Discussion of ‘Shocks, transmission channels and responses in the US and Europe’ by Gian Maria Milesi-Ferretti

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Thanks and kudos to organizers.

Quite appropriate to inaugurate this conference with reflection on international dimensions of 2007-08-(09) crisis (with 09 in brackets, so far at least...)

Paper intelligent and insightful, as we have come to expect from this author. Much to agree upon.

Given purposes of conference, this need not be a traditional discussion. Rather, echo some of key points emphasized by GM and elaborate upon them.

Before I start, usual disclaimer (these views are mine and only mine) and some cheap advertising (can't pass on this occasion)

Conference at NY Fed on global dimensions of the crisis on June 3-4, 2010. Deadline for Call for papers is October 2009.

Useful to start by briefly reconsidering GM's reconstruction of the crisis.

In general terms, recurrent theme of paper is that crisis started in the U.S. in summer of 2007 and gradually spread to ROW through financial sector linkages.

But in fact, crisis shown to have a prologue and two acts (this is an unfinished opera, the third act has just started...)

Prologue. From mid-90s to 2007.

Rapid expansion in trade.

Emergence of global imbalances.

Boom in cross-border capital flows: 5% of world GDP in 1998, over 17% in 2007.

Dominant importance of flows to and from main advanced economies. Their cross-border holdings increase in all asset/liabilities categories: by end 2007 represent more than 220 % of advanced economies' GDP, twice the ratio 10 years earlier. Banks play key role.

In EMs total cross-border holdings grow as well, but by much less. Total external liabilities go from 70% in 1998 to 88% in 2007, assets from 57 to 88.

For EMs capital flows mainly FDI and portfolio equity investment, much reduced role for debt liabilities (which decline from 47 to 34 of GDP).

Net external debt position improves in Latin America and especially in Asia, key role of reserve accumulation. Net position in FDI and equity becomes much more negative especially in emerging Europe.

At end of prologue, we have total holdings of U.S. debt securities particularly high in China and Japan, while holdings of privately-issued MBS concentrated in advanced economies and offshore centers.

Most of EM world has learned lessons of 1990s crises: result is reduction in net forex exposure (external debt liabilities typically denominated in foreign currency down, FDI and equity liabilities denominated in domestic currency up).

But regional differences substantial: countries in emerging Europe run larger current account deficits than countries in other regions.

All these changes in portfolio structure and external position dynamics affect to a large extent international transmission of crisis during the...

Act One: 2007 to Lehman

Initial transmission through financial sectoral linkages — mainly exposure of highly leveraged institutions in Europe and U.S. to ABS backed by sub-prime mortgages.

EMs affected by deleveraging in advanced economies' financial institutions, triggered by need to reduce balance sheets

3rd quarter 2007: dry-up of purchases of corporate bonds, including privately-issued ABS.

Decline in demand for U.S. privately issued securities, plus reduction in policy rates lead to severely weaker dollar by March 2008.

Portfolio shock that reduces value of U.S. claims (similar to those considered in scenarios of global imbalances) did not have major direct impact on large creditor countries (China, Japan, oil exporters).

Initial losses concentrated in HL institutions, set process of asset sales that trigger decline in asset prices.

Uncertainty about size of losses and distribution across banks magnifies financial distress.

Act Two: Lehman to today

Following collapse of Bear Stearns, major retrenchment in cross-border banking flows in 2nd quarter 2008, particularly dramatic in UK and Switzerland.

3rd quarter 2008: transmission to real activity.

End of summer 2008: global downturn, dramatic fall in world demand and collapse in cross-border flows as a result of deleveraging process.

Significant effects in Central and Eastern Europe (reflecting previous reliance on easy credit).

Sharp depreciations in EMs, safe haven currencies rebound (dollar, Swiss franc, yen).

Second part 2008 after Lehman collapse: unprecedented deleveraging, sharp increase in home bias, dramatic increase in risk aversion and flight to safety.

In EMs, sudden stop of capital inflows and sales of reserves.

Comparison

What emerges from this deliberately simplified summary of GM's reconstruction are substantial similarities between first and second act of crisis. But worth emphasizing important differences.

Macro outlook: strong inflationary pressures worldwide during Act One (commodity price boom), fast disinflation and synchronized downturn during Act Two (trade collapse).

Even more important: Role of U.S. dollar: major loser in the first act, emerges as the safe haven in the second act.

Pushing a bit, one could say there is a key change in the dynamics of the crisis, and its international dimensions, when we move from first to (more devastating) second act (pre-Lehman shock, post-Lehman shock).

To make my point using jargon of international macroeconomics: first act is a global crisis much in the spirit of “first generation” models, with shocks transmitted across countries through financial linkages; second act is perhaps closer to “second generation” models, with confidence crisis centerstage and international dimensions dominated by common shocks.

Two words of explanation.

For those of you who have been working on global crises episodes throughout the past 15 years and counting, interpretive frameworks (“models”) organized and systematized in terms of “generations”. Comfortable theoretical containers to organize discussion.

‘First’ generation: emphasis on fundamental imbalances, typically fiscal but possibly extended to broad set of macroeconomic and policy distortions

‘Second’ generation: emphasis on coordination failures in financial markets, panics and runs, multiple equilibria, self-validating expectations.

During years of Tequila and Asian crises, a ‘Third’ generation emerged: emphasis on interplay between financial (banking) and monetary (currency) crises, moral hazard in the presence of implicit guarantees, overborrowing syndrome after financial liberalization.

To some extent, repackaging of elements already present in “first” and “second” generations, broadening scope and refining concepts in light of events.

With many caveats and nuances, recent crisis can be rationalized in light of combination of these three theoretical containers (first generation: global imbalances and excessive global liquidity/borrowing/lending, second generation: confidence crisis and panic in interbank market, collapse of worldwide credit, third generation: securitization as financial innovation, excessive exposure in derivatives,...).

In particular, what we have called "first" act from August 2007 to the first half of 2008 fits well the traditional interpretive framework of a "first generation" model. But post-Lehman confidence crisis and credit freeze better rationalized in terms of "second generation" framework.

Also (and with many heroic simplifications) mechanism of international shock transmission changes between first and second act. Country-specific shocks transmitted from the epicenter to the rest of the system through financial linkages across countries and contagion across asset classes before Lehman; global panic in interbank market after Lehman, with global shocks affecting simultaneously the whole system.

Elements toward a synthesis

Try to cast these thoughts within some kind of preliminary and oversimplified interpretive synthesis (even a Mickey-Mouse model sounds ambitious...)

Think of the world economy as participating in a large, interconnected, global repo market.

Borrowing from work by Gary Gorton, think of international savers/lenders as "depositors" (firms seeking a safe place to save cash in the short term): money market funds, corporations, insurance companies, pension funds, hedge funds.

Think of borrowers as "banks" (shadow banking system). Leveraged financial intermediaries.

Agents face a liquidity/borrowing/leverage constraint: risk of borrower default, inability to commit to repayment.

$$\underbrace{L}_{\text{Liquidity}} \leq \underbrace{(1-h)}_{\text{1 - haircut}} \underbrace{(p_1 q_1 + p_2 q_2 + ...)}_{\text{Value of collateral}}$$

Depositors lend funds (the L of the equation) in the repo market and receive collateral for their deposits.

Eligible collateral includes a variety of assets, including securitized tranches.

New financial products (MBS...) pledged as collateral (evidence that demand for collateral grew to include securitized products precisely because of growing need for collateral in repo banking system).

MBS linked to fundamentals ("backed" by mortgages), but links to original cash flows from assets are murky due to complex packaging (securitization).

Deemed to be informationally-insensitive=immune to adverse selection by privately informed agents (they are senior, backed by portfolios, high credit ratings... perceived as almost as good as traditional insured deposits)

Collateral involves a haircut or margin (h). A borrower can borrow \$95 for each \$100 pledged as collateral, haircut of 5%.

Haircut protects the depositors against the risk of borrower default.

Reflects credit risk of borrower and riskiness of pledged collateral.

"Depositors" can withdraw their funds by not rolling over their repo agreements and returning the collateral, or by increasing the haircut.

Like demand deposits at regulated commercial banks, this system is vulnerable to panic.

Global shadow banking system resembles pre-FDIC U.S. banking system.

Now we have basic elements to reconsider the two acts of global financial crisis.

Act One. As stressed in the paper.

Correction in asset values somewhere (sub-prime crisis, fall in housing prices) transmits to other asset classes everywhere else through margin calls and widespread deleveraging.

Shock in Home country (US/Euro area) leads to fall in q_1. Leverage constraints become binding. Sell assets (fire sales of illiquid assets to meet margin calls).

Leads to further asset price declines (q_2 as well).

Leads to further deleveraging. not only in Home country but also in Foreign country (Asia, EMs) not hit by original shock.

Borrowing falls worldwide. Production falls worldwide. Magnification and international transmission.

Act Two. Panic in repo market.

Run on shadow banking system when "depositors" require increasing haircuts due to concern about value and liquidity of the collateral should the counterparty fail.

h increases sharply (average repo haircuts on structured debt are zero until August 2007, 10% end of 2007, 40% after Lehman).

In interconnected credit market, shock is global in nature. Worldwide freeze of credit market.

LIBOR-OIS spread and similar foreign measures jump. Borrower default not key element: creditors' reluctance to lend is key, confidence crisis in global interbank market, credit lines dry up.

Collateral securities that used to be perceived as informationally insensitive (good as insured deposits) suddenly become informationally sensitive (toxic assets).

It becomes profitable to produce information and speculate on the value of these securities.

Uncertainty about valuations (lemons market) makes them illiquid.

Devastating regime switch, worldwide flight to quality.

Transmission to real economy immediate.

No resources available to fund consumption/investment decisions.

Simultaneous wealth and demand shock worldwide.

Orders/shipments plunge. Industrial production nosedives. Sharp contraction in trade volumes, both because of direct dry-up of export credit and indirect fall in world demand.

Simultaneously and everywhere.

Conclusion: Lessons for Act Three and beyond...

GM draws a set of valuable lessons, especially for (but not confined to) EMs:

Avoid large current account deficits and unsustainable imbalances.

Reduce sectoral exposure.

Strengthen fiscal position (crisis has shown very dramatically how quickly fiscal prospects change when a credit boom comes to an end. Declining asset prices can have very significant effects on public revenues).

In addition, one may want to emphasize relevance of central banks' ability to intervene swiftly and provide liquidity flexibly in "Act Two" conditions.

Restatement of case for central bank independence.

Warning about insufficient scale of intervention. Warning about premature withdrawal of nominal stimulus.

Call for effective and timely policy coordination.

Make sure concerns about increased size of central bank balance sheet during crisis management do not prevent global policymakers to act as appropriate, and as long as it takes (you want Act Three to end on a positive note after Act Two)

At same time, make sure there exists viable exit strategy and go for it without hesitation when right time comes (you don't want Act Three to pose preconditions for a new Act One...)