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# Liquidity insurance for systemic crises

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Securitisation was meant to reduce risk by spreading it, but in practice it did not. With hindsight, it was all about regulatory arbitrage. As banks placed long-term assets in boxes sustained by short term wholesale funding, but with the backup of their credit lines in case of trouble, they kept a significant amount of the whole risk, while reducing their own capital. When subprime mortgages were repriced, the card castle fell apart.

Yet the panic in money markets contributed to spread financial losses well beyond what subprime positions would have justified, precisely because of the massive refinancing risk to which the system was exposed. Short term wholesale lenders proved very prone to run. The extreme maturity mismatch was instrumental to the spreading of panic. It forced fire sales across all markets, which in turn caused margin calls and more panic in a deadly spiral (Brunnermeier, 2009).

Basel capital requirements are not designed to cope with systemic liquidity risk. In a panic, the issue is no longer the cost but the availability of funding. If funding fails, no reasonable capital reserve can cope with the generated trouble. Relying on frequent rollovers amplifies the speed of fire sales and the pace of repricing, feeding further reinforcement to panic.

## What reforms can prevent this from happening again?

The leading argument proposes higher capital requirements indexed to asset growth, total leverage and maturity mismatch (Brunnermeier et al. 2009). We propose a related approach, a liquidity and capital insurance arrangement, which is simple, offers better incentives and is likely to receive stronger political support.

Our proposal is to establish a mandatory liquidity charge, to be paid continuously during good times to a supervisor who, in exchange, will provide emergency liquidity (and perhaps capital) during systemic crisis.

The charge would be set according to the principle that future regulation should work like Pigouvian taxes on pollution, discouraging bank strategies that create systemic risk for everyone. Hence, it should be increasing in the maturity mismatch between assets and liabilities, and should be levied on all institutions with access to safety net guarantees. Its purpose should be to make short and medium term (up to one year) bank funding more comparable in cost. Retail deposits would be exempted, as they are more stable thanks to their own insurance.

**Our proposal is to establish a mandatory liquidity charge, to be paid continuously during good times to a supervisor who, in exchange, will provide emergency liquidity (and perhaps capital) during systemic crisis.**

Revenues accruing from the charge would go into an Emergency Liquidity Insurance Fund (ELIF), with legal autonomy and pre-packaged access to central bank liquidity and government funds backing. Upon significant aggregate liquidity runs (critically, not concerning isolated runs at individual banks), the payment of insurance would be triggered by the relevant supervisor. This would result in immediate liquidity support, guarantees on uninsured wholesale funding, and some automatic capital injections. Specific conditions may be attached, such as restrictions on executive compensation and dividends, as well as on prudential strategic choices.

The main goal of liquidity charges is to realign funding incentives among beneficiaries of the safety net. Reducing reliance on short term market funding would reduce the spreading of panic in a confidence crisis, and ultimately systemic risk. Deposit withdrawal risk is natural, as banks intermediate between retail customers'

preference for immediacy and long term funding of production. A short term bias in wholesale funding is not equally justified. The lower cost of short term funding reflects the fact that short term lenders bear little risk, which is shifted to other stakeholders, such as capital and taxpayers. Thus the charges would make banks properly internalise the potential damage caused to others.

The charge for liquidity risk could be seen as a liquidity insurance premium; a pre-payment for the contingent support that banks eventually receive during those episodes. As such, it can make emergency intervention politically more acceptable, especially after the concern raised by current bail-outs.

### **Why are higher bank capital ratios alone not a solution to bank liquidity risk?**

First, banks' own capital would need to be very large during normal times. This has several disadvantages. Shareholders may be tempted to see bank capital as an asset to which they are fully entitled. Banks with plenty of capital on their books may try to "lever it up", not necessarily through leverage (which is constrained by capital requirements) but through riskier investment strategies. Additionally, shareholders' claims on bank capital are a source of trouble in bank interventions, since seizing a bank ahead of a formal default may be seen as a violation of private property rights.

In contrast, our insurance scheme arranges for a contingent injection of capital and liquidity in systemic crises only, and may trigger clauses which force prudential actions, such as dividend suspensions or other constraints on management. Unlike the *capital insurance* scheme by Kashyap, Rajan, and Stein (2008), it penalises systemic risk creation and is more credible, as it relies on a public regulator. It is also cheaper since most of the support would come as provision of temporary liquidity.

**The charge for liquidity risk could make emergency intervention politically more acceptable, especially after the concern raised by current bail-outs.**

A main advantage of liquidity charges is that maturity mismatch is easy to compute, and would discourage systemic risk creation associated with short term funding. Systemic risk, namely the simultaneous realisation of correlated tail risk, is hard to estimate, as extreme comovements are rarely observed, and may be triggered by a different asset class each time. However, liquidity runs are present in the escalating phase of *all* systemic crises and have a clearly negative amplifying effect.

Liquidity charges should be proportional to short term wholesale liabilities, weighted by the bank's maturity mismatch, which is easy to compute. They might be increasing in the slope of the short end of the yield curve (up to one year), so as to eliminate the incentives

to excessively rely on short term maturity funding. With this feature, the charges would be naturally countercyclical, leaning against the wind when liquidity is abundant and the yield curve is positively sloped (common features of good economic times). In addition, if necessary, the proportionality factor may be designed to be explicitly countercyclical, collecting even more charges on short term borrowing in good times.

### **The international implementation of our liquidity insurance arrangement is certainly complex but most desirable.**

The scheme we propose avoids imposing rigid restrictions on banks' funding strategies and leaves to capital requirements the traditional task of protecting against asset risk. It is likely to make it more expensive for banks to rapidly expand their lending above their deposit base, but it will certainly not block it. A greater fraction of long term funding will go together with greater monitoring from the corresponding creditors. Residual short term creditors will be less prone to panic in a systemic crisis.

Sceptics may fear that the liquidity charges will encourage the system to shift short term funding to a shadow banking sector. This is not likely to occur if unregulated intermediaries enjoy limited recourse to regulated banks. For deals between the regulated and the unregulated sectors, the scheme should assign charges increasing in the unregulated borrowers' own mismatch. To be sure, bank credit lines to institutions such as hedge funds might be treated as incontinent commitments, and the mismatched asset funding should be fully charged. In any case, monitoring the boundary of the regulated sector is an indispensable step for any future regulation.

The international implementation of our liquidity insurance arrangement is certainly complex but most desirable. Ideally, an international ELIF should be created. Countries should choose to participate by requiring either all their regulated institutions, or at least the largest ones, to join an international ELIF, pay its liquidity charges, accept its supervision, and count on its support in a systemic crisis.

The establishment of an international ELIF may sort out commitment problems. Countries that do not join should not benefit *ex post*. The scheme would constitute an explicit coordination device for the rescue of large international banks, preventing the issue of burden sharing to be left for difficult *ex post* negotiations. The liquidity charges, as insurance premia, provide a mutually agreed metric for systemic risk and would offer an objective basis for burden sharing. In case of need, countries might contribute to funding the ELIF in proportion to the share of each national banking sector in the liquidity charges paid during the pre-crisis period, rather than some politically debatable country quotas.

To conclude, the aim of the mechanism is to discourage the forms of short term funding that create and amplify propagation risk. It is also a prepayment of

intervention costs, and a starting step to ensure that liquidity interventions occur on time and are based on ex ante rules.

## References

Brunnermeier, Markus (2009), "Deciphering the Liquidity and Credit Crunch 2007-08," *Journal of Economic Perspectives* 23, forthcoming.

Brunnermeier, Markus, Andrew Crockett, Charles Goodhart, Avi Persaud, and Hyun Shin (2009), "The Fundamental Principles of Financial Regulation," *Geneva Reports on the World Economy* 11, preliminary draft.

Kashyap, Anil K, Raghuram G. Rajan, and Jeremy C. Stein (2008), "Rethinking Capital Regulation," paper prepared for the Federal Reserve Bank of Kansas City Symposium at Jackson Hole, September.

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Prof. Perotti has been a consultant to the IMF and World Bank on issues of banking, financial reforms and financial stability. He was senior policy advisor to the Russian Ministry of Finance and Russian Central Bank in 1996-2000. He has been a visiting scholar at the IMF research department six times since 1992.

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