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Farewell to the vultures? Argentine debt restructuring and bargaining theory

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Shylock's insistence in 'The Merchant of Venice' that his "pound of flesh" be paid as per the contract, regardless of the extreme and grotesque cost to the debtor, is an apt parallel with vulture funds holding out on Argentinian debt pay-outs. This column assesses the Argentinian debt situation and develops an accord that would create a compromise between the extremes on both sides.

The stand off between the Argentine sovereign state and those holdout creditors who have not yet settled has lasted for more than a decade. The gap between what the holdouts claim (no write-down and full compensation for all interest rate and legal costs incurred) and what the sovereign has – until now – seen fit to offer (namely no payment whatsoever) could hardly be wider.

But the new government that took office in Argentina at the end of 2015 has said that it hopes soon to negotiate with the creditors and find a settlement, and the US judge in charge of the case has appointed a lawyer – the so-called 'Special Master' – to help find such an accord. The full details of past negotiations are notoriously complicated, involving personalities and politics, pride and prejudice – and a lot more besides!

The irreconcilable positions of creditor and debtor, indeed, might be compared to the famous confrontation between intransigent creditor and debilitated debtor in The Merchant of Venice. The demand by the leading holdouts – so-called vulture funds – for adherence to the precise terms of the contracts they have purchased at distressed prices is reminiscent of the unyielding demand by Shylock for his "pound of flesh". But the resolution that emerges in Shakespeare´s play – that such terms were unconstitutional according to the laws of Venice – cannot apply here. The holdouts have been given clearance to pursue their stated claim by the US judge. The question we pose is whether the basic principles of bargaining theory might instead point a way out of the impasse.

We develop a type of accord that would create a compromise between the extremes described in the opening paragraph. Before describing this accord, we explain how it is constructed as an extension of Rubinstein's theory of bargaining.

Rubinstein's approach

Agreeing a debt write-down appears to be a zero-sum game – what the creditor gives up the debtor gains, and vice versa. But what if the process of bargaining is itself costly for both parties? Then, to avoid some of these costs, the adversarial parties will have a common interest in finding some compromise.

This is the key to the equilibrium that emerges from the 'alternating offers' process posited by Ariel Rubinstein (e.g. Osborne and Rubinstein 1994, Obstfeld and Rogoff 1996).

The setting is one in which there is a given bargaining surplus (a 'cake') to be divided between creditor and debtor, but it is not accessible to either party until agreement is reached. Each party takes it in turn to make an offer, which is either accepted or, if not, the right to make the next offer passes to the other party.

As the time taken by this bargaining process denies both access to the cake, the relative patience of the two parties plays a key role. In fact, the relative shares in the Rubinstein bargaining equilibrium depend (inversely) on the ratio of the subjective discount rates – and, where this is common knowledge, this equilibrium is reached without delay!

A modification: Patient holdouts get more, but only with significant delay

In our recent paper (Ghosal and Miller 2015), we show how this approach can be modified to allow for differences in patience between two types of bondholder: holdouts who are more patient, and other creditors (whom we refer to as exchange bondholders) who are less so. Even where these differences in discount rates are not directly observable by the debtor, it is shown that two swaps will separate the two types and achieve a bargaining equilibrium where the relative shares depends on their relative impatience (with holdouts getting more as they are the more patient).

The initial swap is immediate and the sharing of the resources involved depends on the relative discount factors of debtor and the exchange bondholders. In the second delayed exchange, the final swap, the holdouts are given an improved offer to reflect the cost of waiting. The exchange bondholders have the right to take up this improved offer (under the terms of an appropriate 'rights upon future offers' clause, otherwise known as a RUFO clause), but the delay is chosen to be just long enough so that the exchange bondholders choose not to do so.

Graphical representation

Figure 1 indicates, how the bargaining approach might be applied in current circumstances – with a key to the various outcomes and sources provided in Table 1 below.

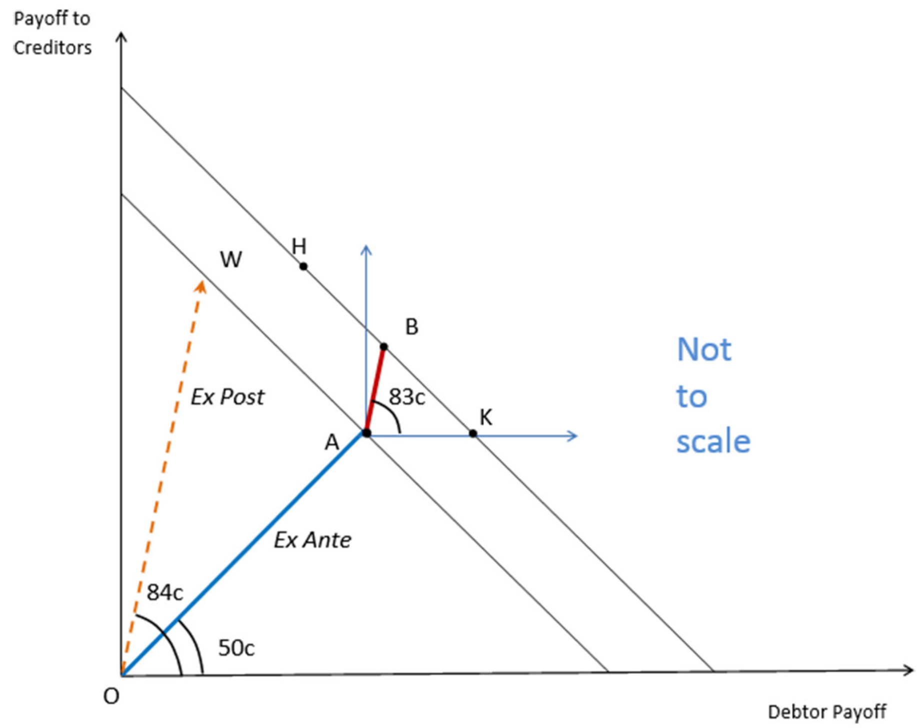
Table 1. Outcomes and sources

Label	Initial swap	Second swap as % of face value of bonds held by holdouts	Interpretation
A	50 Prat-Gay(2013)		Initial swap, evaluated at the time
W	84 Prat-Gay(2013)		The ex-post value of the Initial swap taking account of the warrants
K		0	Initial swap plus Christina Kirschner´s offer to holdouts
B		83 This paper	Initial swap plus bargaining compromise for holdouts
H		180 Authors´ estimate	Initial swap plus holdout claim

Note: Figures showing approximately the present discounted value of the swap (in cents per dollar of the face value of the bonds held by the party agreeing to the swap).

The outer line appearing in the figure below (containing points H, B and K) indicates the total surplus to be allocated between sovereign debtor and two types of creditor. The inner line (containing A) indicates how much of this is the subject of bargaining in the initial swap with the exchange bondholders. That point A lies on the 45 degree line from the origin signifies that these resources are evenly split, i.e. the creditors get a haircut of about 50% (a rounding of the estimated haircut of 54% is provided by Prat-Gay in valuing the initial swap in 2005, as it was perceived by creditors at that time).

Figure 1. How the surplus is allocated by an initial and final swap – various possibilities



Now we turn to the way the remaining resources might be allocated between the sovereign and the holdout, starting first with the position taken by then president Christina Kirschner. The horizontal line from A indicates the nature of the offer from the sovereign – at the point K, the sovereign imposes a 100% haircut so the holdouts get nothing.

Next, the line sloping upward to the right from A indicates the bargaining compromise being proposed here, achieved by modifying the Rubinsten solution – thus, at the point B, the holdouts would get by far the greater share of the resources left to be allocated (more details below).

Finally, the line sloping upward to the left from A indicates the nature of the claim by the holdouts – at point H, they would get more than the resources notionally left to be allocated (to satisfy this claim, the sovereign would effectively have to give up some of the previously negotiated write-down).

The bargaining compromise: A numerical illustration

How the two-swap bargaining scenario we have outlined might be useful as a basis for finding an ex post compromise with holdouts can be illustrated numerically as follows. There are two essential principles involved.

- First, that the remaining holdouts be given compensation for the extra delay they have experienced, with the compensation calculated at their own subjective rate of discount (i.e. their cost of waiting); and

- Second, that this compensation be added to the settlement made with the exchange bond holders at the time of the Initial swap, with appropriate uprating to cover US price inflation since then.

Thus, if the initial swap of 2005 was seen at the time to be worth around 50 cents per dollar of face value (as suggested by Prat-Gay), cumulating this over a decade at a subjective discount rate for holdouts of, say, 3% per annum (and adding 2% per annum for the rate of dollar inflation) would imply a settlement of about 83 cents in the dollar when a ten-year 'rights upon future offers' clause expired.

It is interesting to note that, if Mr Prat-Gay's estimate of the true ex post value of the initial offer is broadly correct, then such a settlement with the current holdouts could be achieved by effectively reopening the offer that was made in 2010 (and accepted by the majority of those who were then holding out). To show this we have included a dashed line indicating what Prat-Gay argued to be the value of the settlement made with earlier creditors once account is taken of the value of GDP warrants that were attached to the bonds (he pointed out that, ex post, the initial swap agreed to by Argentina in 2005 turned out to be far more generous than was thought at that time, essentially because of the warrant dividends that kicked in as rapid recovery ensued from deep recession).[1] That the slopes of OW and AB are alike implies similar recovery rates.

Note also that, if such a settlement were achieved, the end result would be not so much a debt write-down as a re-profiling, a shifting of debt payments – paying nothing in deep depression, but making up for this in recovery.

Conclusion

Whatever the outcome of the upcoming debt negotiations, the convoluted process of restructuring to date suggests two contractual steps that could assist in future. The unequivocal demonstration of the negative externalities exerted by latecomers who buy distressed debt not to help 'complete the market', but to undermine restructuring by litigating for special treatment has made the case for strengthening Collective Action Clauses included in debt contracts – and improvements to date have consisted in adding aggregation clauses, designed by the International Capital Market Association with IMF approval.

Likewise, the painful process of re-profiling Argentine debt ex post (so that payments are more closely matched to the state of the economy) suggests that contracts issued ex ante could be a valuable innovation. If the value of GDP bonds in linking payments to the state of the economy is more widely recognised, then countries could issue them in good times, getting the insurance value they offer at a much lower price than has been paid by Argentina and Greece, who issued warrants in the midst of crisis.

The Special Master charged with guiding the parties towards a settlement undoubtedly faces a difficult dilemma. If he encourages the debtor to satisfy the full claim of the holdouts – and if this is taken to be a general precedent – this could seriously undermine the future of sovereign debt restructuring.[2] For, if all the waiting costs of acting as a holdout are to be compensated and the full face value of the debt is guaranteed, all creditors will be tempted to hold out.[3]

But if the holdouts are to settle for less, how can the claim of an arbitrary settlement be avoided? This is where the bargaining principles we refer to may help. If applied in this case, the resulting settlement would – as indicated – be a great deal more than the sovereign debtor has in the past said it was willing to pay, but a good deal less than what the vulture funds have been claiming. This is because they replicate the outcome of bargaining procedures designed to reward patience, but not aggressive legal tactics.

References

Burgueno, C (2014) *Los buitres*, Buenos Aires: Edhasa.

Ghosal, S and M Miller (2015), "Writing-down debt with heterogeneous creditors: lock laws and late swaps", CEPR Discussion Paper 11000, London, CEPR, December.

Obstfeld, M and K Rogoff (1996), *Foundations of International Macroeconomics*, Cambridge MA: MIT Press

Osborne M J, and A Rubinstein (1994), *A Course in Game Theory*, Cambridge MA: MIT Press.

Prat-Gay, A (2013), "Calcula el retorno del cupon PBI", Amicus curiae brief to Second Circuit court, US Court of Appeals.

Footnotes

1. It may be that his calculation of a recovery rate of 84% somewhat over-estimates the bonus due to the warrants, as the maximum payout is included without any time discount. But there is little doubt that they turned out to be generous.

2. Certainly for ´ legacy´ bonds; for new bonds the aggregation clauses have yet to be tested.

3. Of the pari passu verdict in favour of the current holdouts, Lee Buccheit is reported as saying – "You could almost say that being a holdout has become a true path to prosperity. It could take some time, but it's a most promising business" (Burgueno 2014).

About CAGE

Established in January 2010, CAGE is a research centre in the Department of Economics at the University of Warwick. Funded by the Economic and Social Research Council (ESRC), CAGE is carrying out a five year programme of innovative research.

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