

**European Bank Coordination:  
PSI Rollover Requirements and Macroeconomic Consequences  
Note by EBRD**

*This note argues that as the region is moving out of the acute systemic crisis mode, it is time to reconsider the formulation of parent bank commitments to make it consistent with the desired macroeconomic rebalancing in a given country. This formulation would build on the evolving language under parent bank letters and make demand and risk-capacity constraints be more explicit in the commitments. A formal move to a more “regional” commitment by banks is not proposed because it is impractical and at odds with the nature of IMF and EC lending programs to sovereigns. Moving to such an approach could weaken the PSI arrangements to the extent that they would lose their added value in the eyes of markets. However, PSIs, in a slightly modified form, can still be useful as long as there is a need for sustained rebalancing and associated deleveraging by banks that must be managed by all stakeholders – under the European Bank Coordination process.*

**As part of crisis response, a new form of Private Sector Involvement (PSI) scheme has been adopted in financially deeply integrated Europe under the European Bank Coordination Process or “Vienna Initiative.”** The IMF (and the EC, where appropriate) have asked parent banks whose subsidiaries are systemically important to maintain 100 percent rollover rates to individual countries (and also recapitalize their subsidiaries as needed) for the duration of these macroeconomic programs. These rollover rates have been warranted in the context of the systemic crisis conditions during which, just as in previous PSI cases, the IMF/EC need adequate burden sharing by the private sector so as to avoid financing capital outflows by private sector banks. To date, five such commitment letters have been signed (Romania, Serbia, Hungary, Bosnia, and most recently Latvia).

**From the beginning, there has been an issue whether, in the context of falling demand and necessary deleveraging, a 100% rollover rate is fully justified or desirable.** Banks have increasingly voiced their concern over demand contraction and thus lack of business opportunities. Their capacity to take on more risk have also emerged as a major constraint on lending, particularly as their home supervisors have tightened capital requirements and as many of them are subject to competition rules when using, as many of them have done, state aid. They have also highlighted that their cross-border nature should allow for re-allocation of resources among countries. In their view, these factors should call for a more “regional” and synchronized approach to exposures.

**These concerns have been reflected in the evolving language of the bank commitment letters which have included, in more recent cases, qualifiers such as “maintain exposures, subject to demand conditions and available investable instruments.”** And in practice, banks have broadly maintained their exposures to date, demonstrating their commitment to the region.

**This note provides a simple analytical framework that deals with demand constraints when designing a specific PSI commitment for a given country.** These considerations can be taken increasingly into account now that the immediate systemic crisis risk has subsided and deleveraging and balance sheet clean-up can be addressed.

**Indeed, rollover requirements must not prevent deleveraging that is needed to unwind unsustainable pre-crisis credit booms.** Sustaining 100 percent rollover rates amounts to supporting a level of credit that was generated during the pre-crisis credit boom. To the extent that the pre-crisis

credit boom was unsustainable, a reduction in credit is necessary—for the sake of both macroeconomic stability and the health of financial institutions:

- *Macroeconomic stability:*

Rollover requirements should avoid creating excess credit supply that encourages unsustainable borrowing and finances unsustainable levels of domestic demand. Hence, they should take into account credit demand. Econometric estimates in the empirical literature typically find that credit demand responds to nominal output with a sensitivity of 1-1.5 during periods of distress (see Annex). *This would argue for correcting rollovers rates downward by 1-1.5 times projected nominal GDP contractions.*

	Projected nominal GDP growth, 2009 1/	Projected real GDP growth, 2009	Rollover rates for various sensitivities		Date of IMF report
			1	1.5	
			Hungary	-2.1	
Romania	5.4	-4.1	105	108	June
Ukraine	-3.6	-14.0	96	95	Sep
Latvia	-5.1	-9.0	95	92	April
Serbia	-2.1	-2.0	98	97	May

Note: Based on last published full IMF document (mostly spring 2009).

1/ In local currency.

- *Financial system health:*

Rollover requirements should be consistent with prudential requirements and sound banking practices. Bank capital eroding under loan losses in a rapidly shrinking economy must either be replenished or will constrain lending capacity and require a deleveraging. To the extent that credit was unsustainably high during the pre-crisis boom, an orderly deleveraging is preferable to ever more capital injections to maintain unsustainable levels of credit. Ghosh & Ghosh (1999) estimate a sensitivity of credit supply to lending capacity of  $\frac{3}{4}$ -1. *This would argue for correcting rollover rates downward by  $\frac{3}{4}$ -1 times the amount of nonperforming loans times some assumed loss given default (a standard assumption for loss given default is 50 percent).*

Crisis episode	Peak Rollover		Peak Rollover	Rate
	NPL	rate		
Colombia, 1982	4	99	Hungary, 1991	23
Bolivia, 1994	6	98	Poland, 1992	24
Estonia, 1992	7	98	Albania, 1994	27
Paraguay, 1995	8	97	Argentina, 1989	27
Argentina, 1980	9	97	Algeria 1990	30
Croatia, 1998	11	96	Bolivia, 1986	30
Nicaragua, 2000	13	95	Malaysia, 1997	30
Finland, 1991	13	95	Romania, 1990	30
Brazil, 1994	16	93	Lithuania, 1995	32
Norway, 1991	17	93	Indonesia, 1997	33
Argentina, 1995	17	93	Georgia, 1991	33
Czech Republic, 1996	18	92	Japan, 1997	35
Mexico, 1994	18	92	Korea, 1997	35
Philippines, 1983	19	92	Chile, 1981	36
Latvia, 1995	20	91	Russia, 1998	40
Philippines, 1997	20	91	Nicaragua, 1990	50
Argentina, 2001	20	91	Bulgaria, 1996	75
Average			24	89

Source: Laeven and Valencia, 2008.

1/ Based on 1 \* increase in peak NPL over "normal" rollover rate of 2 percent \* sensitivity of 1.

**The two rules yield rollover requirements around 80-100 percent, depending on projected nominal GDP growth and assumed NPL ratios.** In principle, because nonperforming loans lag growth, the rule based on nonperforming loans will constrain credit growth less in the immediate few months ahead and more during the upswing expected over the next few quarters as NPLs materialize but growth resumes.

**The macroeconomic framework of an IMF/EC program would need to show a faster macroeconomic adjustment process if rollover rates are reduced.** The reduced rollover rates are

part and parcel of an orderly adjustment process of unwinding unsustainable demand booms. With lower rollover rates and less current account financing, we would expect domestic credit and domestic demand growth to be lower and the current account balance to improve faster than with 100 percent rollover rates. The magnitude of the correction would *inter alia* depend on

- (i) the share of parent bank inflows in total current account financing (possibly large in some small countries with foreign-dominated banking systems);
- (ii) the sensitivity of domestic demand to bank credit as opposed to other financing sources (possibly small given often heavy reliance of corporates on internal financing in the region); and
- (iii) the sensitivity of import demand to domestic demand (likely to be large in the small open economies in our region).

**If one were to revise the rollover requirement for a given country program, it could be along the following lines: “Maintain exposures to the extent they are met with demand and in line with risk taking capacity/regulatory requirements, but at no less than 90 percent.”** The floor on the rollover requirement could be successively lowered as nonperforming loans increase. Given that nonperforming loans lag growth, the lowering of the floor would probably coincide with a reduced crisis risk.<sup>1</sup> This will require more frequent discussions with banks on limits and commitments, a mechanism for which is foreseen in the – second, more detailed - commitment letters

**The above addresses the issue of demand-driven rollover requirements in a given country but not banks’ concern that they operate in a regional setting, thus would prefer a more “regional” commitment.**<sup>2</sup> That is correct, yet the above formulation does provide a broader framework and flexibility for banks to move liquidity as warranted by differing country conditions. The regional dimension can also be strengthened by including into country commitment letters a reference to regional commitments such as the one in the case of Latvia.<sup>3</sup>

**That said, this note does not propose a truly “regional approach” to exposures for two reasons.** First, it is not in line with the nature of IMF and EC lending that is to the individual sovereign. As long as the lending instrument is national-based, the commitments, flexible as they have to be, should also be such. Second, it would be impractical both to design and monitor a regional arrangement.

In sum, the proposal is the following:

- Maintain the more recent and flexible formulation of “maintain exposure, subject to demand conditions,” which can also include a specific floor that corresponds to those demand conditions;
- Include a reference to regional commitments, building on the case of Latvia.

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<sup>1</sup> Even this formulation does not address longer term issues. In particular, some marginal banks may need to withdraw entirely from certain countries in the region given a change in strategic focus. Under the proposed formulation, such a withdrawal would need to be postponed until the upswing in these economies is sufficiently entrenched and credible to be independent of the withdrawal of individual market participants. These banks may require additional support from their home governments during the postponement period.

<sup>2</sup> EBRD credit programs with bank groups provide for a regional Memorandum of Understanding with parent banks.

<sup>3</sup> The commitment letter by parent banks on Latvia of September 11 2009 includes a reference to the bank’s commitment to the Baltic region.

**Maintaining more flexible but country-based PSIs in the future would be important because as countries start moving to a more sustainable rebalanced economy, deleveraging will be necessarily more pronounced, which would need to be actively managed.** The European Coordination process/Vienna Initiative is well placed to assist this process.

**Finally, any change in the commitment language needs to be carefully communicated so as to avoid any perception of “weakening” parent bank commitment.** Instead, this should be presented as moving out of the systemic crisis phase into a new period of paving the way toward macroeconomic rebalancing of external current accounts through supporting a desired and managed deleveraging of banks and economic entities.

## Conceptual issues

**Conceptually, optimal rollover rates could be defined as those satisfy all legitimate demand or those that ensure banks' financial health.**

- **Demand side:** The rollover should be sufficient to meet demand, at an acceptable credit risk. Credit demand is determined by nominal income and interest rates. Most estimates of the sensitivity of credit demand to output measures are around 1-1.5, especially during periods of distress. Estimates of sensitivity to interest rates and inflation have a wide range and are often not robust. Credit risk is not explicitly taken into account in these regressions, the implicit assumption being that it remains constant.
  - *A rule of thumb could therefore be to assume that equilibrium credit demand grows in line with nominal GDP or even 1½ times nominal GDP.*

Estimates of Credit Demand				
Source	Country	Coefficient estimates		
		Output measures	Interest rates	Inflation
Pazarbasoglu, 1997	Finland	0.0	-4.7	-5.8
Ghosh & Ghosh, 1999	Indonesia	1.111	-1.5	-1.3
Ghosh & Ghosh, 1999	Korea	1.434	-2.5	-4.2
Ghosh & Ghosh, 1999	Thailand	1.177	-0.7	-1
Nehls & Schmidt, 2003	Germany	1.61-2.32	-0.02 - -0.03	...
Catao, 1997	Argentina	0.04	-0.01	...

- **Supply side:** Rollover rates should be such that banks are not forced to “throw good money after bad” by lending into rapidly deteriorating credit quality. Their credit supply could be allowed to shrink to the extent that their loan portfolio is becoming impaired in a shrinking economy. Only Ghosh & Ghosh (1999) assess the impact of supply side constraints on credit supply during the East Asian crisis. They define lending capacity as the (i) maximum assets implied by the regulatory minimum of the capital adequacy ratio or (ii) as non-equity liabilities that are not tied down by regulatory reserves, whichever is smaller. They find that credit supply shrank by ¾-1 percent for a 1 percent decline in lending capacity in Indonesia, Thailand, and Korea.
  - *One rule of thumb could therefore be to assume that credit supply should shrink by ¾-1 times loan losses.*

**The supply-side rule may constrain credit more in a recovering economy, but may restore banks' financial health and allow their deleveraging somewhat faster.** Loan impairment tends to lag economic growth. As the economy recovers, credit demand will recover while loan losses are still rising. A rule based on loan losses would therefore reduce credit supply while credit demand is again rising. This may not be detrimental to in a medium-term perspective, if the pre-crisis level of credit demand was considered unsustainably high and in need of unwinding anyways.

## **Operationalizing the concepts**

**Demand-side rule: An annual rollover rate of  $100+1.5*$ projected nominal GDP growth in 2009/2010.**

Projected nominal GDP growth would be the same as in the IMF program. These are illustrative rollover rates under the current IMF programs.

Since inflation is mostly projected to be non-negative, these rollover rates are in most countries somewhere between 90 and 100 percent.

**Supply side rule: A rollover rate of  $100-3/4*$ increase in NPL\*loss given default (50 percent).**

Loan losses would be measured as the actual increase in nonperforming loans (NPL) times loss given default. A typical assumption on loss given default is 50 percent. This should reduce equilibrium credit supply with a sensitivity of 1 (Ghosh & Ghosh, 1999).

During previous crises, NPL have typically peaked at 20-34 percent of loans (see Table below) and, on average, at some 24 percent of loans. Assuming that, under normal circumstances, NPL are about 2 percent of loans, the supply-side rule would allow a rollover rate of 92 percent on average. It could fall as low as 80 percent if greater nonperforming loans materialize.

**Both rules may yield rollover rates of some 90 percent—somewhat less for the supply-rule and somewhat more for the demand-rule.**