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Article

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NEW MONEY VERSUS OLD MONEY FOR EUROPE: THE PROVISION OF CREDIT ENHANCEMENTS THROUGH A COLLATERAL FUND

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CATHERINE L. MANN²

The Latin American debt crisis and the ongoing European debt crisis are quite similar with regard to the origin and development of the crises. In terms of the chronology of events, each crisis first started in a single country with bank-debt weakness and sovereign-debt exposure feeding on each other. Regional financial linkages caused the crisis in a single country to spill over, creating a cross-border liquidity episode. Finally, as the two sets of crises built on each other (cross-country and between sovereign and private sectors), creditors and debtors alike faced losses and, potentially, insolvency.

The phenomena at the root of both crises are both improperly priced credit and the large and inter-connected exposure of private creditors to sovereign debtors. In comparing Europe and Latin America, we argue that mispricing, exposure, and interconnectedness are just as salient for the European case. However, differences in the source of mispricing, the geographic scope, and the degree of interconnectedness between sovereigns and the private sector imply that, unlike in the Latin American case where the US leadership role was appropriate (given the concentration of developing-country debt in US banks), a supra-national European entity must be engaged to resolve the European crisis.

Mispriced risk: origins and evidence

The evidence on mispricing of credit risk in both the Latin and the European case is apparent in hind-sight, but what underpinned that mispricing, and made it less

obvious at the time? Firstly, the application of relatively new financial technologies and secondly, the explicit or implicit sovereign guarantee of private sector borrowing were key.

How did these factors play out in Latin America? In the 1970s, the largest US financial institutions took the lead in originating loans to developing country markets (particularly in Latin America) and then syndicated these loans to smaller and regional banks. The originator of the loan could develop these new markets, but did not retain the full risk on their balance sheet; furthermore, syndicating the debt freed up capital, which increased profitability through higher leverage. The regional buyer of the Latin credit could take a stake in the new market, and obtain a high return on an apparently low-risk financial instrument, all without the cost of originating it or undertaking due diligence. In addition to the apparent risk diversification associated with loan syndication, the explicit sovereign guarantee afforded to many of these credits also apparently lowered risk.

In response to the new financial technology, lending to all non-oil developing countries surged five-fold in nominal terms, from USD 130 billion in 1973 to USD 612 billion in 1982 (Cline 1984, Table 1.1.) and borrowing costs fell dramatically. If just the key Latin countries of Argentina, Brazil, Mexico, Chile, and Venezuela are considered, their external debt grew even faster, and some borrowed below US 7-year bond rates, receiving more favorable terms than Canada and Australia (Table 1). So, not only did the creditors gain, but the borrowers also enjoyed the fruits of the originate-syndicate model through lower borrowing costs and greater access to credit.

The comparable evidence on the surge in lending and the narrowing of risk spreads in Europe is in more recent memory. The European mis-priced risk and lending surge were underpinned by new financial technology (off-balance sheet financial technology like Greek swaps), and importantly, the creation of the euro as a single currency. Collectively, these innovations lowered the assessment of lending risk to sovereigns and their private sectors that had been previously deemed as less credit-worthy. Figure 1 shows the decline in long-term



¹ Federal Reserve Bank of Boston.

² Brandeis University.

Table 1

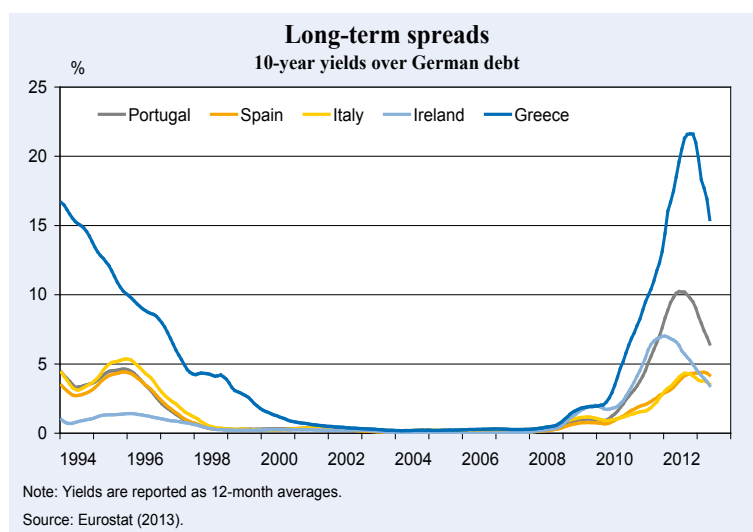
External debt and cost of funds during the Latin American debt crisis			
	Increase in total external debt (1982/1973)	Increase in short-term debt (1982/1973)	New public borrowing; average bp premium (+)/ discount (-) over US 7-year bond (1977-1981)
Argentina	6 fold	22 fold	(-) 55
Brazil	9 fold	12 fold	(+)187
Chile	5 fold	7 fold	(-) 132
Mexico	10 fold	22 fold	(+) 53
Venezuela	12 fold	18 fold	n.a.
Australia	from creditor to small debtor	n.a.	(+)167
Canada	5 fold	n.a.	(+)262

Source: The World Bank (2013) and Lindert (1992), Table 8.1.

borrowing rates for Greece, Ireland, Italy, Portugal and Spain to the same levels as that of Germany during the period of adoption of the common currency, up until the onset of the European crisis. As of June 2013, the long-term spreads for these countries have returned to their levels of the mid-1990s.

Eventually, credit across internal European borders expanded at a pace on par with the Latin American experience. As Table 2 illustrates, the extension of new loans by the top five European Union economies to Greece, Ireland, Italy, Portugal and Spain ballooned in the three years immediately preceding the crisis (2005 to 2008).

Figure 1



Interconnected exposures

The second common factor underpinning the Latin and European crises is the existence of interconnected exposure. However, the Latin and European crises do differ in the concentration and interconnectedness of this exposure. At the time of the onset of the Latin American debt crisis, the US banking system was highly exposed to these credits, which were concentrated in four Latin countries. In the case of Europe, the interconnectedness is among all the euro nations, and spans not just financial, but also trade and macroeconomic linkages.

What is the evidence on the higher concentration and essentially US bilateral exposure of the Latin crisis?

Firstly, about 80 percent of the debt was either sovereign borrowing, or had a government guarantee (Cline 1984, 1–4), thus setting the stage for the private obligations to become state obligations to creditor banks. Although substantive credit extensions by commercial banks included some 33 developing countries, Argentina, Brazil, Mexico and Venezuela accounted for somewhat more than 70 percent of bank claims of the 17 most highly indebted countries (and those accounted for about 80 percent of total extensions of bank credit) (Cline 1995, Table 2.9, 62). Table 3 reveals the concentration of exposure of the largest

Table 2

Change in foreign exposure of France, Germany, United Kingdom, Italy and Spain to the crisis nations (million EUR)

Borrower	2005:Q4	2008:Q4	% Increase
Greece	48,223	103,930	115.52
Ireland	222,440	379,739	70.72
Italy	331,853	607,217	82.98
Portugal	100,532	136,686	35.96
Spain	266,111	442,851	66.42

Source: Bank for International Settlements (2013).

US banks to four major Latin American debtors. By comparison, the exposure of the UK and Germany in particular to these debtors was dramatically lower. By 1984 French banks overall had exposure levels similar to those of US banks.³

Trade and growth linkages within Europe are deeper than between the US and Latin America – for instance intra-European trade (exports plus imports) accounts for over 60 percent of total European trade, while the corresponding magnitude for Latin America in 1985 would have been close to 23 percent.⁴ More importantly, there is also a very high degree of multilateral financial exposure among European banks. To a large extent, the external exposure of the largest five nations in the European Union was mainly due to bank lending to the private sector of the troubled nations (Table 4), not to foreign sovereigns. Nonetheless, the ex post nationalization of some European financial entities makes the comparison with the explicit guarantee of private obligations by Latin American governments more apparent.

³ Interestingly, the Paris Club for international debt negotiations, created in 1956, played an important role in this crisis too.

⁴ Based on UN Comtrade data (United Nations 2013) for the aggregate LAC33 (Latin American and Caribbean, 33-countries).

Table 3

Exposure of US banks to developing country debt, 1982 (as % of capital)

	US banks	US 9 largest banks	UK banks	German banks	French banks ^{a)}
17 countries ^{b)}	129.4	194.2	85.0	31.4	135.0
4 major Latin Debtors					
Argentina	11.7	17.7	9.2	3.6	8.8
Brazil	28.9	45.8	18.9	6.9	39.6
Mexico	34.5	44.4	2.4	4.7	26.3
Venezuela	16.4	26.9	8.1	4.2	12.3
sum of 4 Latin Debtors	91.5	134.8	38.6	19.4	87.0

^{a)} Data for 1984.

^{b)} Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cote d'Ivoire, Ecuador, Jamaica, Mexico, Morocco, Nigeria, Peru, Philippines, Uruguay, Venezuela, and Yugoslavia.

Source: Cline (1995), Tables 2.10–2.14.

The exposure of the domestic banking sectors in each of the crisis nations to the banking sectors in other crisis nations was also an important factor in the transmission of the crisis. Table 5 provides the size of claims ultimately tied to Greece, Ireland, Italy, Portugal and Spain, as well as to Germany (as a reference), which were held in 2008, prior to the crisis, by domestic banks as percent of their total domestic bank equity.

With the exception of Greece and Italy, the exposure of crisis countries to other crisis countries is very large, at least in hind-sight, and left the private sector in each nation vulnerable to a crisis in the others.⁵

To sum up, the private sectors in European nations lent substantially to each other in the period running up to the crisis, resulting in deeply interconnected private-sector balance sheets. This placed the banking systems in some of those nations in a vulnerable position with respect to a potential crisis in other European nations. As a result, a fiscal crisis in the public sector of a small nation like Greece had the potential to (and, of course, did) propagate quickly to other national economies within the European Union.

What are the ramifications of the concentration of exposure for institutional responses to it? In the Latin case, the fact that the most exposed lenders were mainly

⁵ Nonetheless, the risk assessment of this exposure might have been rather different at the time – please note that Germany's exposure is not too dissimilar from that of Ireland, Portugal and Spain.

The available BIS data on foreign exposure only allows separating private and public sector claims held by Germany, Italy and Spain.

Table 4

External exposure of Germany, France, United Kingdom, Italy and Spain to crisis nations in 2010:Q4 (million EUR)

Exposure to:	Total	% Public ^{a)}
Greece	74,978	35.31
Ireland	225,530	4.07
Italy	480,008	26.01
Portugal	128,821	15.56
Spain	337,922	16.05

^{a)} This is the fraction of total exposure reported as exposure to a foreign public sector.

Source: Bank for International Settlements and European Central Bank Statistics (2013).

Table 5

Exposure of domestic banks in selected countries to Greece, Ireland, Italy, Portugal and Spain as % of domestic bank equity (average for 2008)

	% of Equity
Germany	234
Greece	3
Ireland	282
Italy	29
Portugal	155
Spain	53

Source: Bank for International Settlements (2013) and European Central Bank Consolidated Banking Statistics (2013).

US-based justified the intervention by the US financial authorities to protect the solvency of the US banks. In the European case, however, the potential for contagion works through the interdependence between private creditors that are located in different nations, all within the European sphere. In light of all the potential externalities running through balance sheet effects (among private banks and between private and public sectors), it therefore seems reasonable to look for a Europe-based supra-national solution.

Crisis resolution in Latin America: liquidity versus credit enhancement⁶

As the Latin crisis unfolded following Mexico's default in 1982, two US Treasury Secretaries presided over systematic efforts to solve the twin problems of stalled lending to borrowers and vulnerable balance sheets of creditors. The Baker Plan (1984–1988) first focused on injecting liquidity into the market in order to solve the twin problems. In contrast, the Brady Plan (1989–1992/4)⁷ would focus on restarting the market for existing loans to both generate new lending and resolve the bank balance sheet problems.

⁶ This section draws extensively from Gumbau-Brisa and Mann (2009).

⁷ Most of the Brady effort was concentrated between 1989 and 1992, but there were still deals being done as late as 1994.

In Europe, the initial policy response has also focused on providing liquidity to banks and/or sovereigns through the ECB's purchases of outstanding sovereign debt, through the direct injection of IMF funds, and through the European Financial Stability Facility (EFSF) lending programs.⁸ What can we learn from the fact that in Latin America, the Baker Plan (with its focus on liquidity) failed, but the Brady Plan (with its focus on credit enhancements) succeeded?

The Baker Plan: focused too much on liquidity

The Baker Plan viewed the situation in the borrowing countries as a liquidity problem exacerbated by their domestic economic policy mistakes. It exhorted banks to

resume lending abroad so long as countries had IMF and World Bank policy reform programs in place, and included targets for this foreign bank lending. However, the Baker Plan yielded little new money to borrowers. Banks did not lend the targeted amount, although they lent some two-thirds of the amount they were "asked" to (Cline 1995, 15). Indeed, outstanding credit of the largest US banks to developing countries fell from about USD 60 billion in 1984 to USD 45 billion in 1988 (FDIC 1997, 195). In addition, markets in syndicated debt, thin to begin with, did not revive under the Baker Plan, and prices of sovereign debt dropped in the secondary markets from some 70 cents/dollar in 1987 to 35 cents/dollar in 1989 (Cline 1995, 15).

Bank balance sheets improved, partly because official money from the IMF and the World Bank replaced the private loans in meeting the external financing needs of Baker plan participants (Cline 1995, Figure 5.1). By 1986, mid-way through the Baker strategy, a 50 percent write-down of the value of Latin debt would have eliminated two-thirds of the capital of the nine big banks rather than wiping out all of the capital, and then some

⁸ Although the EFSF also proposed to provide certain credit enhancement in the form of Partial Protection Certificates, as we will discuss below.

(Cline 1995, 6 and 77). After approximately ten years of the liquidity-focused Baker Plan, sovereign debtors remained insolvent, and their bank creditors were still exposed to losses.

The Brady Plan: solvency and marketability of debt assets

The Brady Plan (1989–1992/94) created a market in Latin debt by swapping illiquid opaque syndicated loans for a standardized marketable bond. Anticipating large risk premia resulting from both the borrowers' condition and the unproven nature of the new instrument, the new bonds were significantly enhanced through collateral, specifically, a zero-coupon US treasury security. Roughly, these new terms were either:⁹ (1) a 30-year bond with fully collateralized principal (a US zero-coupon treasury), *without* haircut, and a sub-market fixed interest rate; or (2) a 30-year bond with fully collateralized principal (a US zero-coupon treasury), after a 30–35 percent haircut of the original debt, but with interest rates tracking LIBOR closely.¹⁰ The Brady plan was not a “new money” plan: of the 18 deals between 1989 and 1994, amounting to USD 191 billion, only USD 3.62 billion in new money was added (Cline 1995, Table 5.3, 235).

In contrast to the Baker Plan, however, the Brady plan directly addressed the quality of existing debt (the ‘old money’), yielding both liquidity and lower financing costs for the sovereign going forward, as well as opening up the potential for a return to the private financial markets. The Brady Plan's key was to collateralize principal payments that would come due sufficiently far away from the (at that time) current financial turmoil. This, in turn, reduced the liquidity and default risk premia that had depressed the value of existing sovereign obligations. We have argued elsewhere (Gumbau-Brisa and Mann 2009) using duration analysis of the associated cash-flows that these guarantees on future principal payments were much more cost-effective in revitalizing the market for Latin American debt than any direct subsidization of new money.

Extending the lessons from the Brady plan to Europe

The distinction between crisis resolution based on new debt issuance versus a plan that addresses the quality and volume of the existing debt is arguably of greater salience in the European context than in the Latin American case. In the European case, the *existing* stock of domestic sovereign debt in the hands of the domestic banks has played a critical role in the onset, exacerbation, and systemic spread of the financial crisis, since much of the debt issued by the troubled sovereigns was held by domestic banks. As a result, applying credit enhancements to the existing stock of sovereign debt would limit the externality linking the solvency of the sovereign and the solvency of the domestic banks, which in turn would stem the cross-border contagion.

As discussed above, the application of some of the principles of the Brady plan to the European case suggests that a supra-national European institution should provide the highest-quality euro-denominated collateral to the crisis nations. Below, we propose an institution called the ‘Collateral Fund’. Such an institution would be financed with paid-in capital from all Eurozone nations and would be allowed to issue its own debt, as in the EFSF, now absorbed by the European Stability Mechanism (ESM). However, unlike the EFSF, the Collateral Fund would use that paid-in capital to purchase the highest-grade European sovereign assets to hold, and would manage that portfolio to retain its AAA-rating over time. This portfolio would then be available as a credit enhancement for European sovereign debt, either old or new. In essence, any sovereign default affecting debt collateralized by these asset portfolios would represent a default on the Collateral Fund, and not on the creditor of the European nation.¹¹

The credit enhancement provided by the Collateral Fund

The credit enhancement provided by the Brady plan consisted of collateralization of the troubled sovereign bond's principal through a zero-coupon 30-year US Treasury security, a highly marketable and liquid instrument with a long track record and the highest credit

⁹ There were additional options, particularly regarding the profile and interest rate on payments; but these two were the most salient in terms of analyzing the overall experience.

¹⁰ It is important to clarify that some authors (see Cline 1995) refer to the bonds of type (1) as “par bonds”, even although they would trade at a discount due to their low coupon, and “discount bonds” to those of type (2), which were designed to trade approximately at par value (the coupon rate was variable and close to market yields).

¹¹ There are several contrasts with credit-default swaps currently in the market. Firstly, the collateral pledged is against the highest duration principal payment, a bullet at the maturity of the troubled sovereign debt. Secondly, the counter-party to the CDS is the supra-national Collateral Fund, not a private-sector financial entity of unknown stability. Thirdly, the collateral is matched to specific sovereign debt, rather than being a naked derivative. Fourthly, this CDS contract is acquired by the issuer of the debt to protect its own creditors.

rating (at the time). In the current European context there is already a Brady-like strategy in place: the EFSF outlined the use of so-called Partial Protection Certificates (PPC) that would guarantee 20–30 percent of the principal of the associated bonds. Nonetheless, these PPCs would be issued by a bespoke Special Purpose Vehicle that would not be legally connected to the EFSF itself, and that would raise funding separately from the EFSF (European Financial Stability Facility 2011). As a result, we view the current institutional setup providing these PPC as being at a disadvantage relative to the hypothetical Collateral Fund.

The credit enhancement provided by the Collateral Fund would more closely resemble that provided by the Brady Plan. The Collateral Fund's credit enhancement of the troubled sovereigns' debt would consist of the principal payments associated with the portfolio of AAA-rated European sovereigns. Similar to the Brady plan, and a crucial aspect of the structure of the credit enhancement, the Collateral Fund's enhancement would focus exclusively on collateralizing the principal of the sovereign debt at its maturity on a one-to-one basis. As most of the duration of sovereign debt is concentrated at the cash flow scheduled at maturity, this type of credit enhancement has the largest impact on the current valuation of the loan that it backs, and at the lowest cost.¹² Moreover, any payments from the Collateral Fund to investors due to a default would only occur a long time after the current crisis, which importantly reduces the cost to the debtor, and the exposure of the Fund.

In contrast to the Brady plan, where the credit enhancement was purchased by the IMF and other entities on behalf of the sovereigns, the credit enhancement in the Collateral Fund would be allocated to the sovereigns through an internal market. In such a market, rights to pledge the AAA-rated collateral against sovereign debt would be purchased by the troubled sovereigns through a competitive bidding process. Sovereigns with the greatest gains from access to collateral (see specific gains discussed below) would be willing to pay a higher fee for access to the rights to collateral. To the extent that the equilibrium fee evolves over time and across debtors, it would reveal information to the market about the value of the collateral for the sovereign debt marketplace. The equilibrium fee would also provide information about the likely appropriate size of the Collateral Fund in order to handle a given transnational crisis.

¹² For an application of duration analysis to the study of the Brady Plan, see Gumbau-Brisa and Mann (2009).

Gains for the troubled sovereigns

A troubled sovereign's willingness to pay for the credit enhancement will depend on the gains received from using the collateral. These gains can be broken down as follows:

- a) The reduction in default risk premia on existing and new debt.
- b) The reduction in liquidity premia stemming from the lack of marketability of the current obligations as investors flee from default.
- c) The reduction in the exposure of the domestic banking system's capital to impaired public debt.

If the only gain to the troubled sovereign was (a) above, an efficient capital market would leave the sovereign indifferent between paying for the collateral and continuing with its uncollateralized obligations. However, the presence of liquidity premia associated with the halt in private trading and, most importantly, the externalities involved in the link between public and private domestic debt ensure that the gains to a troubled sovereign from obtaining the collateral exceed the private cost of funds to the Collateral Fund. In essence, the credit enhancement backstops the deterioration of the balance sheet of domestic financial institutions, and as a result benefits both creditors and debtors by disrupting the feedback loop between public and private domestic finances.

Value to the sponsoring sovereigns

The Collateral Fund would also present gains for the sponsoring sovereigns, some of which extend beyond their direct exposure to the crisis nations through macroeconomic and financial linkages. These gains can be broken down as follows:

- a) A reduction in the cost of debt for the AAA-rated sponsoring institutions coming from the increase in demand for their debt by the Collateral Fund.¹³
- b) A reduction in the negative externality coming from the interconnectedness of the private sectors across European countries, and from the links between the public finances in one country and the private sector in another. These negative externalities provide the main rationale for the creation of a supra-national Collateral Fund, and are a key source of the social gain of providing collateral for sovereign debt

¹³ This effectively would interact with any Large-Scale Asset Purchases implemented by the monetary authority.

that sits on the balance sheet of private financial institutions.

- c) A reduction in the risk of loss of paid-in capital of the Collateral Fund. In effect, the Collateral Fund would raise fees from the allocation of collateral to the troubled sovereigns, and would also accrue coupon payments and capital gains from all the AAA-rated collateral in its portfolio. These revenues to the Collateral Fund augment the Fund and would protect the paid-in capital members from additional future contributions.
- d) A reduction in the short-term probability of loss for the Fund. Since the long-dated ‘bullet’ credit enhancement provides loss protection only at the maturity of the instrument, any collateral loss for the Fund would only occur a long time after the current financial turmoil.

Concluding remarks

In the current European context, there are both economic and political tensions surrounding the approach to the resolution of the crisis. It is important that all parties to the resolution program can benefit from the solution. In our proposal, the Collateral Fund’s purchase of the highest-quality collateral would beneficially impact the borrowing costs of the non-crisis nations, by increasing the demand for their debt. The institution providing the guarantees would receive fee payments from the troubled sovereigns in exchange for the collateral, thus increasing the total equity of the Fund. As a result, such a source of internal funds would isolate Fund sponsors further from future defaults (and hence, loss of the pledged collateral), and would lower their potential future contributions to the Fund. The gains for the troubled sovereigns at whom the credit enhancement is targeted include lowered credit costs on new and old obligations, a revived market for their existing debt, and, particularly key, shielding the public sector from private financial distress (and vice-versa) during a crisis. Importantly, to the extent that impaired sovereign debt affects the balance sheet of private financial institutions throughout Europe, this last gain accrues not just to the sovereign buying the credit enhancement, but is in fact enjoyed Europe-wide.

That said, credit enhancements alone cannot address the solvency of the European sovereigns, and they did not do so for the Latin American nations either. Credit enhancements only paved the way for the structural reforms required to make the issuance of new debt

sustainable, both by lowering the cost of existing debt service, and by avoiding the direct subsidization of new debt that is implicit in lending programs that prioritize liquidity.

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