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Abstract

This paper assesses the impact of the Liquidity Program for Growth Sustainability (LPGS) on Latin America and the Caribbean, instrumented by the IDB to confront the regional spillovers of the subprime crisis. This emergency liquidity line was set up to boost productive loans of commercial banks, channeled through a second-tier scheme. The empirical strategy revolves around GARCH models to test whether the public announcement of negotiations and of loan approval have had any impact on high frequency macroeconomic data, such as the country risk premium and the interbank interest rate. Our evidence reveals a positive and significant effect on financial stability attributable to LPGS in Jamaica, El Salvador, Costa Rica, Dominican Republic and Panama. We additionally discuss the rationale of key LPGS' design features and the observed outcomes.

(*) I'd like to acknowledge the insightful comments on a previous version from Kurt Focke, Olver Bernal, Edgardo Demaestri, Morgan Doyle, Felipe Gómez-Acebo, and Juan Ketterer. The usual disclaimer applies.

Introduction

As a direct response to the local and international credit crunch associated to the recent subprime crisis, the IDB launched in the fourth quarter of 2008 the Liquidity Program for Growth Sustainability (henceforth, LPGS) to provide short-term resources to LAC non-financial firms. This emergency liquidity line, created as a way of preserving an adequate flow of productive loans, was especially (but not exclusively) directed towards micro, small and medium enterprises needing working capital and trade financing. Loans were to be made directly to national governments, central banks, or second tier financial institutions with sovereign guarantees, and subsequently channeled to financial institutions meeting basic conditions of liquidity, solvency, corporate governance and portfolio quality. The IDB allocated a maximum amount of US$ 6 billion to be disbursed in total and the maximum amount of US$ 500 million by country, a limit that made this line particularly attractive only for small economies. Given the emergency they were supposed to address, operating guidelines were prepared to facilitate a rapid disbursement. With a 5-year maturity, 3-year grace period and soft eligibility rules, these loans were well-suited to tackle the acute illiquidity faced by local firms.

As can be seen in Table 1, nine countries expressed interest in participating but disbursement actually took place in just two of them (El Salvador and Jamaica), and even in these cases the credit line was only partially used. This information will be exploited throughout the paper to establish how LPGS acts on financial stability and why some countries went ahead in the negotiation process and others opted for an early withdrawal from the program.

Table 1
Execution of LPGS
As of November 24, 2009

Country	Agreed Loan Amount (US$ million)	IDB Board and Country Approval	Amount Disbursed so far (US$ million)	Local Counterpart
El Salvador	400	Yes	188	Central Bank with surveillance by Banco Multilateral de Inversiones
Costa Rica	500	Yes	0	Central Bank
Jamaica	300	Yes	74	Central Bank
Dominican Rep.	300	Yes	0	Central Bank
Panama	500	Yes	0	Banco Nacional de Panamá
Guatemala	Pending	Pending	0	
Barbados	Pending	Pending	0	
Ecuador	Pending	Pending	0	
Paraguay	200	Pending	0	

Recalling that the subprime crisis has represented the deepest worldwide economic slump since the 1930s, and thus the hardest external shock on LAC economies in decades, LPGS was a priori a timely and well-conceived measure to cushion the productive contraction that interrupted the prior five-year bonanza. Calvo (2009) and Fernández-Arias, Powell and Rebucci (2009) explain why, on theoretical grounds, multilaterals are well-equipped to intervene during crisis times in countries facing constraints in the implementation of countercyclical (fiscal and monetary) policies and lacking sufficient credit access from international creditors. Given the global nature and spillovers of the crisis, the exacerbated systemic risk at the national level and the difficulties to assess country's fundamentals, there appears to be a role for the IDB and other multilateral institutions as providers of backstop liquidity or lenders of last resort. Analysts highlight, though, that the possibility to obtain easy financing when voluntary markets dry up may induce borrower and private lender moral hazard. Dreher (2004) surveys the literature on moral hazard behavior from IMF programs, and finds that there is overall evidence in

favor of this belief. However, this outcome is less likely to arise whenever contractual conditions clearly highlight, as in the LPGS initiative, the exceptionality, short-term maturity and higher-than-usual cost of the borrowing facility, plus the fact that the line was planned to assist the private sector rather than filling fiscal gaps.

Hard evidence has not yet been produced, though, as to whether this new credit line has exerted the intended stability effect by econometrically examining the impact of LPGS-related public news on financial assets' prices and volumes using high frequency data. Our main goal is precisely to put to the test this hypothesis. Furthermore, we will explore whether such impact, if present, has worked out as an actual liquidity provision mechanism or as a signaling device, by which the mere announcement of prospective access to the loan brings on a positive turn in market expectations, even if ex post the loan is not actually granted. To this end, we have classified public news into two categories: *"Negotiation"* and *"Loan Approval"* announcements. As explained later on, our analytical framework will heavily borrow from the event study methodology, applied on the five countries with formal IDB approval to enter the program: El Salvador, Jamaica, Costa Rica, Panama, and Dominican Republic. Additionally, we will pay attention to the case of Uruguay which, despite not participating in the program, was benefited by the anticipated disbursement of another previously approved credit line as a way to alleviate liquidity pressures.

The paper will be structured as follows. In Section 1 we will describe major macroeconomic developments in the countries of interest over the 2005-2009 period, to have a first grasp at why the situation warranted the IDB intervention and, later on, the country's decision to opt out of the program. Section 2 will carefully go over LPGS chronology in each country, so as to pinpoint the exact days at which information was disseminated to the public –this is the essential input to date the events whose market impact we intend to gauge. As part of the same section, we will introduce the high frequency data we will rely upon afterwards, underlying in particular their behavior around LPGS key dates in each country. The research methodology and background, as well as our empirical findings, will be discussed in Section 3. We will close with some reflections on LPGS' design features and outcomes.

Section 1: Subprime Crisis and the Macroeconomic Impact on LPGS Borrowers

It is well-known that the financial turmoil hitting the US economy since mid-2007 took a heavy, yet relatively short-lived, toll on the industrial and developing world (see IMF (2009) and World Bank (2009)). The initial diagnosis was that the peculiar features of the crisis, in conjunction with the prudent fiscal and reserve accumulation policies put forward during the preceding economic upswing, would spare the LAC region and emerging countries at large (see Pineda, Pérez-Caldentey and Titelman (2009)). Counter to this view, the aggravation of the crisis from the second semester of 2008 on proved the decoupling hypothesis wrong, as contagion set off through trade and financial transmission channels. Inexorably the crisis spilled over small and open LAC countries, leading to a scenario of financial distress in which authorities put in place a variety of fiscal, monetary and social policies to confront the bleak economic circumstances (see ECLAC (2009) for details on the measures taken in each LAC country).

Graphs 1 through 7 display the evolution of some key real and financial variables in the six countries under study in the quarterly period spanning 2005.4 to 2009.3. Graph 1 gives account gives account of the deceleration in real GDP growth from the soaring levels in 2005-2007 to modest and even negative figures in some cases from 2008 on. Deflationary pressures ensue starting in 2008.3 as output growth was losing pace (Graph 2).

Exchange rates against the US dollar also reflect the external liquidity problems, but without showing a uniform reaction across countries, as evident in Graph 3. To start, dollarization in El Salvador and Panama rules out this financial channel, but even in other countries, prominently in Uruguay and Dominican Republic, the devaluation pace did not seem to have changed in the aftermath of the crisis. In opposition, the Jamaican dollar and the Costa Rican colon depreciated by 25.1% and 17.7% between 2007.4 and 2009.3. International reserves (Graph 4) did not take either any significant dip in none of the countries: the stock in 2009.4 was above the 2008.3 level in all cases, with just the exception of Jamaica. A more discernible pattern comes up in the current account (Graph 5). In 2008.2 and 2008.3 previously growing deficits quickly start to revert towards

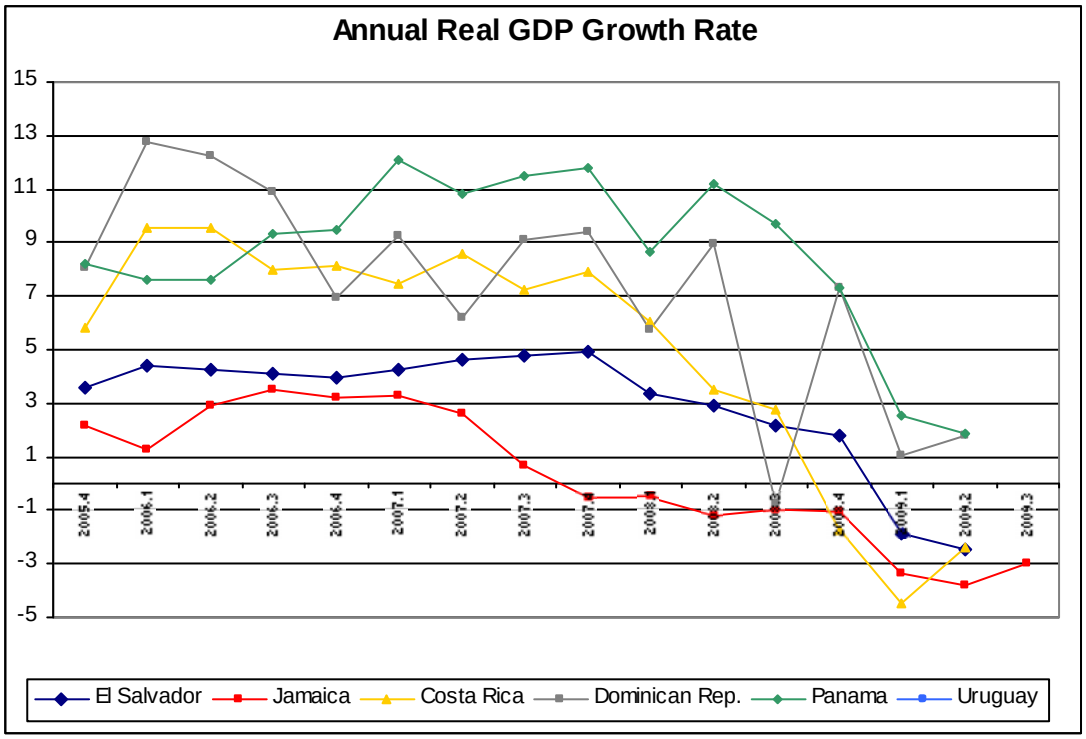
balance or surplus, as in Uruguay and Costa Rica, in response to slower economic growth and restricted access to foreign credit.

According to Graphs 6 and 7, the volume and interest rate on bank deposits do not convey any signs of the uncertainty reigning during the peak of the international crisis. But the assets side of the banking system offers a different perspective, as the private credit volume reaches a temporary plateau since 2008.3-2008.4, with sluggish rates of growth compared to the previous trajectory.[1] A similar impression emerges from the loan interest rates, which increase starting in 2008.2, save for Panama and Uruguay.

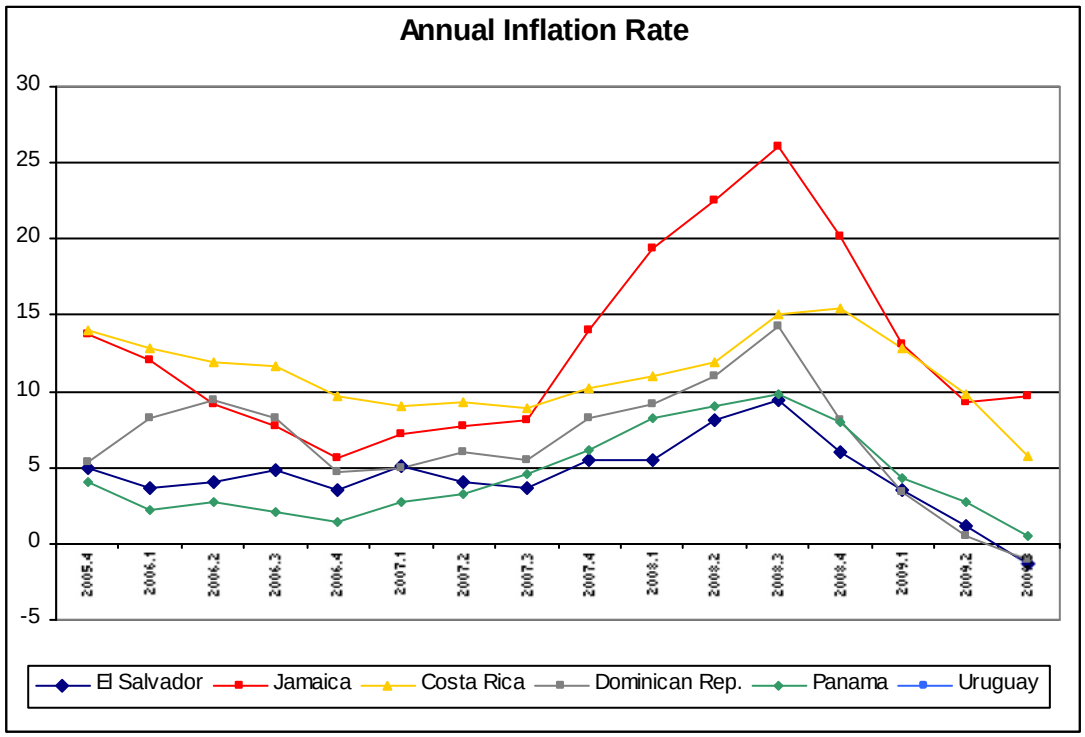
In sum, this succinct review shows that the crisis' effects become especially visible when looking at indicators of the real economy (such as GDP growth and the inflation rate), external transactions (such as the current account) and domestic credit (volume and cost of loans to the private sector), but not other domestic financial conditions (such as deposits, interest rate, exchange rate, and international reserves). This is consistent with a scenario of international liquidity shortage –less capital inflows- but calmer local domestic markets on account of better standards of fiscal discipline and international reserves accumulation than in past crises. Incidentally, the observed hardening of private credit conditions provides a direct rationale for the IDB actions directed at financing SMEs.

[1] This is a stylized feature of financial crises in the region, where credit growth slows down, but still keeps growing at positive real and nominal rates (see Bebczuk (2005)).

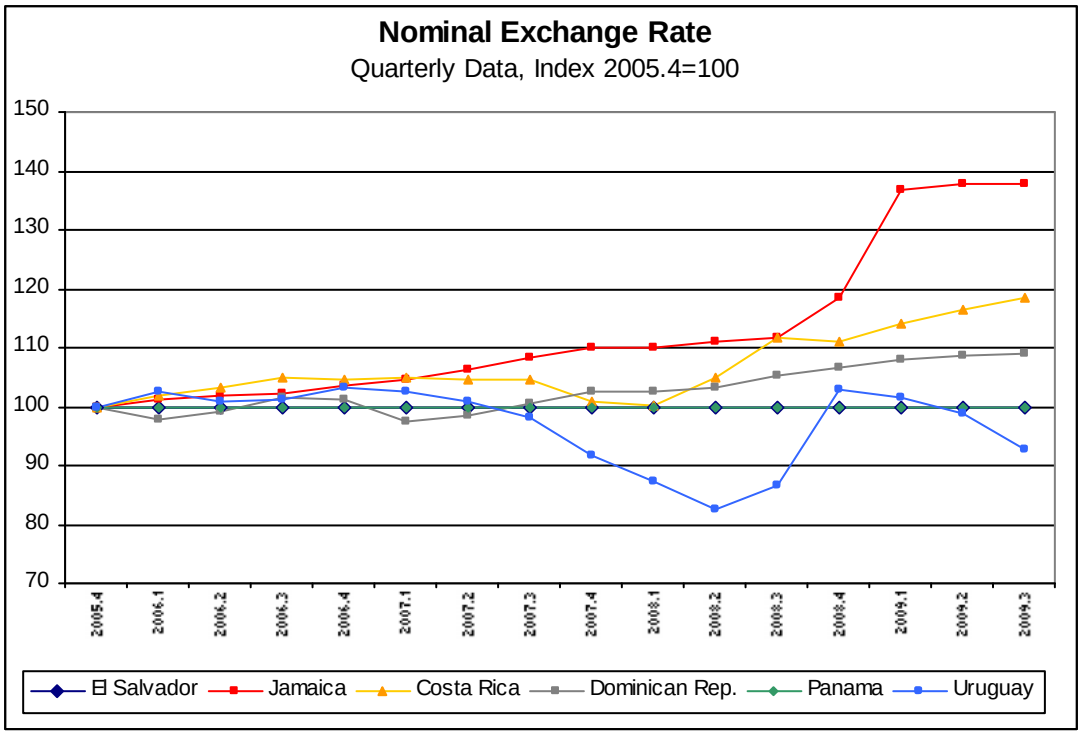
Graph 1



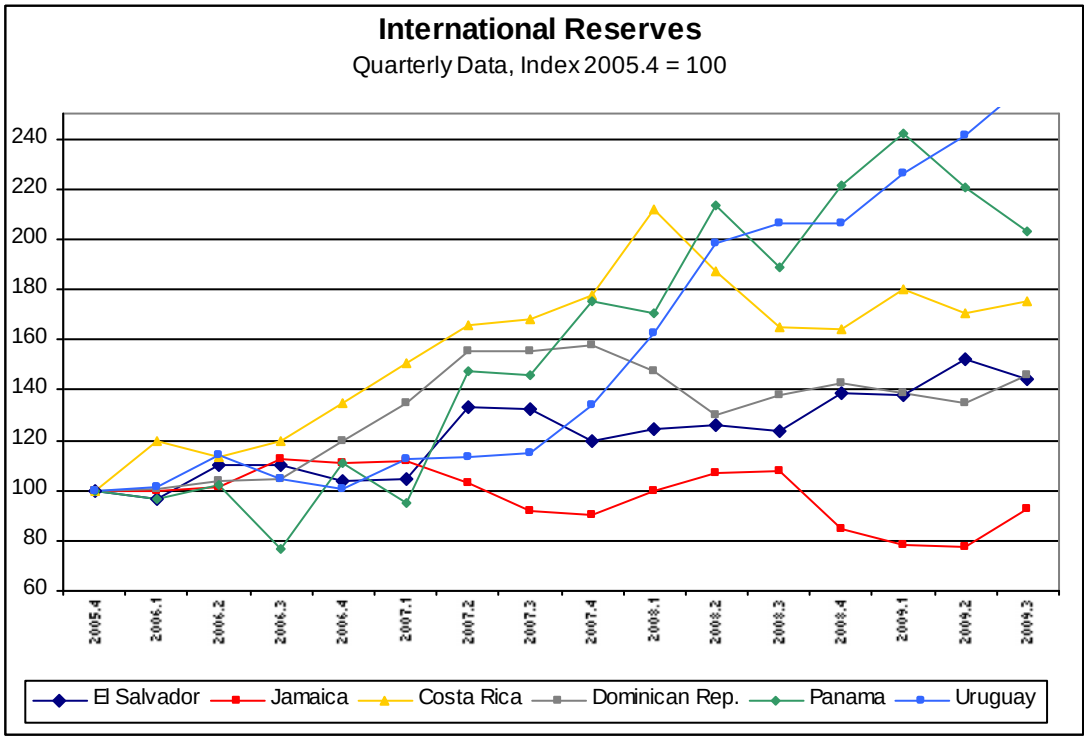
Graph 2



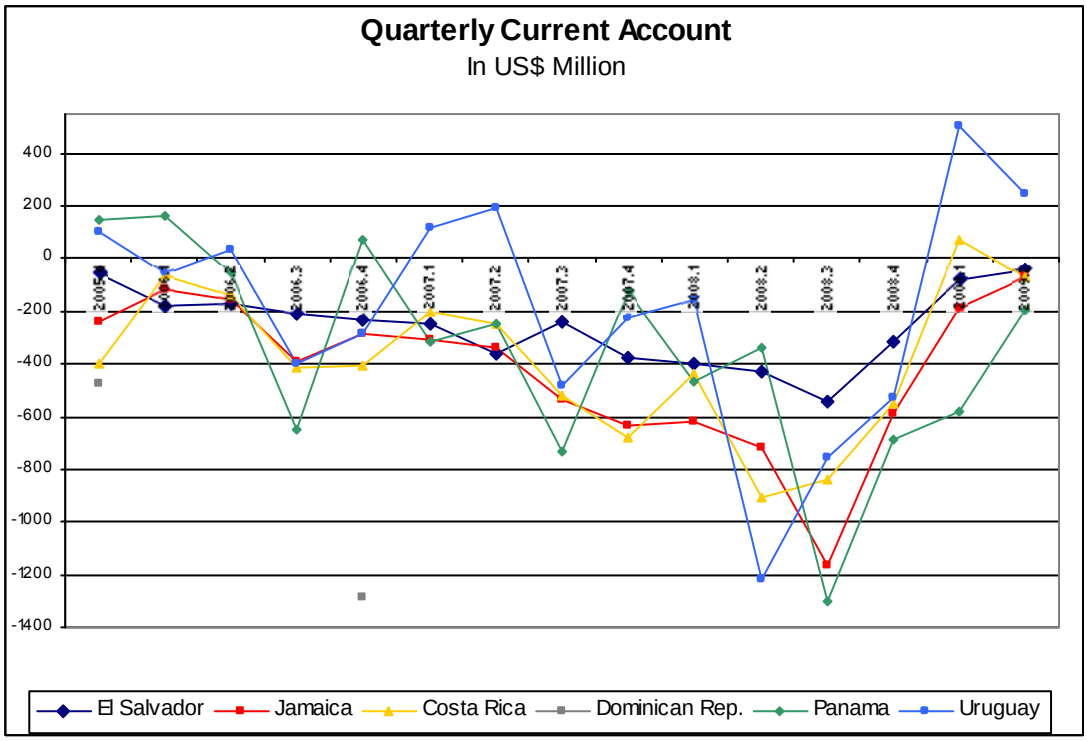
Graph 3



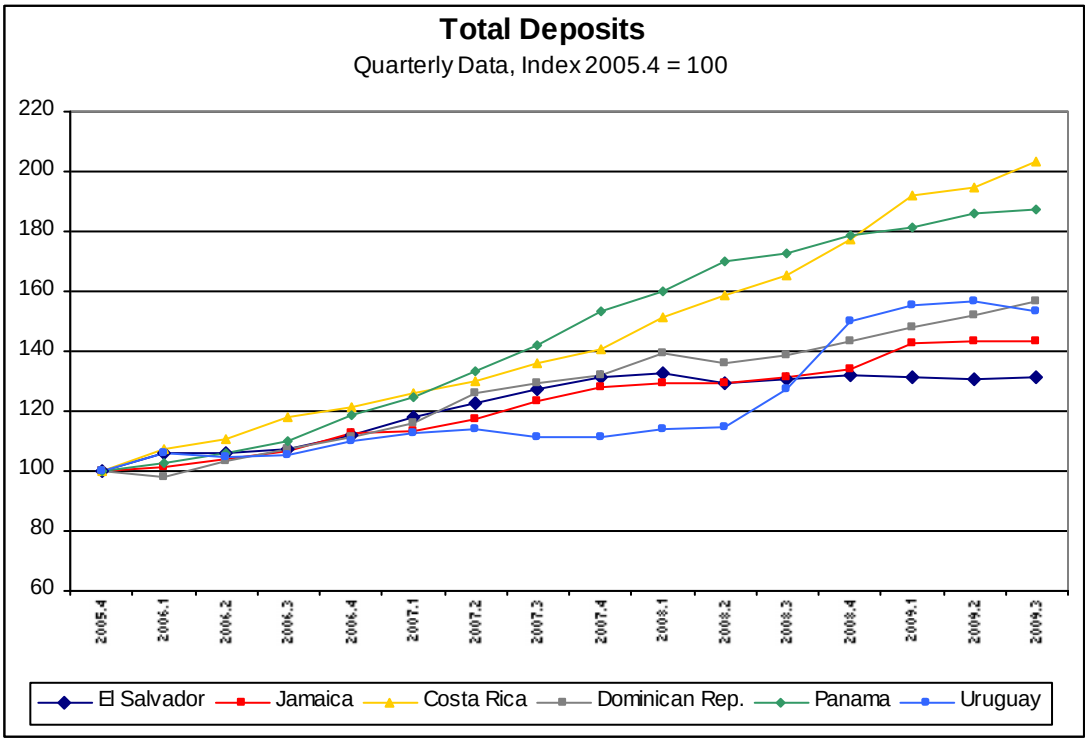
Graph 4



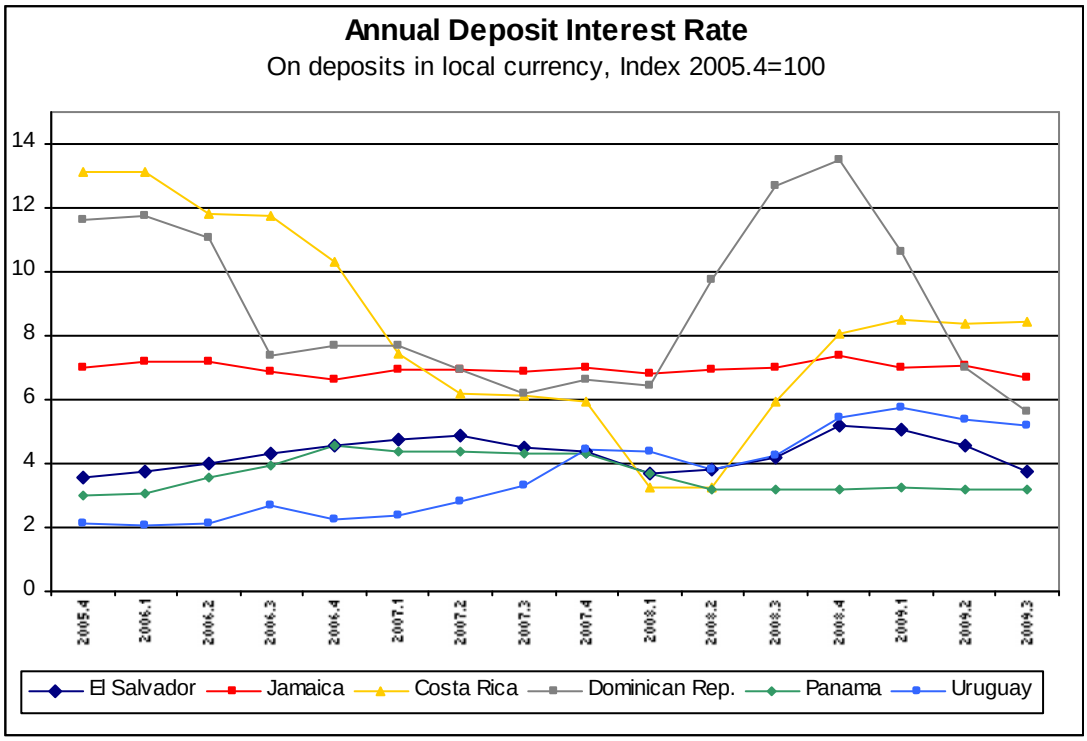
Graph 5



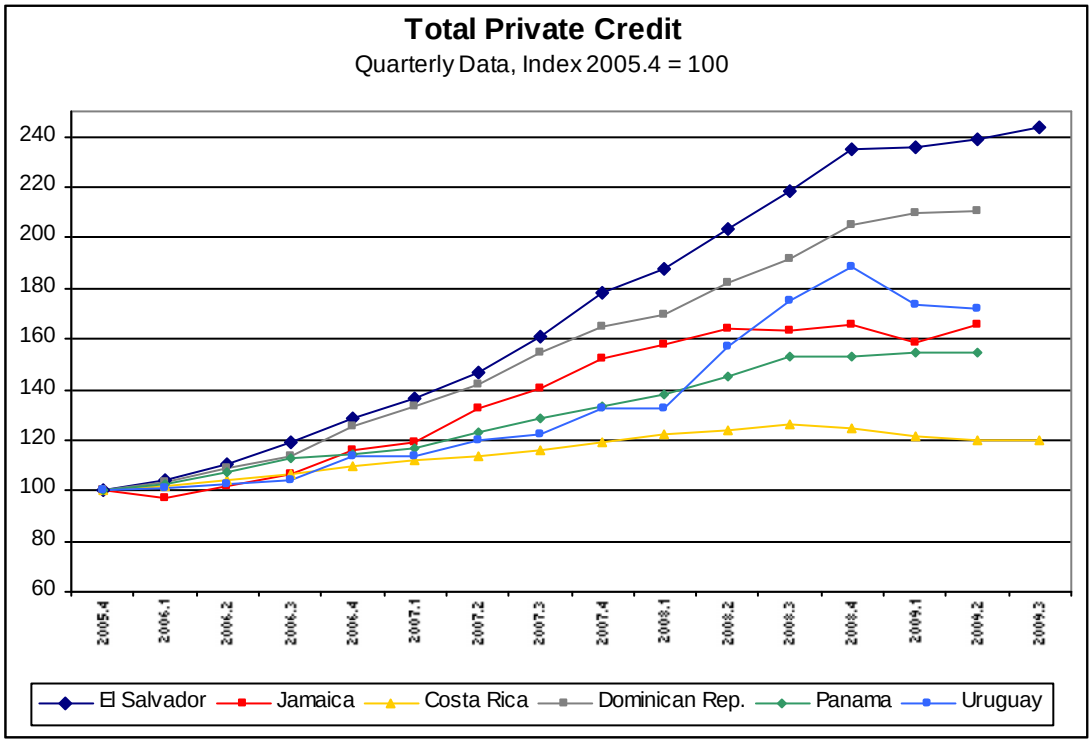
Graph 6



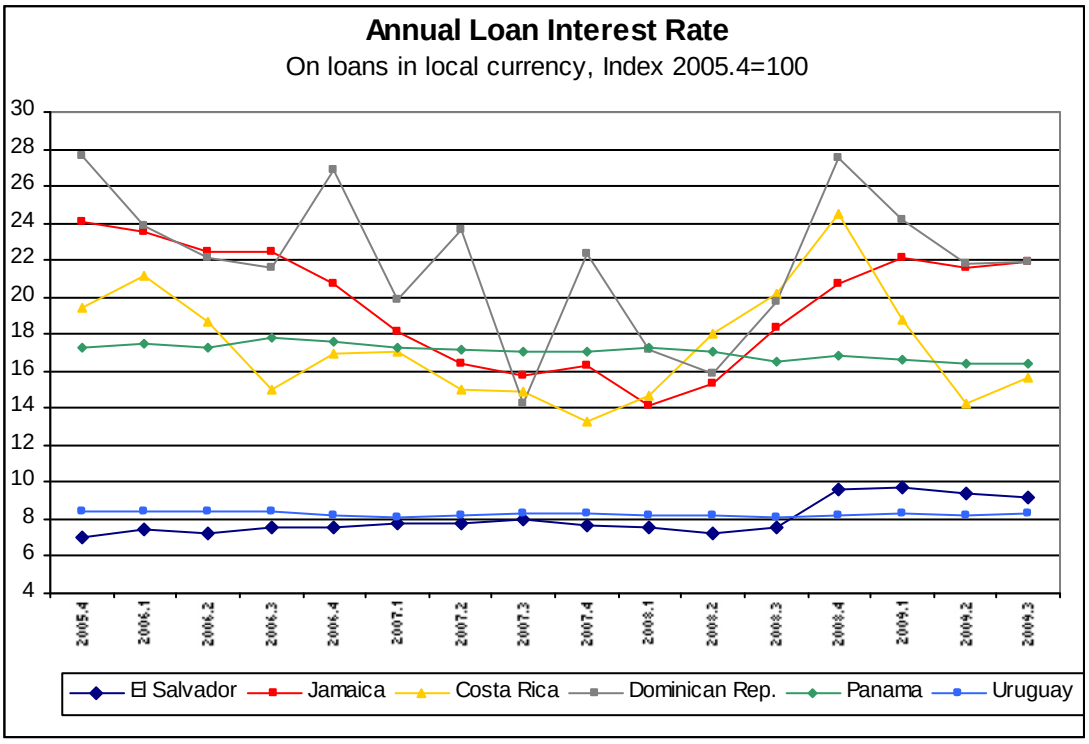
Graph 7



Graph 8



Graph 9


Annual Loan Interest Rate
On loans in local currency, Index 2005.4=100
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2005.4
2006.1
2006.2
2006.3
2006.4
2007.1
2007.2
2007.3
2007.4
2008.1
2008.2
2008.3
2008.4
2009.1
2009.2
2009.3
El Salvador
Jamaica
Costa Rica
Dominican Rep.
Panama
Uruguay

Section 2: LPGS Time Line and Macroeconomic Data

In this section we present the sequence of LPGS-related events in El Salvador, Jamaica, Panama, Costa Rica and Dominican Republic, plus Uruguay, and then we make a first, quick inspection of the macroeconomic series around the day such events were made public. As mentioned earlier, these events are the crucial input for our empirical work in Section 3 and 4, as we seek to assess the impact of unexpected and public LPGS news on selected financial variables. The information was extracted from national newspapers and the IDB internet portal after a thorough searching process.

Tables 2 through 7 reproduce all the events we have assembled regarding (i) the announcement of the program by the IDB and by the national authorities, (ii) the contract approval by the IDB Board and the signature by the local government, (iii) the allocation of funds to the private sector, and (iv) the opinions of interested parties from both the public and private sector about the actual benefits and problems with LPGS financing. We have also included news connected to fresh loans agreed by other multilaterals besides the IDB, just to take note of simultaneous supranational efforts to struggle with the crisis. However, as far the econometric analysis is concerned, we will only consider (i) and (ii).[2]

In order to conduct our econometric analysis on the impact of LPGS on financial stability, we have selected the following time series: the interbank interest rate in El Salvador, Costa Rica, and Dominican Republic; the country risk premium (as measured by the JP Morgan's Emerging Markets Bond Index) in Panama and Uruguay; and the international reserves in Jamaica. The choice of these variables was dictated by two binding technical requirements –as a matter of fact, we only could come up with a single series per country meeting these requirements. For one, daily data (or at least data with higher-than-monthly frequency) is needed for the application of the econometric method.

[2] In the cases of El Salvador and Jamaica, where disbursement actually took place, contract signature by national authorities is most likely to coincide with disbursement. Even if the latter occurred at a later date (an information we do not have), it is debatable whether this would matter at all for our work, as what counts as the event is the certainty that the funds are available –disbursement should have been fully internalized by then.

As these small countries have quite limited coverage by international data providers (like Reuters or Bloomberg) and possess shallow and illiquid domestic financial markets, the number of suitable series is notoriously scarce. On top of this, central banks only disclose monthly or lower frequency data, and so we were forced to make direct inquiries to central bank authorities in charge of the statistical processing to gain access to daily data. Still, in El Salvador and Jamaica, we needed to settle for bi-monthly information. Secondly, the series must display sufficient volatility and be sensitive enough to market sentiment swings so as to make sure that they capture the confidence effect of LPGS news we are testing (to give an extreme example, a fixed exchange rate is not suitable for our purposes).

In the graphs we have drawn a vertical line at each date at which a relevant news, as displayed in Tables 2 through 7, was disseminated about the start of negotiations or the formal signature of the agreement. A worth noting common element is that disbursement took place only in countries that, at the moment of loan signature, were going through troubled financial times, meaning that the series were far away from normal levels in mean and variance. That is the case of El Salvador, Jamaica, and Uruguay. In contrast, by the time the deal was formally under way in Panama, Dominican Republic and Costa Rica, the series were conveying the impression that financial stability was already being restored.[3]

[3] Indeed, the drop in the interbank interest rate in Costa Rica initiated in late October 2008 came to a stop in early February 2009, when it enters a new period of high volatility. Anyway, the Costa Rican authorities decided to withdraw from LPGS as of May 2009 (and formally in June 2009). The most likely explanation is that the country had gained access to sizable contingent credit lines from the IMF.

Table 2
El Salvador: LPGS Chronology

Date	News
10-13-2008	IDB announces LPGS for a total US$6,000 million, along with credit lines from Corporación Andina de Fomento (US$1,500 million) and Fondo Latinoamericano de Reservas (US$1,800 million). All LAC countries are in principle eligible.
11-12-2008	El Salvador's Banking Association announces US$500 million IDB loan
11-13-2008	President announces US$500 million to be lent by IDB
11-18-2008	President and Central Bank President announce US$500 million to be lent under LPGS. The loan was already approved by IDB Board and is expected to be disbursed in early December 2008
11-18-2008	President also announces negotiations with Central American Bank for Economic Integration (BCIE) for another US$300 million emergency loan
12-19-2008	US$400 million loan approved by the IDB Board on 12-17-2008 and contract signed with El Salvador
12-19-2008	Original offer of US$500 million loan reduced by US$100 million
12-23-2008	El Salvador looks for precautionary credit agreement with the IMF
12-24-2008	First US$37 million LPGS loan disbursed, according to official Central Bank information
01-16-2009	IMF approves stand by credit agreement for US$ 800 million
01-28-2009	Businessmen complain about lack of access to LPGS funds
02-11-2009	US$ 113,4 million already disbursed under LPGS
03-03-2009	US$155.2 million already disbursed as of 02-23-2009 out of total US$400 million, according to official Central Bank information. Up to 02-16-2009, 379 new loans for US$70.8 were granted.
03-08-2009	President of El Salvador complains about high cost of LPGS
04-14-2009	Salvadorean firms express concerns about lack of access to LPGS-financed loans
04-15-2009	US$187.2 million disbursed until 04-13-2009, according to official Central Bank information.
06-03-2009	Additional IDB loans to be made in 2010

Sources: www.iadb.org/NEWS/, www.elsalvador.com/mwedh/, www.laprensagrafica.com, www.elmundo.com.sv, www.elgrafico.com, www.radiolaprimerisima.com, www.americaeconomia.com, www.sdpnoticias.com, www.centralamericalink.com

Table 3
Jamaica: LPGS Chronology

Date	News
10-13-2008	IDB announces LPGS for a total US$6,000 million, along with credit lines from Corporación Andina de Fomento (US$1,500 million) and Fondo Latinoamericano de Reservas (US$1,800 million). All LAC countries are in principle elegible.
12-16-2008	Jamaica negotiates LPGS with IDB
01-15-2009	World Bank approves US$100 million emergency loan
01-16-2009	IDB approves US$300 million LPGS loan
09-20-2009	Local banks show mixed results in channeling LPGs funds to the private sector. The finance ministry informs that US$89.7 million has already been loaned, with 71 per cent going to the private sector and the balance taken up by government companies, which have not been named. Only four financial houses - National Commercial Bank (NCB), First Global Bank, Pan Caribbean Financial Services and the Export Import (EXIM) Bank - have taken up any of the funds, which are being administered by the Development Bank of Jamaica (DBJ).

Sources: www.iadb.org/NEWS, www.jamaica-gleaner.com, www.jamaicaobserver.com, www.caribbeannetnews.com.

Table 4
Costa Rica: LPGS Chronology

Date	News
10-13-2008	IDB announces LPGS for a total US$6,000 million, along with credit lines from Corporación Andina de Fomento (US$1,500 million) and Fondo Latinoamericano de Reservas (US$1,800 million). All LAC countries are in principle elegible.
12-18-2008	IDB approves US$500 million LPGS loan
04-13-2009	IMF approves contingent credit line for US$ 735 million
04-30-2009	IMF approves contingent credit line for US$ 500 million
05-11-2009	The government considers rejecting new offers of multilateral loans, including those from the IDB
06-12-2009	The government withdraws the application to enter LPGS, originally submitted in October 2008
06-18-2009	Congress and Central Bank decide to call off LPGS, claiming that the interest rate is too high for a multilateral credit line
09-25-2009	IMF approves contingent credit line for US$ 65 million

Sources: www.iadb.org/NEWS, www.asamblea.go.cr/actual/boletin.

Table 5
Panama: LPGS Chronology

Date	News
10-13-2008	IDB announces LPGS for a total US$6,000 million, along with credit lines from Corporación Andina de Fomento (US$1,500 million) and Fondo Latinoamericano de Reservas (US$1,800 million). All LAC countries are in principle elegible.
03-28-2009	Corporación Andina de Fomento signs US$210 million liquidity support loan with Panama
04-16-2009	IDB approves US$500 million loan under LPGS

Sources: www.iadb.org/NEWS, www.revistasumma.com.

Table 6
Dominican Republic: LPGS Chronology

Date	News
10-13-2008	IDB announces LPGS for a total US$6,000 million, along with credit lines from Corporación Andina de Fomento (US$1,500 million) and Fondo Latinoamericano de Reservas (US$1,800 million). All LAC countries are in principle elegible.
12-09-2008	President announces negotiations for US$500 million LPGS loan (plus another US$ 180 million for competitiveness improvement)
03-20-2009	IDB approves US$300 million loan under LPGS
03-27-2009	US$300 million loan contract signed
04-13-2009	LPGS loan and an additional IDB US$100 million are sent for Congress ratification
06-24-2009	Central Bank meets with commercial banks to discuss possible uses and contractual conditions for LPGS loan
05-25-2009	Senate approves LPGS loan
11-13-2009	National Congress ratifies a package, submitted by the Executive, for US$1,586.9 million loans granted by several international institutions, including IDB's LPGS, between August 2008 and November 2009

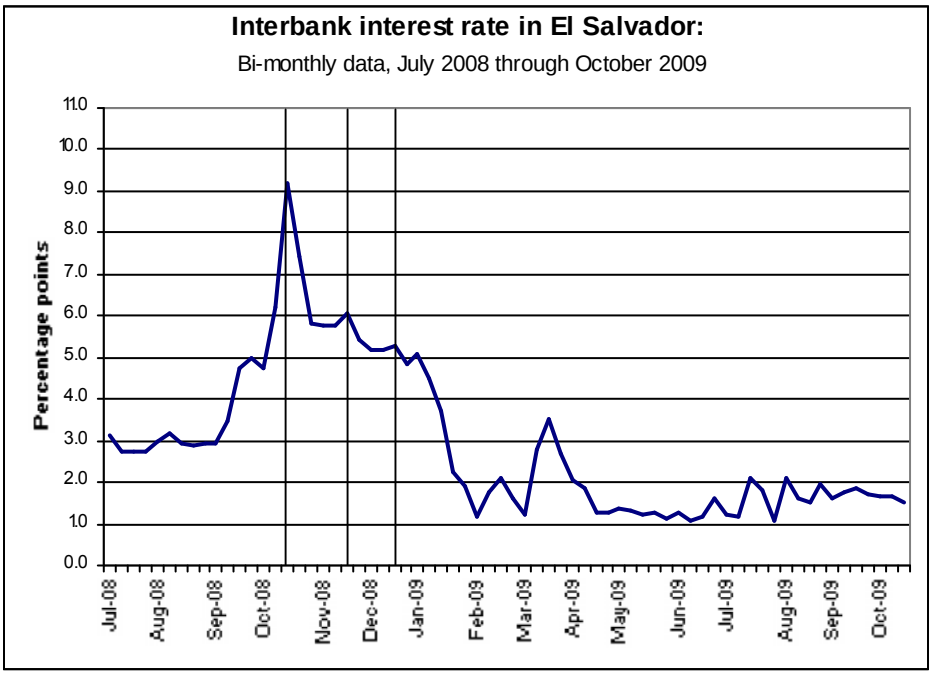
Sources: www.iadb.org/NEWS, lta.reuters.com, www.creditopublico.gov.do/novedades, www.diariolibre.com, www.asiex.org/index.php, www.lanaciondominicana.com, www.elnuevodiario.com.do.

Table 7
Uruguay: LPGS Chronology

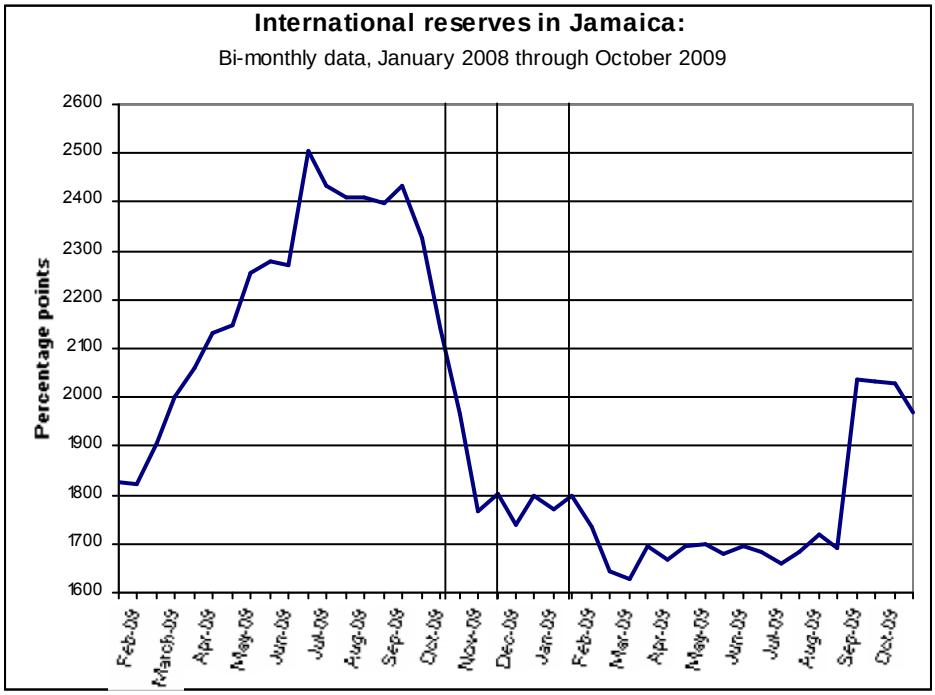
Date	News
10-13-2008	IDB announces LPGS for a total US$6,000 million, along with credit lines from Corporación Andina de Fomento (US$1,500 million) and Fondo Latinoamericano de Reservas (US$1,800 million). All LAC countries are in principle elegible.
10-16-2008	Minister of Economy claims that Uruguay have multilateral open credit lines for US$1,860, plus potential US$500 million from LPGS
10-18-2008	IDB speeds up previously agreed loans for US$200 million for social expenditures
10-23-2008	World Bank announces US$300 million contingent credit line for Uruguay
12-11-2008	Minister of Economy announces IDB loan for US$300 million to be used during 2009, but that the country declines LPGS
02-04-2009	World Bank announces US$400 million loan for Uruguay

Sources: www.iadb.org/NEWS, www.elpais.com.uy, www.presidencia.gub.uy.

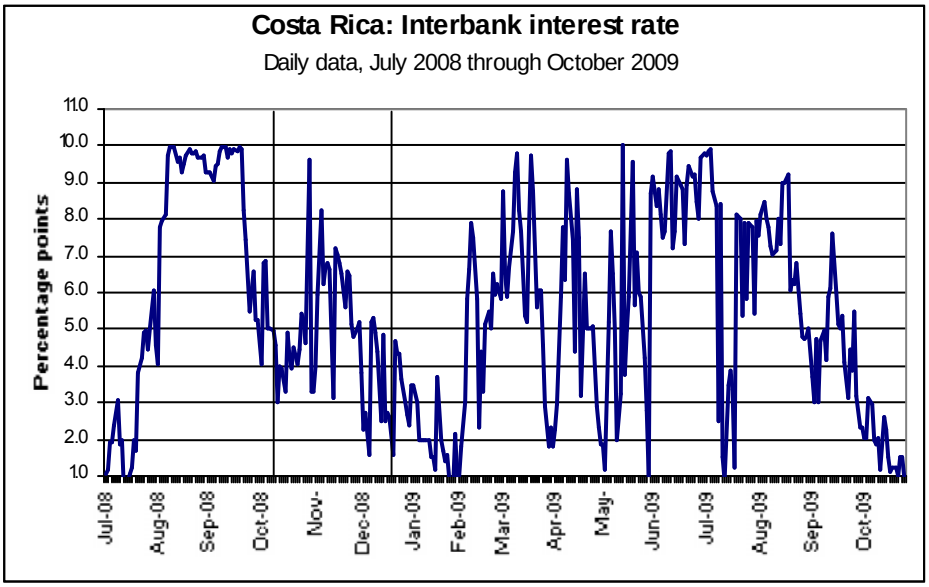
Graph 10



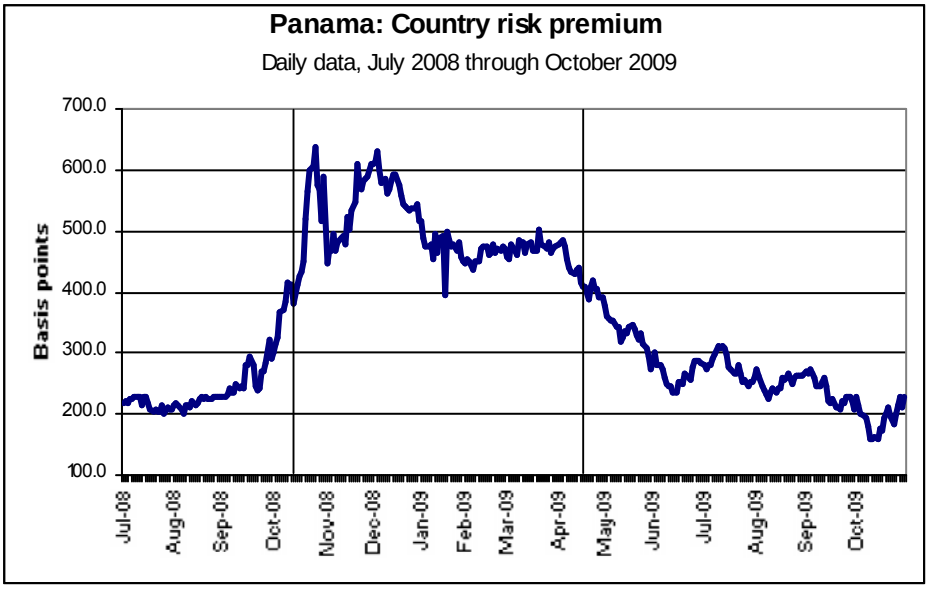
Graph 11



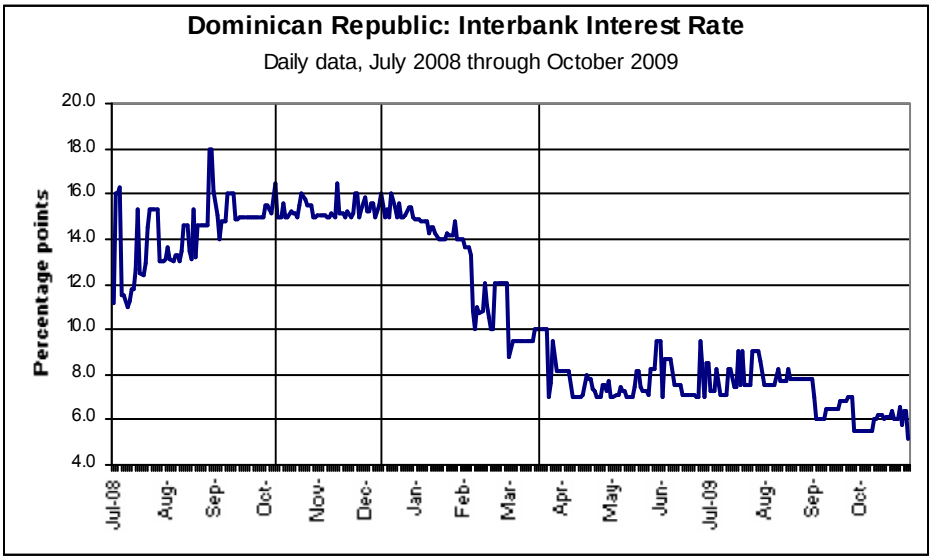
Graph 12



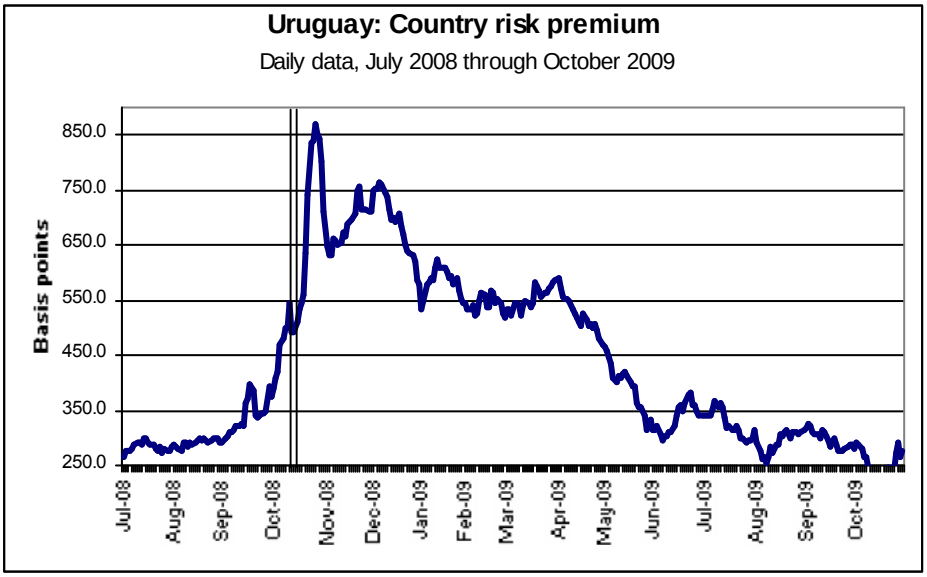
Graph 13



Graph 14



Graph 15



Section 3: Empirical Methodology and Results

We will implement a simple yet potent framework to uncover the effect of LPGS on financial stability in countries that either effectively entered the program (El Salvador and Jamaica) or were accepted into the program but in the end declined to participate (Costa Rica, Dominican Republic, and Panama). We will also include Uruguay which, despite passing the invitation to enter LPGS, was conceded a quicker disbursement of pre-agreed loans, implying a liquidity support objective largely similar to that of LPGS. In short, we will scrutinize the behavior of the macroeconomic series introduced in the last section and investigate, based on econometric techniques, whether LPGS-related news had a stabilizing impact.

This methodology derives from the event study technique, intensively applied in the finance arena to assess the impact of unanticipated corporate news on stock returns (see Kothari and Warner (2008)). A handful of studies have followed some variation of this approach to evaluate the incidence of IMF programs during the Mexican and especially the Asian financial crises in emerging countries, among them Evrensel and Kutan (2008), Hayo and Kutan (2005) and Eichengreen, Kletzer and Mody (2005). Either sovereign bonds spreads or stock market returns are the typical dependent variable in these studies. Mixed results were obtained regarding the sign of the relationship between asset returns and IMF-related news. However, comparability to the present study is limited due to the nature and scope of IMF programs and the public opinion reaction to them. For instance, traditional IMF programs used to impose stringent macroeconomic conditionalities, which might trigger negative expectations on future growth. In contrast, most IDB loans, and LPGS in particular, are free from these side effects.[4]

Specifically, our event studies will be run with a GARCH model, where GARCH stands for Generalized Autoregressive Conditional Heteroskedasticity (Engle (2005) and Campbell, Lo and MacKinlay (1997), among others, are helpful references). The most

[4] The Flexible Credit Line put in place by the IMF since 2008 is more akin to LPGS than traditional lending operations. See IMF (2009a through c) for official documents in reference to the cases of Mexico, Colombia and Poland, respectively.

appealing property of this modeling strategy is that it simultaneously estimates a standard regression and a volatility regression. Time-varying volatility is typical of high frequency financial data. Volatility autocorrelation or clustering, which is most likely to occur during crises, violating the Gauss-Markov homokedasticity assumption. Under heteroskedasticity, coefficients are still unbiased but display too low standard deviations, which gives a false sense of precision. Instead of trying to correct this problem by modifying the variance-covariance matrix, GARCH models treat variance as another variable to be estimated. [5] To do so, they take as the best predictor for the current variance a weighted average of the long-run variance -based on the information available up to the last period- and the most recent squared residual. Rather than assumed, the weights are estimated during the process.[6] Maximum likelihood is employed to estimate the parameters after substituting in the normal distribution the variance parameter for its sample counterpart.

Our econometric specification will take the following form:

$$y_t = \alpha_0 + \alpha_1 y_{t-1} + \alpha_2 r_{t-1} + \alpha_3 D + \varepsilon_t \qquad (1)$$

$$\sigma_t^2 = \alpha_4 + \alpha_5 \varepsilon_{t-1}^2 + \alpha_6 \sigma_{t-1}^2 + \alpha_7 D \qquad (2)$$

Equation (1) is our main equation, where *y* stands for the dependent variable (the daily or bi-monthly series presented in Section 2), which is explained by its first lag, the lagged S&P500 index return (*r*), the LPGS-related news (our variable of interest) represented by the dummies vector *D*, and an error term ε. Controlling for autocorrelation (financial series tend to exhibit inertial behavior) and for international contagion (during the subprime crisis it was evident that international news heavily influenced local markets) is necessary to avoid any omitted variable bias. The dummy variable D takes a value 1 the

[5] The construction of robust standard errors properly addresses the lack of homoskedasticity when the sample is sufficiently large, as this estimator only possesses asymptotic properties. Conversely, small samples do not guarantee that these properties are met.

[6] To ensure stationarity, the sum of these two weights must be statistically below one. In turn, a sensible result should be that each individual weight be positive, implying that the variance is actually persistent over time estimated and that larger estimated errors are variance grows with past variance and

day the information is publicly disclosed, with a value 0 otherwise.[7] We distinguish two cases: one dummy is defined by the public announcement of the negotiation process (the "LPGS Announcement" dummy), taking value 1 the day the program was launched by the IDB and the day formal negotiations with the country kicked off; and the other takes value 1 the day the loan was approved by the IDB and the day the contract with the country was signed (the "LPGS Approval" dummy).[8]

In turn, the error term has a time-varying variance given by equation (2). In this standard GARCH(1,1), this variance depends on its own first lag and on the lagged error. Additionally, we also include the LPGS dummy to verify whether the IDB program affected the series volatility as well. Equation (1) is usually referred to as mean equation, and Equation (2), nested into the model, is the variance equation.

Regression outputs are presented in full in Tables 11 through 16, with one table per country (El Salvador, Jamaica, Costa Rica, Panama, Dominican Republic, and Uruguay). But, for the sake of expositional clarity, Tables 8 through 10 summarize the statistical and economic significance of the estimated coefficients. These self-explanatory tables reveal that: (a) Financial series display a strong inertia and are heavily influenced by market developments in the US, as measured by S&P500 index return; (b) The negotiation and approval dummies deliver a significant estimate with the expected sign for the mean equation in 10 out of the 12 cases listed in the Table 8; (c) In turn, these dummies have a significant impact on the variance equation in 6 out of 12 cases; and (d) Regarding economic significance, coefficients vary across cases, but the average effect is a reasonable improvement of 11.2% in the mean value and of 9.8% in variance.

[7] To check our results, we also ran regressions assigning a value 1 to the day after the information is released, as it is possible that it may take some additional time for the market as a whole to receive and act on the news, or the information may have been made public after the markets close that day. In general, but not in all cases, we found that the original dummy variable (without considering a delayed effect) was enough to capture the effect.

[8] Although we have combined two different dates in constructing each dummy variable, from the perspective of news impact on the market, the actual start of the negotiations and the IDB approval stand out as the most important dates (the announcement of the facility by the IDB does not guarantee that any particular countries will be eligible, while contract signature is visualized as a formality after the decisive IDB Board approval).This hypothesis was generally confirmed via additional unreported regressions.

In closing, we take note of the shortcomings of research approach.[9] The chief underlying assumptions of these models are that: (a) *News are not anticipated at all by the market*. If that were the case, the estimation would yield a non-significant coefficient on the news dummy regardless of the true impact of the emergency program. Unfortunately it is hard to know with any certainty whether the market discounted the information in advance or if there was some leakages in previous days; and (b) *No other major news were disclosed around the same time*. Although it is unlikely that long-term fundamentals change over the short time windows employed here, it is sensible nonetheless that LPGS-news overlap with other positive news –like similar liquidity support initiatives by other multilaterals or well-received domestic policy measures- or with negative news –like gloomy economic projections, adverse developments in international markets, or resonant cabinet changes-. Coincidence with other positive news may lead to an overestimation of the true impact of the LPGS program; coincidence with bad news may have the opposite effect. As mentioned before, we took reasonable steps to deal with this problem: first, we compiled news on multilateral packages for liquidity assistance, which were presented in Section 2, along with the IDB program; and second, we controlled for persistence in the dependent variable and for external news, proxied by the S&P500 index return.

We acknowledge that every event study, including ours, is not fully able to rule out a potential over- or underestimation of news impact owing to the simultaneous arrival of other good or bad news to the market, although we have done our best to control for these extraneous factors. Also, this sort of analysis remains silent as to the LPGS' longer-term effects, which are still more difficult to quantify. Besides the econometric exercises presented earlier, we stretched the news windows until the end of the estimation period. In this way, the news dummy took a value of 1 not only on the announcement day but in all remaining days spanning the estimation (typically a month after the announcement). This procedure allows us to evaluate if the news had a longer (rather than immediate) impact on the macroeconomic data. Our results (unreported but available upon request) indicate that the negotiation dummy has this longer effect only in Costa Rica, while the approval dummy is significant in all countries but Uruguay and Jamaica. It is unlikely

[9] It is important to bear in mind that these shortcomings are common to all event studies, although they are usually assumed away without further consideration.

that this or any other method could detect much longer LPGS effects on financial stability. Although it has proven useful over short periods, it is to be expected that the arrival of bad international and domestic news bombarding the market every day, combined with the specificity, non-recurring nature and limited volume involved of LPGS, have turned the latter a limited tool to revert pessimism by itself on a permanent basis. However, the fact that it seems to have had a stabilizing effect in the short-term, and that short-term stability is a precondition for long-term growth, speaks highly of this anti-crisis IDB program.

Table 8
Statistical significance of the
LPGS "Negotiation" and "Approval" Dummies (*)

Country	Dependent Variable	Estimated Coefficient on					
		Lagged Dependent Variable	Lagged S&P500 Index Return	LPGS Negotiation Dummy (Mean Equation)	LPGS Approval Dummy (Mean Equation)	LPGS Negotiation Dummy (Variance Equation)	LPGS Approval Dummy (Variance Equation)
El Salvador	Interbank Interest Rate	+	-	-	0	-	-
Jamaica	International Reserves	+	+	+	+	0	0
Costa Rica	Interbank Interest Rate	+	-	-	-	-	0
Panama	Country Risk	+	0	-	-	-	0
Dominican Republic	Interbank Interest Rate	+	0	0	-	0	-
Uruguay	Country Risk	+	-	-	-	-	0

(*) (+) Positive and significant at 10% or less, (-) Negative and significant at 10% or less, (0) Non-significant at 10% or less.

Table 9
Mean Equation:
Economic significance of the
LPGS "Negotiation" and "Approval" Dummies (*)

Country	Dependent Variable	Impact of Dummy Estimate on Dependent Variable (*)	
		LPGS Negotiation Dummy (Mean Equation)	LPGS Approval Dummy (Mean Equation)
El Salvador	Interbank Interest Rate	-36.1%	0
Jamaica	International Reserves	+2.6%	+2.0%
Costa Rica	Interbank Interest Rate	-7.8%	-35.6%
Panama	Country Risk	-7.2%	-4.1%
Dominican Republic	Interbank Interest Rate	0	-11.4%
Uruguay	Country Risk	-1.9%	-3.0%

(*) Calculated as (Point Estimate on Dummy Variable) / (Mean Value of Dependent Variable over the estimation period).
A value of zero (0) means that the estimated coefficient was statistically not significant at 10% or less.

Table 10
Variance Equation:
Economic significance of the
LPGS "Negotiation" and "Approval" Dummies (*)

Country	Dependent Variable	Impact of Dummy Estimate on Dependent Variable (*)	
		LPGS Negotiation Dummy (Mean Equation)	LPGS Approval Dummy (Mean Equation)
El Salvador	Interbank Interest Rate	-2.3%	0
Jamaica	International Reserves	0	0
Costa Rica	Interbank Interest Rate	-25.6%	0
Panama	Country Risk	-1.3%	0
Dominican Republic	Interbank Interest Rate	0	-19.8%
Uruguay	Country Risk	-0.06%	0

(*) Calculated as (Point Estimate on Dummy Variable) / (Mean Value of Dependent Variable over the estimation period).
A value of zero (0) means that the estimated coefficient was statistically not significant at 10% or less.

Table 11
El Salvador: LPGS Effects on the Interbank Interest Rate
Bollerslev-Wooldridge Robust Standard Errors

Dep. Var.: Interbank interest rate	(1)	(2)	(3)	(4)
Mean Equation				
Constant	0.261	0.21*	0.217	0.30
	(1.598)	*(1.875)*	*(1.561)*	*(0.902)*
Interbank interest rate(-1)	0.940***	0.954***	0.953***	0.906***
	(20.482)	*(28.33)*	*(22.094)*	*(9.754)*
S&P 500 Return(-1)	-0.051**	-0.063***	-0.064***	-0.040
	(-1.969)	*(-4.070)*	*(-3.906)*	*(-1.321)*
LPGS Announcement Dummy	-1.500***	-0.817*		
	(-4.302)	*(-1.673)*		
LPGS Approval Dummy			-0.017	-0.006
			(-0.198)	*(-0.026)*
Variance Equation				
Constant	0.016	0.007	0.014	0.007
	(1.104)	*(0.508)*	*(1.379)*	*(0.508)*
ARCH(-1)	1.217**	2.06***	1.864***	2.06***
	(1.976)	*(3.584)*	*(3.339)*	*(3.584)*
GARCH(-1)	0.264*	0.125	0.103	0.125
	(1.655)	*(0.969)*	*(0.971)*	*(0.969)*
LPGS Announcement Dummy		-0.0186***		
		(-3.322)		
LPGS Approval Dummy				-0.681***
				(-4.208)
Bi-monthly period	05/30/08 - 01/30/09	05/30/08 - 01/30/09	05/30/08 - 01/30/09	05/30/08 - 01/30/09
No. observations	36	36	36	36
Mean of dependent variable	4.15	4.15	4.15	4.15
S.D. of dependent variable	1.70	1.70	1.70	1.70
R-squared	0.787	0.780	0.761	0.765
Adjusted R-squared	0.743	0.726	0.711	0.706
Log likelihood	-28.09	-26.19	-27.54	-39.64
F-statistic	17.835	14.217	15.37	13.00
Prob(F-statistic)	*0.000*	*0.000*	*0.000*	*0.000*
LM ARCH test F-statistic (5 lags)	1.973	0.701	0.763	1.669
Probability LM ARCH test (5 lags)	*0.169*	*0.408*	*0.389*	*0.205*
Q-stat (5 lags)	6.096	5.355	5.499	7.905
Probability Q-stat (5 lags)	*0.297*	*0.374*	*0.358*	*0.162*

Notes:
* Significant at 10%, ** Significant at 5%, ***Significant at 1%. Z-statistics in parenthesis.

Table 12
Jamaica: LPGS Effects on International Reserves
Bollerslev-Wooldridge Robust Standard Errors

Dep. Var.: International Reserves	(1)	(2)	(3)	(4)
Mean Equation				
Constant	71.86	73.01	73.638	74.825
	(0.88)	*(0.88)*	*(0.915)*	*(0.963)*
International reserves(-1)	0.959***	0.96***	0.959***	0.959***
	(24.162)	*(23.65)*	*(24.287)*	*(25.148)*
S&P 500 Return(-1)	5.249*	5.179*	5.399*	5.329**
	(1.761)	*(1.718)*	*(1.798)*	*(2.023)*
LPGS Announcement Dummy	50.617***	50.581***		
	(3.773)	*(4.077)*		
LPGS Approval Dummy			38.275**	38.253***
			(2.473)	*(4.077)*
Variance Equation				
Constant	5536.3***	8518.0***	5555.6***	8547.7*
	(3.966)	*(5.283)*	*(3.985)*	*(1.711)*
ARCH(-1)	-0.104	-0.144	-0.105	-0.145
	(-1.236)	*(-1.487)*	*(-1.259)*	*(-1.506)*
GARCH(-1)	0.529***	0.460***	0.528***	0.463
	(4.875)	*(3.878)*	*(4.918)*	*(1.139)*
LPGS Announcement Dummy		-0.086		
		(0.000)		
LPGS Approval Dummy				-0.076
				(0.000)
Bi-monthly period	04/23/08 - 10/14/09	04/23/08 - 10/14/09	04/23/08 - 10/14/09	04/23/08 - 10/14/09
No. observations	36	36	36	36
Mean of dependent variable	1,948.3	1,948.3	1,948.3	1,948.3
S.D. of dependent variable	296.8	296.8	296.8	296.8
R-squared	0.900	0.900	0.900	0.900
Adjusted R-squared	0.879	0.876	0.879	0.876
Log likelihood	-210.5	-211.41	-210.46	-211.41
F-statistic	43.67	36.21	43.51	36.21
Prob(F-statistic)	*0.000*	*0.000*	*0.000*	*0.000*
LM ARCH test F-statistic (5 lags)	0.249	0.281	0.248	0.281
Probability LM ARCH test (5 lags)	*0.936*	*0.919*	*0.937*	*0.919*
Q-stat (5 lags)	2.082	2.254	1.789	2.254
Probability Q-stat (5 lags)	*0.838*	*0.813*	*0.877*	*0.813*

Notes:
* Significant at 10%, ** Significant at 5%, ***Significant at 1%. Z-statistics in parenthesis.

Table 13
Costa Rica: LPGS Effects on the Interbank Interest Rate
Bollerslev-Wooldridge Robust Standard Errors

Dep. Var.: Interbank interest rate	(1)	(2)	(3)	(4)
Mean Equation				
Constant	0.629***	0.691***	1.244***	1.307**
	(2.612)	*(1.504)*	*(3.077)*	*(2.382)*
Interbank interest rate(-1)	0.931***	0.483***	0.692***	0.692***
	(36.81)	*(3.753)*	*(8.074)*	*(6.337)*
S&P 500 Return(-1)	-0.086***	-0.079***	-0.022	-0.044
	(-4.421)	*(-2.114)*	*(-0.485)*	*(-0.746)*
LPGS Announcement Dummy	-0.561**	-0.809***		
	(-2.139)	*(-3.545)*		
LPGS Approval Dummy			-1.522***	-1.673***
			(-6.785)	*(-4.939)*
Variance Equation				
Constant	0.014	0.655**	3.010***	0.874
	(0.989)	*(2.009)*	*(5.625)*	*(0.064)*
ARCH(-1)	1.779***	0.358*	0.066	0.006
	(2.62)	*(1.667)*	*(1.424)*	*(0.048)*
GARCH(-1)	0.22***	0.262	-1.050***	0.458
	(2.869)	*(1.087)*	*(-18.163)*	*(0.055)*
LPGS Announcement Dummy		-1.404***		
		(-3.00)		
LPGS Approval Dummy				0.170
				(0.088)
Daily period	08/01/08 - 11/28/08	08/01/08 - 11/28/08	11/03/08 - 01/14/09	11/03/08 - 01/14/09
No. observations	84	84	49	49
Mean of dependent variable	7.16	7.16	4.27	4.27
S.D. of dependent variable	2.34	2.34	1.81	1.81
R-squared	0.675	0.709	0.494	0.497
Adjusted R-squared	0.649	0.677	0.421	0.411
Log likelihood	-113.25	-124.86	-79.08	-81.17
F-statistic	26.634	22.791	6.823	5.778
Prob(F-statistic)	*0.000*	*0.000*	*0.000*	*0.000*
LM ARCH test F-statistic (5 lags)	0.31	0.574	1.464	0.896
Probability LM ARCH test (5 lags)	*0.905*	*0.719*	*0.224*	*0.494*
Q-stat (5 lags)	2.057	5.509	3.689	3.234
Probability Q-stat (5 lags)	*0.841*	*0.357*	*0.595*	*0.664*

Notes:
* Significant at 10%, ** Significant at 5%, ***Significant at 1%. Z-statistics in parenthesis.

Table 14
Panama: LPGS Effects on Country Risk Premium
Bollerslev-Wooldridge Robust Standard Errors

Dependent Variable: EMBI	(1)	(2)	(3)	(4)
Mean Equation				
Constant	16.116	16.982*	-1.624	-4.087
	(1.497)	*(1.714)*	*(-0.207)*	*(-0.434)*
EMBI(-1)	0.836***	0.707***	0.999***	1.005***
	(6.184)	*(5.518)*	*(55.21)*	*(46.024)*
S&P 500 Return(-1)	0.708	0.021	-0.103	-0.136
	(0.867)	*(0.029)*	*(-0.261)*	*(-0.266)*
LPGS Announcement Dummy	-27.975***	-22.271***		
	(-2.817)	*(-2.60)*		
LPGS Approval Dummy			-17.296***	-17.036***
			(-12.884)	*(-10.795)*
Variance Equation				
Constant	352.726**	384.708**	9.734*	21.551
	(3.156)	*(2.939)*	*(1.808)*	*(0.877)*
ARCH(-1)	0.818**	0.908**	-0.121*	-0.051
	(2.109)	*(2.427)*	*(-1.756)*	*(-0.084)*
GARCH(-1)	-0.036	-0.098	1.072***	0.904***
	(-0.708)	*(-0.968)*	*(16.888)*	*(4.756)*
LPGS Announcement Dummy		-202.834*		
		(-1.752)		
LPGS Approval Dummy				-44.726
				(-0.462)
Daily period	09/02/08 - 11/14/08	09/02/08 - 11/14/08	01/29/09 - 05/26/09	01/29/09 - 05/26/09
No. observations	54	54	81	81
Mean of dependent variable	385.91	385.91	425.6	425.6
S.D. of dependent variable	123.15	123.15	57.4	57.4
R-squared	0.94	0.94	0.958	0.958
Adjusted R-squared	0.929	0.928	0.955	0.954
Log likelihood	-251.22	-251.23	-308.5	-312.04
F-statistic	87.914	77.281	283.89	240.9
Prob(F-statistic)	*0.000*	*0.000*	*0.000*	*0.000*
LM ARCH test F-statistic (5 lags)	0.935	0.838	1.144	0.757
Probability LM ARCH test (5 lags)	*0.468*	*0.529*	*0.346*	*0.583*
Q-stat (5 lags)	5.074	4.702	2.637	5.314
Probability Q-stat (5 lags)	*0.407*	*0.453*	*0.756*	*0.379*

Notes:
* Significant at 10%, ** Significant at 5%, ***Significant at 1%. Z-statistics in parenthesis.
Regressions (1) and (2) include also the second and third lags of the EMBI to control for autocorrelation, according to the Q test.

Table 15
Dominican Republic: LPGS Effects on Interbank Interest Rate
Bollerslev-Wooldridge Robust Standard Errors

Dep. Var.: Interbank interest rate	(1)	(2)	(3)	(4)
Mean Equation				
Constant	9.856***	7.34***	2.489***	2.502***
	(10.035)	*(7.299)*	*(3.602)*	*(6.475)*
Interbank interest rate(-1)	0.352***	0.519***	0.766***	0.747***
	(5.407)	*(7.829)*	*(11.444)*	*(17.723)*
S&P 500 Return(-1)	-0.0017	-0.0013	-0.006	0.031
	(-0.164)	*(-0.847)*	*(-0.185)*	*(0.718)*
LPGS Announcement Dummy	0.093	-0.0027		
	(0.37)	*(-0.0088)*		
LPGS Approval Dummy			-1.177***	-0.769
			(-2.664)	*(-1.497)*
Variance Equation				
Constant	0.038	0.020	0.1056*	0.638**
	(0.585)	*(0.761)*	*(1.87)*	*(2.026)*
ARCH(-1)	-0.048	0.077	-0.123	-0.136***
	(-0.701)	*(1.545)*	*(-1.597)*	*(-2.594)*
GARCH(-1)	1.015***	0.841***	0.991***	0.482
	(9.184)	*(7.764)*	*(6.205)*	*(1.467)*
LPGS Announcement Dummy		-0.063		
		(-0.536)		
LPGS Approval Dummy				-0.457*
				(1.652)
Daily period	08/01/08 - 12/09/08	08/01/08 - 12/09/08	02/02/09 - 03/30/09	02/02/09 - 03/30/09
No. observations	108	108	41	41
Mean of dependent variable	15.06	15.06	10.35	10.35
S.D. of dependent variable	0.829	0.829	1.52	1.52
R-squared	0.328	0.397	0.619	0.633
Adjusted R-squared	0.288	0.354	0.552	0.556
Log likelihood	-77.87	-88.76	-48.454	-52.048
F-statistic	8.226	9.397	9.209	8.146
Prob(F-statistic)	*0.000*	*0.000*	*0.000*	*0.000*
LM ARCH test F-statistic (5 lags)	1.679	0.351	0.216	0.151
Probability LM ARCH test (5 lags)	*0.147*	*0.88*	*0.953*	*0.978*
Q-stat (5 lags)	1.071	2.039	3.193	1.711
Probability Q-stat (5 lags)	*0.957*	*0.844*	*0.67*	*0.888*

Notes:
Significant at 10%, ** Significant at 5%, ***Significant at 1%. Z-statistics in parenthesis.

Table 16
Uruguay: LPGS Effects on Country Risk Premium
Bollerslev-Wooldridge Robust Standard Errors

Dep. Var.: EMBI	(1)	(2)	(3)	(4)
Mean Equation				
Constant	4.328*	7.598**	8.372	7.775
	(1.955)	*(2.368)*	*(1.382)*	*(1.222)*
EMBI(-1)	1.094***	1.168**	0.995***	0.995***
	(37.42)	*(77.361)*	*(102.05)*	*(98.52)*
S&P 500 Return	-3.211***	-2.977***	-3.09***	-3.202***
	(5.281)	*(-7.918)*	*(-8.029)*	*(-8.015)*
LPGS Announcement Dummy	-10.720***	-7.542**		
	(-3.321)	*(-2.571)*		
LPGS Approval Dummy			-17.365***	-12.08
			(-2.707)	*(-0.581)*
Variance Equation				
Constant	465.86***	389.79***	213.33**	208.84**
	(4.397)	*(4.903)*	*(2.256)*	*(2.232)*
ARCH(-1)	0.551**	0.672***	0.802**	0.756**
	(2.354)	*(2.712)*	*(2.426)*	*(2.226)*
GARCH(-1)	-0.469***	-0.305***	-0.0032	-0.001
	(-4.339)	*(-20.80)*	*(-0.095)*	*(-0.039)*
LPGS Announcement Dummy		-192.717***		
		(-3.452)		
LPGS Approval Dummy				553.87
				(0.792)
Daily period	08/27/08 - 11/10/08	08/27/08 - 11/10/08	08/27/08 - 11/10/08	08/27/08 - 11/10/08
No. observations	54	54	54	54
Mean of dependent variable	573.15	573.15	573.15	573.15
S.D. of dependent variable	166.25	166.25	166.25	166.25
R-squared	0.974	0.976	0.968	0.968
Adjusted R-squared	0.969	0.972	0.964	0.964
Log likelihood	-238.13	-237.42	-243.25	-242.80
F-statistic	243.06	231.61	236.78	201.53
Prob(F-statistic)	*0.000*	*0.000*	*0.000*	*0.000*
LM ARCH test F-statistic (5 lags)	0.561	0.202	0.288	0.445
Probability LM ARCH test (5 lags)	*0.729*	*0.959*	*0.917*	*0.814*
Q-stat (5 lags)	7.403	1.746	6.618	5.118
Probability Q-stat (5 lags)	*0.192*	*0.883*	*0.251*	*0.402*

Notes:
* Significant at 10%, ** Significant at 5%, ***Significant at 1%.
Regressions (1) and (2) include also the second and third lags of the EMBI to control for autocorrelation, according to the Q test.

Section 4: PGLS Rationale and Outcomes

At the time of its design, negotiation and implementation phases, LPGS invited a few central questions as to how to maximize the effectiveness of IDB financial assistance while the crisis was at its peak. The goal of this closing section is to move away from the technicality of the previous analysis and discuss some operational aspects that have been on the table since LPGS was launched in October 2008. Now, as the subprime crisis has subsided, it seems a proper time to take stock.

Along with the review of IDB documentation (LPGS Operational Guidelines, Loan Agreements, and related information), we maintained interviews with the Bank's Team Leaders and with national authorities of El Salvador, Costa Rica and Uruguay in order to learn from their first hand experience. Here are the four issues we seek to go over:

(a) Why was the assistance oriented towards the private sector and not to the public sector?

The quick answer is that the IDB is a development bank, and as such it is outside its scope to play a lender-of-last-resort function at the regional level. Instead, its mission is to provide resources with a direct impact on the productive capabilities of its country members (by the way, the title of the program, in referring to *growth sustainability*, is quite explicit in this regard). In light of the reigning liquidity shortage suffered by the non-financial private sector, an injection of fresh money into the commercial banking system with the narrow objective of opening access to working capital and trade finance was sensibly judged as the way to go. Resources were to be transferred to the private sector through a second-tier scheme -a second-floor institution, be it the central bank or a national development bank, was in charge of allocating funds to first-floor financial institutions to finance new private lending operations. On operational grounds, the second-tier institution would acquire a fraction of the outstanding loan portfolio of the first-tier institution, thus freeing up liquid assets that had to be immediately lent to private borrowers.

Also it must be recalled that the Bank's mission is fully complementary with the IMF approach, which pursues activities more resembling of those of a supranational lender of last resort, interacting directly with national fiscal and monetary authorities but not with the private sector. Avoiding overlaps between multilaterals makes for a more efficient international financial architecture.

(b) Were lending conditions too hard?

The interest rate (LIBOR plus 400 basis points) was atypically high for an IDB loan. The same applies to the front-end fee of 1% on the full amount requested and the 0.75% commitment fee on unused funds. Adding to this, in making new loans, financial institutions would retain the associated credit risk while posting guarantees to the second-tier institution. The ultimate question is whether these terms were self-defeating or were actually coherent with the spirit of the program. With the benefit of hindsight, the evidence leans towards the second interpretation.

Taking the analysis one step back, the IDB had to choose between more penalizing or more benevolent loan terms.[10] Under the former, willingness to participate would presumably be discouraged, in both the number of signing countries and the amounts requested. However, these more costly conditions would make it easier to identify the countries with a more pressing need for fresh funds to support the private sector, which was the primary goal of the program. For financial institutions going through an interruption of their credit lines, LPGS must have been extremely valuable –common knowledge asserts that "the most expensive loan is the one you don't have", meaning, in more technical jargon, that the cost of unavailable funds is infinite.

On the other hand, softer conditions would make countries more enthusiastic to enter, but for the wrong reasons in light of the declared objective of the line: financial institutions may be biased in favor of taking on the offered loans not for boosting new flows of

[10] As a matter of fact, the IDB did not have much of a choice at that point in time regarding the pricing of this line, as the only quickly accessible funding for emergency purposes had a previously Board-approved cost of 400 basis points above LIBOR. Anyway, the point merits the discussion, at least for future reference in similar episodes.

private lending but to substitute for other less attractive sources of finance. For example, they may want to sell some loans to the second-tier institution and make new loans (meeting the LPGS requirements), but at the same time cancel more onerous liabilities (reducing other assets, possibly including loans that are not under the scope of the program). What is more, unable to replenish this pool of resources in the midst of the crisis, the IDB was uncertain about whether the total volume at hand (6 billion dollars) would be rapidly exhausted, so it was thought that some rationing mechanism would improve the allocational efficiency of such potentially scarce funds.

In conclusion, the relatively hard loan terms were instrumental to the IDB's aspiration to screening countries with a speculative demand for funds from those facing an actual financial constraint.

(c) Why was the line underutilized?

It is a fact that only 4.6% of the U$S6,000 million were effectively lent to IDB country members (US$89.4 million to Jamaica and US$186.4 million to El Salvador). This limited application of available funds might wrongly be interpreted as a failure of the program. But the weakness of this claim lies on the implicit assumption that money was badly needed. Let us recall that the loans were supposed to meet the demand from bank clients. Three reasons may explain why loans were not intensely requested, as expected in the first place:

(i) Final borrowers may have been reluctant to ask for new loans fearing that default risk got amplified during the crisis, making it advisable to have the burden of debt services under control. Also, the demand for credit was naturally held back by the economic downturn. Furthermore, the competitive (meaning non-subsidized) interest rate -coupled by short maturities and high collateral requirements- was an additional deterrent;
(ii) Macroeconomic figures in Section 1 showed that the volume of private credit was growing at slower but still positive rates as the subprime crisis unraveled. Total liabilities of the banking system -including deposits, foreign credit lines and new worth- did not diminish either, except for El Salvador (-1.2% between August 2008 and June 2009) and

Jamaica (-15.8%). This implies that, on the whole, banks were not in need to make up for lost financing sources. Also on the macroeconomic front, this was a short-lived crisis, and by the time negotiations were under way, the need for money was already vanishing; and

(iii) Bank managers were actually who had to decide whether and how much to borrow and, independently of their assessment of final credit demand, they might have been against increasing their loan portfolio. In a context of uncertainty and high interest rates, the risk of adverse selection (choosing low quality and risky borrowers) and moral hazard (being exposed to the misuse of loans on the part of the borrowers) heightens. A good indicator of a precautionary bank policy, by which banks refrain from lending, is the ratio of cash balances to total assets. Between December 2007 and August 2008, the average ratio for the banking system in our six-country sample was already high (16%), but still increased to 18.6% in September 2008-June 2009.

All in all, the above claims provide some support to the view that the underutilization of the line derives to a great extent from a weak credit demand, in the context of a short crisis not having a dramatic effect on banking system's health. Reinforcing our previous statements, it is our sense that the lending terms were at most a second-order factor behind the lack of interest in applying for and using the facility.

(d) Was LPGS in the end an actual production-enhancing mechanism or just an insurance scheme in disguise?

Considering the premises under which the program was established, a serious concern for the IDB was that entry into the program was not motivated by the goal of buying some time and regaining market confidence, without the earnest intention of eventually taking the loan. The level of front-end and commitment fees, as well as the 180-day validity of the loan approval and the one-year limit for the banks to lend the money, were clauses directed at ensuring the actual, quick use of funds. However, it was already mentioned that, out of nine applying countries, only 5 subscribed the loan contract, with 2 of them receiving partial installments.

Resuming prior arguments, the debate comes down to whether countries deliberately took LPGS as an insurance device or they did not end up using the resources for more legitimate reasons, spelled out in *(c)* above. Our position is that the limited use is related to a lack of underlying demand for funds, and that the pure insurance motive played a marginal role in the decision to apply for this funding.[11]

It is true that the high interest rate and fees drove countries to postpone the decision to request the funding as much as possible, but this was consistent with the IDB intention to make actual productive loans instead of opening a contingent line. The fact that some countries withdrew from the initial agreement does not mean that the hard loan conditions backfired on the IDB, but that the need for funds was not sufficiently intense, and so countries were able to cope with the crisis with other resources at hand. According to IDB team leaders, countries were torn between the desire of avoiding a costly credit line and -in light of the first-come, first-served rule- the risk of losing access to resources that could prove to be extremely valuable later on. One should bear in mind that at the peak of the crisis, the extreme market volatility made it virtually impossible to estimate future financing needs even over the shortest time horizon. Authorities themselves must have been uncertain about whether they would need to use the money and when. Under these circumstances, it is quite unlikely that governments had applied knowing beforehand that they will not channel the funds to the private sector.[12,13]

To close, should one evaluate LPGS as an overall success or a failure? A quick, acid test, less technical than ours but by all means highly dependable, is the opinion of national authorities in office at the time of LPGS implementation. We consulted with some of

[11] However, we do believe that LPGS acted in practice as a macroeconomic insurance device. Our previous econometric results attest to LPGS success in mitigating macroeconomic uncertainty. This is true even for the mere announcement of negotiations and for rather small disbursements. This suggests that LPGS worked out regardless of its intended productive use. This is precisely the confidence effect associated to an insurance.

[12] Strictly speaking, this facility cannot be labeled as an insurance mechanism. An insurance contract sets a premium to be paid in advance and payment is contingent to the realization of the event. Also, in this case the event (the crisis) was already in motion -although chances were that it could be prolonged over time. On the contrary, LPGS was a conventional loan with clear guidelines about disbursement.

[13] Anyway, even after discarding this hypothesis, one must say that a credit line serving as insurance should not be viewed negatively, but the opposite. If an insurance is set up, and its existence allows to strengthen market confidence without any actual flow of money, such insurance should be consider utterly successful.

them from El Salvador, Costa Rica, and Uruguay. They unanimously expressed a very positive viewpoint on LPGS as a crisis-containing mechanism. Of course, they mentioned that a successful anti-crisis package needed of all four following ingredients: (i) Satisfactory initial macroeconomic conditions, for instance, an acceptable buffer stock of international reserves and a comfortable fiscal position, (ii) A relatively low exposure to particular external shocks, in terms of export markets and import products diversification and low short-term external debt ratios; (iii) Coordinated multilateral assistance (including not only the IDB but also the IMF, the WB, and other institutions such as CAF and FLAR); and (iv) Sound and pragmatic fiscal and monetary policies over the course of the crisis. As part of (iii), they claim that LPGS was an effective and timely instrument. This anecdotal evidence, combined with our event study results, attests to the success of LPGS in opening LAC countries a credit line at a crucial moment where they were unable to tap private markets.

Annex 1: Use of disbursed funds in El Salvador and Jamaica

The following table summarizes the application of LPGS funds disbursed in El Salvador and Jamaica, based on IDB and local newspapers information:

Country	Jamaica	El Salvador
Approved Loan Amount	US$ 300.000.000	US$ 400.000.000
Disbursed Amount	US$ 89.4 million	US$ 186.4 million
Second Floor Institution	Development Bank of Jamaica (DBJ)	Banco Multisectorial de Inversiones (BMI), acting on behalf of the Banco Central de Reserva (BCR)
Participating First Floor Financial Institutions	4 out of the 7 authorized financial institutions: National Commercial Bank (NCB), First Global Bank, Pan Caribbean Financial Services and the Export Import (EXIM) Bank.	Banco Agrícola, Banco de América Central, Banco de Fomento Agropecuario, Banco G&T Continental, Banco Hipotecario, HSBC, Scotiabank, Citibank, Banco de los Trabajadores Salvadoreños and Banco Izalqueño.
Number of Loans Granted	65	1,000 (as of 04/12/09)
Average Loan Size	US$1,375,400	US$186,000
Sectoral Allocation of Loans	Agriculture (13%), Industry (34%), Services (53%)	Agriculture (6%), Industry (35%), Services (59%)
Financed expenses	Working capital (93.6%) and trade credit (6.4%)	Working capital and trade credit

Sources: IDB and local newspapers.

Annex 2: Official Sources of Information

The following government and multilateral sources were searched for macroeconomic data:

Table A2.1
National Government Sources of Information

Source/Country	Costa Rica	El Salvador	Jamaica	Panama	Dominican Rep.	Uruguay
National Statistics Institute website	www.inec.go.cr	www.digestyc.gob.sv	www.statinja.com	www.contraloria.gob.pa/	www.one.gob.do	www.ine.gub.uy
Central bank website	www.bccr.fi.cr	www.bcr.gob.sv	www.boj.org.jm	www.banconal.com.pa/	www.bancentral.gov.do	www.bcu.gub.uy
Ministry of Economy	www.hacienda.go.cr	www.minec.gob.sv www.mh.gob.sv	http://www.mof.gov.jm/	www.mef.gob.pa	www.hacienda.gov.do	www.mef.gub.uy
Bank regulator	http://www.sugef.fi.cr/ http://www.conassif.fi.cr/	http://www.ssf.gob.sv/		http://www.superbancos.gob.pa/	http://www.supbanco.gov.do/	
Bank association	http://www.camaradebancos.fi.cr/ http://www.abc.fi.cr/	www.abansa.org.sv	www.jba.org.jm	http://www.asocianbancaria.com/	http://www.aba.org.do/ABA2/default.asp	www.aebu.org.uy
Stock Exchange	www.bolsacr.com	www.bves.com.sv	www.jamstockex.com	www.panabolsa.com	http://www.bolsard.com/app/do/frontpage.aspx	www.bvm.com.uy
Was high frequency data obtained after direct requests to central bank statistics department?	Only monthly	Only bi-monthly for selected time series	Only monthly	No reply	Yes	Yes
Does the country adhere to IMF's SDDS?	Yes	Yes	No	No	No	Yes

Table A2.2
Multilateral Sources of Information

Source	Internet site
IFS (International Financial Statistics)	http://www.imfstatistics.org/imf/
IADB (Inter American Development Bank): Latin Macro Watch (LMW)	http://www.iadb.org/res/lmw_countrytables.cfm?language=Spanish&ID_SEC=2
SECMCA (Secretaría Ejecutiva del Consejo Monetario Centroamericano)	http://www.secmca.org/Indice.html
CEMLA (Centro de Estudios Monetarios Latinoamericanos)	http://www.cemla.org/
FELABAN (Federación Latinoamericana de Bancos)	http://www.felaban.com/
FLAR (Fondo Latinoamericano de Reservas)	http://www.flar.net/contenido/default.aspx
World Bank	http://www.worldbank.org/

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