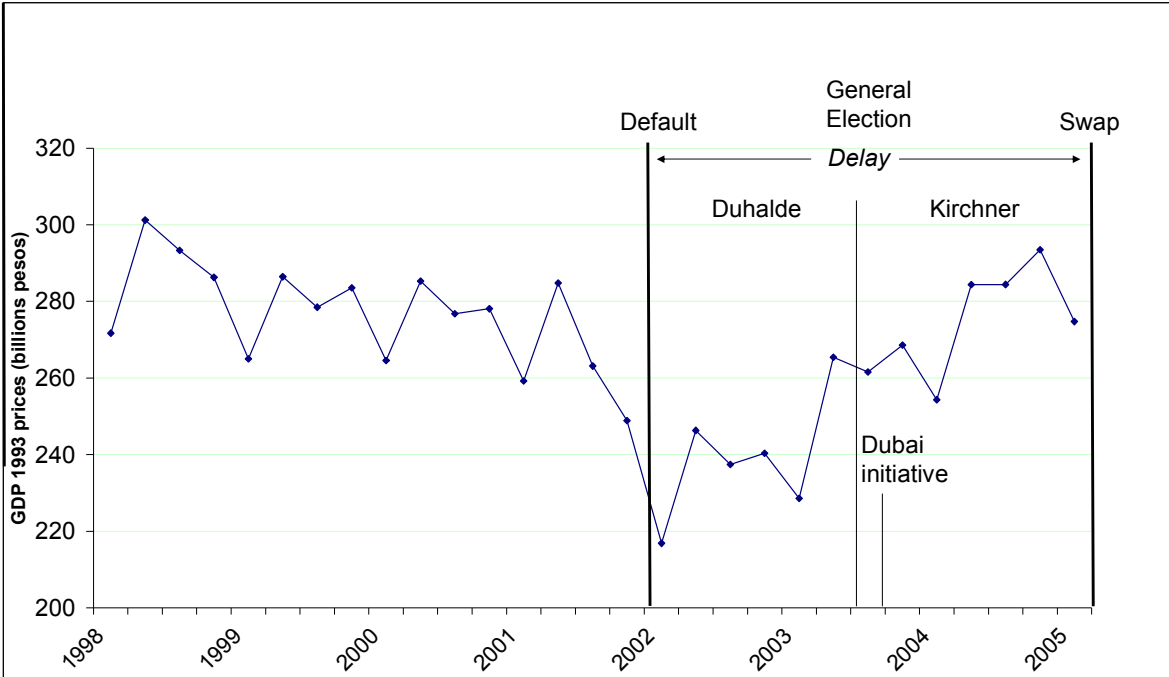
²³ Indeed, the MW framework could be made precisely to fit the Buenos Aires settlement (of \$1.65bn for creditors) if the ex ante probability of the debtor being proposer were increased from a half to 55 per cent, Dhillon et al. (2005).

²⁴ We indicate later how it may be interpreted as expressing a sustainability constraint rather than a bargaining offer.

government of De La Rúa and the next government and for this reason did not pursue outstanding structural reforms, among which debt resolution was one of the most important” (Bruno, 2004, p.162). So delay until the election of President Kirchner was essentially political.

Although the legitimacy issue was resolved by the general election of 2003, delay continued for another year and a half. As a settlement in recession which blocks a promising recovery is best avoided, a bargaining framework in which the size of the pie is variable may account for this delay, so long as state contingent contracts are not widely used -- as turned out to be true in this case.

FIGURE 3
Real GDP and delay in restructuring



Source: Ministerio de Economía y Producción (2005)

The formal condition for delay involves comparing the resources available for servicing in the recession (the current pie) with the expected future resources available with delay, with

the latter appropriately time-discounted (Merlo-Wilson, 1988, p.49). Efficient delay occurs when the *expected annual rate of recovery* exceeds the *time rate of discount*.

Can delay under President Kirchner be accounted for by prospective growth in the resources available for debt finance? In Figure 3 we show the collapse of the economy immediately after default, the partial recovery under Duhalde, and the continued recovery under President Kirchner. Further details are given in Table 5. Consider first expected recovery in the real economy in the year following Dubai. As shown, official Government forecasts at the time were made on the basis of four per cent growth, although this assumption was acknowledged to be on the low side.²⁵ (Market forecasts at the time were for four to five per cent in real GDP in the coming year; see, for example, the Weekly Report of Estudio Broda of 11 November, 2003.) In fact the actual rate of economic recovery turned out to be almost twice as fast, nine per cent 2003 to 2004, Table 5, second row.

TABLE 5
Expected and actual growth of resources available to service dollar debt, 2003-2004

	GDP Growth	Real Exchange Rate appreciation (a)	Growth in resources
Expected by the Government (b)	4%	9.2%	13.2%
Actual (c)	9%	6.1% (CPI)	15.1%

Notes: (a) In line with the Dubai presentation, this is calculated using movements in the CPI (and not the GDP deflator as in Figure 2 above), assuming no change in the nominal exchange rate (of approximately 2.9 pesos to the dollar).
 (b) Speech of the secretary of finance, Dr Guillermo Nielsen, Dubai 22 September, 2003.
 (c) Ministerio de Economía y Producción (2005)

Next consider the recovery of the real exchange rate from its downward ‘overshoot’ when the peso collapsed but peso prices stayed fairly stable. With the dollar stabilising at around

²⁵ “As to the GDP evolution, we have assumed ... a 4 per cent growth for the 2004-2006 period. Please note that since we assumed office, in May 2003, indicators have progressed better than projections.” Speech of the secretary of finance, Dr Guillermo Nielsen, Dubai 22 September, 2003.

three pesos, the rising price of Argentine goods was expected to change the real exchange rate; and, at the time of Dubai, the government's expectation was of a real appreciation of about nine per cent for 2004. Adding this expected appreciation to the output growth of four per cent implies a 13 per cent increase in the resources available for debt service²⁶ based on official forecasts, Table 5 line 1. This is greatly in excess of the discount rate of 4 per cent we have assumed for both parties²⁷; so we conclude that delay was 'economically efficient'. Putting it bluntly, trying get a settlement with creditors at a time of deep recession, profound currency under-valuation and high sovereign spreads was going to be very difficult on terms consistent with economic recovery.

The Argentine government did try to find a way around this problem by offering GDP-linked bonds in the swap, as advocated by Borensztein and Mauro (2002,2004) for example. But despite the logic of the situation -- and the arguments advanced by Shiller (1993) as to why such instruments should play a useful role in completing existing asset markets -- creditors showed little enthusiasm for this new form of debt; and in the final settlement, they accounted for only about ten per cent of the value of the swap.²⁸ In all probability, the market's under-valuation reflected perceived illiquidity: but it may also

²⁶ In fact, inflation was less than expected so the actual appreciation of the real exchange was close to 6 per cent, giving the ex-post increase of resources of around 15 per cent shown in the last line of Table 5.

²⁷ A discount rate of four per cent may seem low relative the interest rates at the time; but it is almost double the yields available on long dated-indexed debt in the US and UK since the late 1990s. As high sovereign spreads for Argentina reflected credit risk and risk aversion rather than time preference, we were persuaded by Daniel Heymann to use the same rate for creditor and debtor; and, with current indexed-debt yields at such unusually low levels, we opted for the higher rate characteristic of the 1980s and 1990s.

²⁸ Given their low market valuation at that time, Sturzenegger (2005) concludes that it could prove an expensive mistake to have included growth bonds in the swap.

owe something to political factors. Kohlscheen (2005) has argued that presidential systems are, in general, less to be trusted than their parliamentary counterparts.²⁹

3. WIDER CONSIDERATIONS

Two-player non-cooperative bargaining theory may help to explain the nature and timing of the debt swap. The account we have given is, we believe, broadly consistent with the view that any early agreement acceptable to the debtor would have been considerably worse for the creditor; and that both sides – realising that the bargaining outcome would depend on the resources available both in terms of real GDP and the real exchange rate -- had to wait for recovery to be established. But important factors are not explicitly taken into account in the bargaining framework we use. Consider in particular three issues that will need to be addressed if this case is to be used as a benchmark for future restructurings: the definition of sustainability criteria, the effect of inter-creditor conflict and the role of third parties in promoting ‘good faith’ bargaining.

a. Debtor Sustainability

Economic incentives for delay are captured in broad terms by the bargaining framework: but what of the specific commitments made by the debtor at Dubai when defining the strategy for reducing debt vulnerability -- first by writing-down debt and then by running

²⁹ In a related contribution, Arida et al. (2005) discuss the role of “jurisdictional” uncertainty in limiting the availability of long-term debt contracts available in Brazil.

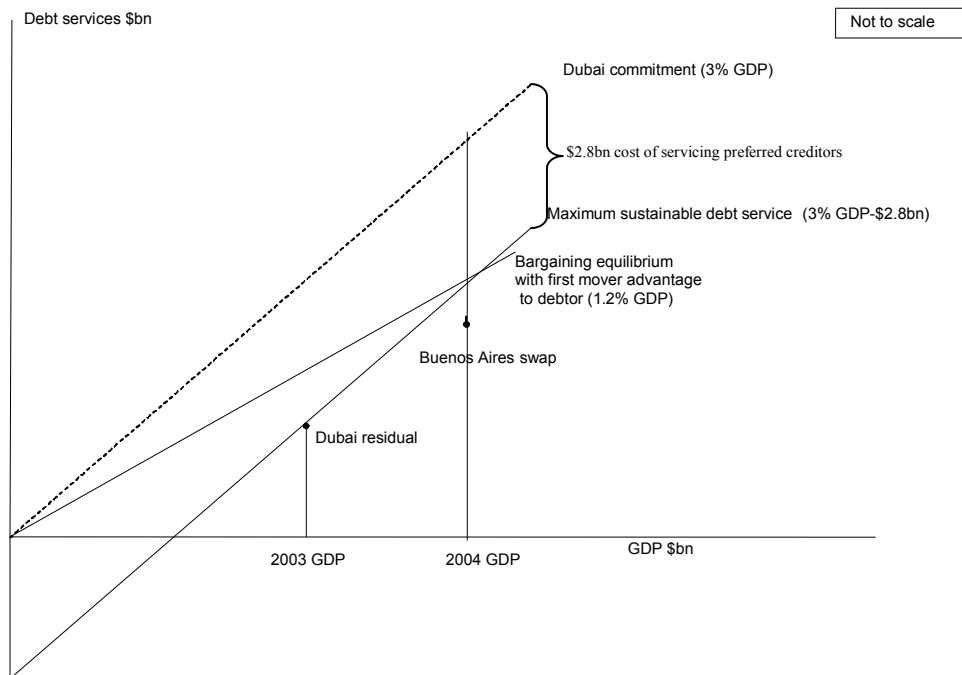
fiscal surpluses to reduce the remaining debt burden? What constraints might they have imposed on the bargaining process?

In Figure 4 we show how the initial 3 per cent GDP ceiling on debt service restricts the amount available for creditors in the swap, particularly when GDP is low. The Dubai sustainability condition limiting debt service and the bargaining equilibrium are both plotted as increasing with current price GDP measured in billions of dollars. The bargaining equilibrium (with first mover advantage to the debtor) is indicated by the ray whose slope indicates that the creditor expects to get about 1.2 per cent of GDP, see Table 4, row 3: the dashed line depicts the 3 per cent of GDP limit on total debt service, while the parallel solid line shows the ‘residual’ available for paying the creditors who own defaulted bonds – after servicing preferred debt in full (at a cost of \$2.8bn a year). Note that the Dubai residual lies well below the bargaining equilibrium at that date: this implies that debt restructuring in 2003 with the economy in depression would have violated sustainability. Only by waiting for economic recovery³⁰ does the bargaining equilibrium (almost) satisfy the sustainability condition, as shown in Table 4 row 3. To ensure that the sustainability constraint is precisely satisfied it would necessary for the negotiations to take it explicitly into account while bargaining.³¹

³⁰ As noted above, economic recovery here includes both the rise in output and the appreciation of the real exchange rate. Note also that waiting for recovery means delaying the resumption of interest payments by the debtor.

³¹ As in Ghosal and Miller (2005), for example.

FIGURE 4
Bargaining subject to a sustainability constraint



The objective of running a three per cent primary surplus sufficient to cover real cost of debt service, by stabilising public debt in real terms, ensures that the debt/GDP ratio will fall with real economic growth (and appreciation of the real exchange rate).³² But it is less ambitious than the 4.5 per cent surplus proposed by the IMF in 2004. The latter was roundly rejected by the Kirchner government which “in its public statements had said at the outset of its dealings with the IMF that it would pay what it could, but not at the expense of its management of the ‘social debt’. The quality of life of Argentine citizens would take priority over the financial debt of the nation’s creditors. ... [the government] was particularly adamant that growth, not austerity, would restore solvency and that any

³² This commitment involves a larger surplus than the usual ‘fiscal sustainability’ criterion aimed at stabilising debt relative to GDP, where real debt grows in line with the economy, as used in Calvo (2005, p.19), for example.

requirement of a primary surplus above three per cent would jeopardise growth and force [it] either to cut spending or raise taxes” (Cooper and Momani ,2005,p.310). In so saying, the Argentine government endorsed a populist strategy which greatly enhanced their domestic political support.

A bargaining process which takes explicit account of the debtor’s commitment to sustainability (and managing the ‘social debt’) would predict an increase in debtor bargaining power: but getting better information about the debtor’s true intentions may also lead to delay. This suggests a new role for the IMF – that of information provider. If it can make the requirements of sustainability common knowledge as between debtor and creditor, there will no need for the debtor to signal commitment by delay, Ghosal and Miller (2005).

b. Creditor Heterogeneity

(i) Coordination by the market?

Holders of the defaulted Argentine debt fell into intrinsically different categories: as well as retail investors from all over the world, there were investment banks and so-called vulture funds. And there were no Collective Action Clauses in the bonds to help achieve coordination. Sgard (2005) notes, for example, the “cleavage between the small German, Japanese and especially Italian bondholders (400,000), who bought stocks at par, and specialised investment funds which generally acquired them after default, at a heavily discounted price. The conditions offered by the Argentine government thus imply significant gains for the latter ... which may reflect a tacit alliance with the US investment funds.” So, despite the heterogeneity of the creditors, and the refusal by the debtor to recognise any of the various creditor committees as negotiating partners, it appears that the activity of investment funds played a coordinating role by buying up distressed bonds and then negotiating with the sovereign. These New York investment funds may well have provided a negotiating counterparty to the sovereign debtor; but these coordination services have apparently been supplied at considerable cost to the average creditor.³³ A more impartial and less costly representative for creditors as a whole would be an improvement.

(ii) Is there a case for a Bondholder Committee?

³³ They “were buying euro-denominated defaulted bonds at below 30 cents on the dollar”, assets to be worth 37 cents after the swap.

(Adam Thomson, 28 February 2005, Financial Times p.23)

One possibility is the appointment of a trustee to ensure inter-creditor equity. But if, as is common with US bonds, the trustee requires unanimity for any change to the financial terms of the bond this leads to a ‘hold up’ problem where vulture funds buy distressed debt and litigate to recover the full value, refusing all offers to restructure the defaulted debt until they are given full compensation: such vulture funds are extremely patient and persistent, being willing to wait for up to a decade in pursuit of full settlement for the bonds they have purchased. An alternative mechanism would be a formal bondholder committee, as proposed by Eichengreen and Portes (1995) on the historical model of the 1930s : as Mauro and Yafeh (2003, p.26) note, “... one of the roles of the Corporation of Foreign Bondholders (CFB) [was] to protect small bondholders from large bondholders who might otherwise arrange for a separate, advantageous deal for themselves in exchange for the promise to provide the country with new lending.”

Finally, the incorporation of collective action clauses, CACs, in debt contracts may help to solve the problem of hold-outs. This has been done in the swap. While Kletzer (2004) is relatively optimistic that strengthening CACs will eliminate inefficiency of holdout creditors in the future, others such as Fernandez and Fernandez (2004) and Ghosal and Thampanishvong (2005) point out that promoting creditor coordination in this way risks undermining the debtor’s incentive to bargain in good faith; there is therefore a role for international financial institutions to complement CACs.

c. Third Party Intervention and “Good Faith” Bargaining

(i) Role of the US court, G7 and the IMF

The court in New York sought to encourage constructive negotiations between the debtor and creditors. During 2003, for example, when Argentina proved reluctant to negotiate, Judge Griesa insisted on ‘good faith bargaining’ as a condition for restraining the vulture funds: and this may have been instrumental in triggering the Dubai proposal. It appears that, in practice, the court has treated the vulture funds as a useful goad to bargaining, but not to defining the settlement: the terms of the swap emerged from the activity of investment banks, with the vultures still holding out. Despite the absence of Collective Action Clauses, it may be that Judge Griesa kept the way clear for a supermajority to arrive at terms for an acceptable restructuring.³⁴

In the context of these negotiations, national law courts have had to decide important issues of principle affecting the fate of nations; so recourse to legal procedures may have reinforced the economic factors for delay discussed above. Creditors have typically been more optimistic about the efficacy of legal sanctions at their disposal than the debtor: when creditors appealed to the doctrine of *pari passu* to justify seizing money paid to senior creditors, for example, Argentina’s legal advisers staunchly opposed that view (Buchheit and Pam, 2003). But the issue remained a matter of legal dispute until January 2005 when the law in Belgium which permitted Elliot Brothers to proceed against Peru on these grounds was repealed. Such delays may reflect the evolution of legal doctrine.

³⁴ An interpretation discussed in Miller and Thomas (2005).

What about the role of International Financial Institutions (IFIs)?³⁵ The bargaining framework used here assumes both parties to the negotiations suffer from delay – as they cannot consume the pie until agreement is reached - and this provides the incentive to agree. But Argentina was paying no interest on the debt liable to restructuring and suffered little direct disruption of trade flows as a consequence. This ‘inside option’ - to carry on trading and consuming while negotiating with creditors who are getting no debt service - confers a bargaining advantage to the debtor.³⁶ The role of the courts in promoting good faith bargaining and by the IMF/ G7 in protecting creditor rights may have acted to offset this advantage for debtor.

Outside the law courts, there are two ways this has been achieved. First through direct economic pressure e.g. by G7 banks restricting trade credit available to finance Argentine exports. While state restrictions on trade may violate WTO obligations, restrictions of trade credit are a legitimate tactic open to creditors to increase their bargaining power. Kohlscheen and O’Connell (2004) show theoretically how denying the debtor access to capital markets can affect the bargaining process; they find evidence that such restrictions are commonly used and were applied in the case of Argentina.

Second, IMF executive directors from creditor countries can use their influence in the IMF to seek either tougher conditionality – an increased fiscal surplus, for example -- or an end

³⁵ There is a body of research that examines their role in the context of debt renegotiations from a game theoretical perspective, for example Bhattacharya and Detragiache (1994) and Bulow and Rogoff (1988). But in these papers the IFIs were treated as an ex-post mechanism for transferring resources to the debtor, rather than as agents for the international community to ensure good faith bargaining and sustainability in the post default situation.

³⁶ See Muthoo (1999) for further discussion of inside options.

to rollovers of official lending³⁷. (No rollover of outstanding official loans would have implied an immediate cash call of around \$6bn in the second half of the 2005, for example). Could this not lead to a trial of strength where the debtor counters by threatening to default on its debt to that organisation? If so, advises the Financial Times,³⁸ “The IMF must shrug off such blackmail. If Argentina did default on its multilateral debt it would lose access to World Bank and Inter-American Development Bank credits and many sources of private finance - and risk a broader clash with the entire membership of the IMF.”

(ii) Is there a case for an arbitration forum?

Historical experience of the 20th century shows that resolution of sovereign default can be assisted by a third party arbitrator placed between debtor and the creditors who can attest to the fairness of “burden-sharing” as well as “good faith” bargaining. This was the role of the American Money Doctors at the beginning of the century; then the League of Nations; and finally the IMF, Sgard (2005). But as a major creditor with senior status, the IMF can hardly play the role of disinterested arbitrator: nor has it done so. If the IMF is sidelined because of conflict of interest, who will play that role?

A case can be made for an explicit international forum for arbitration, ideally recognised by all nations under whose jurisdiction debt is issued. Steven Schwarcz, in his proposals for a sovereign debt restructuring procedure, outlines how such a tribunal might be constituted.

³⁷ Given current country weights, G7 countries have 45.3 per cent of votes in IMF; so the G7 is not guaranteed to get its way in weighted majority voting. But the power indices discussed in Leech (2002) imply that, if G7 acts as a cohesive group, it has almost complete dominance over the decisions made by the organisation

³⁸ Editorial comment: “Argentina’s duty” Financial Times 29 April, 2005.

He observes first that:

The International Centre for the Settlement of Investment Disputes (ICSID), an autonomous body created under the auspices of the World Bank, provides facilities for the arbitration of investment disputes between contracting States and nationals in other States. A small Secretariat ... maintains a panel of multinational arbitrators with recognized competence in the fields of law, commerce, industry and finance.

And goes on to conclude:

Thus, ICSID is a useful model to the extent that a tribunal is needed to resolve sovereign debt restructuring disputes. A tribunal based on that model could maintain a panel of neutral arbitrators having recognized competence in bankruptcy and insolvency law. Rules could require panel members to have different nationalities, and to be representative of the principal bankruptcy and insolvency law systems of the world. Similarly, the tribunal's expenses could be met by charging a fee for the arbitration. Finally, the arbitration could follow ICSID's simple format: it would involve a panel of up to three arbitrators who decide disputes by majority vote in accordance with applicable rules of international law, and who render decisions that are binding and not subject to appeal. (Schwarcz, 2000, pp1024-6).

Although there was no appeal to an arbitrator in the Argentine case, the Buenos Aires offer accepted by a supermajority of creditors was tantamount to a "pesification" of Argentine dollar debt (including past due interest). Is this not what an arbitrator would have proposed?³⁹

³⁹ There is a theoretical literature on the role of arbitration on bargaining outcomes: Manzini and Mariotti (2001), for example, propose a modification of the Rubinstein model where the responder in any period has the option of appealing to arbitration.

4. CONCLUSION

In a positive analysis, a bargaining approach has been applied to explain the Argentine sovereign debt swap of 2005, and to help account for the considerable lapse of time that it took to achieve -- just over three years from default to majority acceptance. We find that a swap involving the virtual ‘pesification’ of sovereign debt is broadly consistent with the predictions of a bilateral bargaining model. As for the time taken, political factors doubtless prevented negotiations from getting under way until mid-2003: but the same bargaining approach can account for subsequent delay. Negotiators seeking a viable outcome -- at a time of deep recession, profound currency under-valuation and high sovereign spreads -- realised it was better to wait before settling.

Explicit inclusion of sustainability conditions in the bargaining process could well enhance the approach used here; and define a new role for the IMF -- not as enforcer but as information provider, one who makes clear the “resource envelope” for debt restructuring.⁴⁰

Is there not a role for an arbitration process too?

In conclusion, it has to be acknowledged that the debt restructuring is not yet complete: holders of 24% of the bonds did not participate in the swap. These include ‘vultures’ seeking full recovery whose attempt to block the swap (by seizing bonds surrendered by other creditors) was ruled as illegal, apparently on the grounds that it threatened the wishes of the supermajority. Could it be that the Manhattan court is managing a world in transition by acting *as if* the defaulted bonds included Collective Action Clauses? Perhaps, in the next big swap, Collective Action Clauses -- rather than buyouts by New York investment banks

⁴⁰We are thus inclined to agree with Roubini (2005) when he asserts: “It is up to the IMF to perform a debt sustainability analysis that suggests the broad parameters of a debt restructuring that achieves medium term sustainability.”

-- will help to achieve coordination: and the IMF will be on hand with a sustainability assessment to help reduce delay.

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