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The Global Financial Crisis: To Regulate or not to Regulate?

Global Economic Outlook

In the past year, the world economy has been dominated by the global crisis in financial markets, the bursting of the housing price bubble in a number of advanced economies, notably the US and UK, and, until quite recently, a strong surge in commodity prices. The collective impact of these factors has been a marked slowdown in global economic activity, with a significant risk that the crisis in the global financial system will have a severe impact on the real economy. In its revised *World Economic Outlook*, the International Monetary Fund (IMF, November 6, 2008) predicts world GDP growth will fall to 2.2% in 2009, compared to 3.7% in 2008.[1] The slowdown is being led by the advanced economies which are now on the brink of recession, with declining GDP growth rates forecast for 2009 in the US at -0.7%, Japan at -0.2%, and the Euro area at -0.5%. At the same time, the leading emerging economies are forecast to experience a slowdown in their economic activity in 2009, China's GDP growth falling to 8.5% from 9.7% in 2008, and India's GDP growth falling to 6.3% from 7.8% in 2008.

After the sub-prime mortgage crisis erupted in August 2007, global economic deceleration was accompanied initially by a boom in commodity prices, pushing up the headline inflation rate in July 2008 to 6% globally, 4.25% in the advanced economies, and 8.25% in the emerging economies (IMF, *World Economic Outlook*, October 2008). However, since August there has been a very sharp decline in commodity prices, the corollary of which is that headline inflation has peaked. While this has eased the policy dilemma of how to handle rising inflation in the context of financial weakness and economic deceleration, the monetary authorities in advanced economies are now faced with the possibility of deflation. This may have a particularly deleterious effect in countries such as the US and UK, both of whom have very high levels of household- as well as firm-level debt.[2] Essentially, as prices fall, the real value of the debt burden grows, putting pressure on agents to repay loans and sell assets, putting further downward pressure on all asset prices. At the same time, the monetary authorities are unable to reduce nominal interest rates below zero, resulting in an increase in real interest rates, and hence the real value of debt. This results in further repayment of debt and selling of assets, such that the "liquidation defeats itself" (Irving Fisher, 1933), and the economy is dragged further into recession.

The financial crisis and threat of recession are also taking place in an environment where the macro-economic imbalances of the past decade still characterize the world economy. Over this period, advanced economies, notably the US and UK, have become importers of savings, as their savings rates have fallen below their investment rates. At the same

[1] In a specific country, recession is typically defined as two successive quarters of falling GDP, while at the global level the IMF has defined growth less than 3% as a world recession (*The Economist*, November 6, 2008a).

[2] For example, by 2008, the ratio of US household debt to disposable income had risen to 127%, compared to a ratio of 87% in 2000 (*The Economist*, November 22, 2008).

time, emerging economies such as China, as well as the oil-exporting countries, have become exporters of savings, as their savings rates have risen above their investment rates (Martin Wolf, *Fixing Global Finance*, 2008 – cited in The Economist,). What Federal Reserve Chairman Ben Bernanke has described as the "global savings glut" (Federal Reserve, March 10, 2005), gets played out through advanced and emerging economies' balance of payments. For example, a country such as the US with a savings deficit is running a current account deficit and a capital account surplus, while a country such as China with a savings surplus, is running a current account surplus and a capital account deficit.[3]

In a memorable remark in 2004, former US Treasury Secretary Larry Summers described the macroeconomic situation as the "balance of financial terror" (Peterson Institute for International Economics, March 23, 2004) whereby the US is very dependent on foreign capital to finance its current account deficit. At present, foreign countries own $2.6 trillion of total US debt, with emerging economies becoming large purchasers of US Treasury bills. For example, China now controls $519 billion of US debt, accounting for half of the $1.2 trillion it holds in reserve assets (Margareta Pagano, *The Independent* October 5, 2008). The risk to the US is that with the current financial crisis, foreign countries might flee the US dollar, generating a simultaneous banking and currency crisis, which would then put upward pressure on US interest rates in order to attract new investors (*The Economist*, October 9, 2008a). Interestingly, when the US Troubled Asset Relief Program (TARP) was first introduced in late-September, US Treasury Secretary Hank Paulson indicated he would visit Beijing to explain the package as part of a process of reassuring the Chinese that US government securities really are "secure" (*The Independent*, October 5, 2008).

For the moment, a collapse of the US dollar does not appear to be on the cards. Following a period of steady depreciation against the Euro over the past few years, the US dollar actually appreciated against the Euro between late-September and early-December, adding to gains it made over the summer, despite lower US interest rates compared to the Euro zone. This is partly due to the fact that the US dollar is the world's reserve currency, two-thirds of official foreign exchange reserves being held in the US currency (*The Economist*, October 2, 2008). Interestingly, recent research by Kristin Forbes at MIT (NBER, April 2008) indicates that foreigners hold dollar-denominated assets not because they are a hedge against risk in their own markets as financial theory would predict, but more because of slow financial progress in those markets as compared to the US.

Global Financial Instability

What is the nature of the current global financial crisis? Much has been written about the sub-prime mortgage market meltdown and the knock-on effects of the "credit-crunch", but perhaps Paul Krugman, this year's winner of the Nobel Prize for Economics comes closest to providing a straightforward summary:

"…The details can be insanely complex, but the basics are fairly simple. The bursting of the housing bubble has led to large losses for anyone who bought assets backed by mortgage payments; these losses have left many financial institutions with too much debt and too little capital to provide the credit the economy needs; troubled financial institutions have tried to meet their debts and increase their capital by selling assets, but this has driven asset prices down, reducing their capital even further…" (*New York Times*, October 13, 2008).

This financial deleveraging which began in August 2007, speeded up and became a lot more chaotic in September, first with the bankruptcy of the investment bank Lehman Brothers, followed by near collapse of the insurance conglomerate AIG. As a result, monetary and financial conditions have tightened considerably, while agents in the economy are simply unwilling to bear any risk. At the same time there has been an increase in macroeconomic, credit, market and liquidity and emerging market risks. This is creating a negative "feedback loop" between the financial system and the real economy: the threat of recession in advanced economies is reinforcing deterioration in the credit and mortgage

[3] For the past 12 months, the US current account deficit was running at -$699 billion, while China's current account surplus was running at +$372 billion (*The Economist*, December 11, 2008).

markets, while risks in emerging markets have begun to increase with intensification of capital outflows and likelihood of debt default (IMF, *Global Financial Stability Report* October 2008).

On top of this, the debt cycle in the US is very likely to get even worse, with a concomitant effect on the wider economy. Households are already under pressure from falling net worth due to the slump in both house and other asset prices. In addition, there has been an increase in prime mortgage defaults, deterioration in consumer loans, and a weakening in commercial real-estate loans. Combined with pressures on highly-leveraged, and small and medium-sized firms, it is expected that worldwide losses on debt originated in the US will eventually reach $1.4 trillion, with $760 billion having already been written down by banks, insurance companies, hedge funds and others who own the debt (*The Economist*, October 9, 2008a). Worldwide, the IMF is forecasting that together US and European banks will unload $10 trillion worth of assets from their balance sheets during 2009, worth about 14.5% of their credit. (IMF, *Global Financial Stability Report*, October 2008).

What Has Driven the Financial Crisis?

Many have blamed the financial crisis on the development over the past three decades of a deregulated financial system, in combination with technological innovation and the growing international mobility of capital. While modern finance has generated a wide range of derivative instruments such as options and credit-default swaps (CDS)[4], securitization is at the heart of the current crisis (*The Economist*, October 16, 2008). Essentially, this has revolved around banks bundling loans such as mortgages into packages which are then sold on to outside investors. According to the Securities Industry and Financial Markets Association (SIFMA, 2008), securitization of US assets has grown very fast, from less than $0.5 trillion in 1995 to almost $2.5 trillion by mid-2008, as banks benefited from loan-origination fees without holding the loans on their balance sheets, and investors purchased assets yielding higher returns than government bonds.

Over time, securitization has become considerably more complex with the development of collateralized debt obligations (CDOs), which are portfolios of different fixed income assets that are divided up into different "tranches" based on risk, loss of principal being applied in reverse order of seniority, i.e., highest to lowest credit risk, interest rates being higher on assets with higher default risk. However, because CDOs are not priced in an open market, many critics argue that lack of transparency means that buyers are unable to evaluate the true extent of risk. Between 2003 and 2006, new issues of CDOs had increasing exposure to sub-prime mortgage bonds, but with the subsequent high rate of default on sub-prime mortgages, investment banks such as Bear Sterns were faced with cash or collateral calls from lenders who had accepted CDOs backed by such loans. As a result, there was a re-evaluation by the market of CDOs based on mortgage bonds, global issuance of CDOs falling from $186 billion in the first quarter of 2007, to $12 billion in early-2008, backed mostly by leveraged bank loans (SIFMA, 2008).

The demand for increasingly complex mortgage securities resulted in a loosening of lending practices by the banking system, broader access to credit fueling the housing bubble. At the same time, the financial markets under-estimated the impact of new financial instruments on the house price bubble and the likelihood of that bubble bursting. With an unsustainable level of household debt, once asset prices began to fall, indebted households in countries such as the US and UK, have been left feeling very exposed. The net result is a so-called "wealth effect" whereby a fall in asset prices has a negative effect on household spending.[5] In turn this negative wealth effect exaggerates the bursting of the bubble.

In theory financial innovations such as derivatives and securitization should have

[4] Credit-default swaps are derivatives allowing sellers to take on new credit exposure and buyers to insure against firms and other agents failing to honor their debts. This market has grown from virtually nothing in 2001 to $52 trillion in 2008 (*The Economist*, November 6, 2008b).

[5] Some economists argue this ignores the fact that a fall in house prices may not be bad for everybody, i.e., it is potentially good for those who have yet to buy one. (*The Economist*, August 7, 2008).

aided the spreading of risk, and improved the ability of the financial system to weather shocks. However, some critics such as former Federal Chairman Paul Volcker argue that modern finance is pro-cyclical – an argument backed up by Subir Lall, Roberto Cardarelli and Selim Elekdag in a recent study showing financial shocks are larger in countries with more developed financial markets (IMF, *World Economic Outlook*, October, 2008). The current crisis can best be characterized by the extent of uncertainty about the scale of the financial risks as well as who held those risks. This uncertainty has worked its way through the system in the form of illiquidity, especially among highly-leveraged institutions such as investment banks that have been forced to cash in their balance sheets much faster than traditional high street banks that hold cash in the form of retail deposits. As a result, the US and other advanced economies may actually be less not more resistant to shocks (*The Economist*, October 9, 2008b).

Of course central bankers have not been entirely innocent parties to the financial crisis, having both failed to understand the scale of the risks, as well as underwriting the growth of credit with slack monetary policy (*The Economist*, October 9, 2008c). In particular, the US Federal Reserve freed up interest rates too much in 2002/3 due to fears of deflation, failed to tighten rates up enough between 2004 and 2006, and then lowered rates in early 2008 in an attempt to avert panic in the financial markets. Although the latter policy choice was perhaps justifiable in the circumstances, it did have the knock-on effect of aggravating the commodity-price surge, whereas the earlier policy choices simply fueled the housing bubble.[6]

Financial Markets: To Regulate or not to Regulate?

A recent Centre for Economic Policy Research e-book edited by Barry Eichengreen and Richard Baldwin (CEPR, November 11, 2008), summarizes the current global situation as follows: governments and central banks seemed to have stopped the "bleeding" in the financial system through bank nationalization and other measures, but there does not seem to be much agreement among the G20 countries on how to deal with further financial problems as the crisis spreads into the real economy, and from advanced to emerging countries. At the same time, while there is consensus on the need to strengthen supervision and regulation of the financial system, there is no agreement on how to go about it.

Responding to this the CEPR report lays out five priorities for policymakers: first, the global financial system continues to need "triage" such as recapitalization of banks and guaranteeing of "toxic" assets;[7] second, there should be an internationally coordinated fiscal stimulus;[8] third, the IMF ought to be given additional financial "firepower";[9] fourth, new approaches to regulating large cross-border financial institutions should be considered; and fifth, financial institutions should not be over-regulated in response to the current crisis, i.e., do not undermine the provision of financial intermediation and innovation.

However, if there is to be further regulation of the financial system, what form should it take? While the following list is not exhaustive, it is reflective of what various commentators are suggesting:

(i) *Mandatory recapitalization of banks*.[10] For example, Willem Buiter of the London School of Economics (CEPR, November 11, 2008) argues bank's tier-one capital to risk-adjusted asset ratios should be raised to 11%, well above the Basel II Accord floor ratio of 4%.[11]

[6] An alternative view is that because the business cycle has been less volatile over the past decade, in part due to the Federal Reserve controlling inflation, investors have assumed greater risks, thereby driving up asset prices (*The Economist*, December 4, 2008).

[7] For example, the recent rescue of Citigroup, whereby the Federal Reserve and US Treasury provided $40 billion of capital, as well as guaranteeing $306 billion of illiquid assets on its balance sheet (*The Economist*, November 27, 2008).

[8] Policymakers in several major economies have recently committed to large fiscal injections, e.g., China ($600 billion), the US ($500-700 billion), the UK ($31 billion) and the EU ($258 billion).

[9] The IMF is the international lender of last resort to member countries that have severe balance of payments crises.

[10] In a recent debate on financial regulation, the one issue Nobel Laureates Joseph Stiglitz and Myron Scholes could completely agree on was the need for bank recapitalization (*The Economist*, October 17, 2008).

[11] The Basel II Accord, introduced in the late-1990s, is an international set of rules on the capital adequacy of the banks (*The Economist*, October 23, 2008).

(ii) *More transparency in and regulation of the "shadow" banking system*. Due to less regulation, a considerable amount of financial intermediation has occurred through institutions such as investment banks and hedge funds over the past two decades (Nouriel Roubini, *Financial Times* September 21 2008). However, shadow banks are not protected against risk of a run, so that once the bubble burst, the extent of deleveraging in the financial system led to uncertainty about which institutions were solvent. Investment banks such as Bear Sterns, Lehman Brothers, and others lost liquidity very fast, despite lender-of-last resort support from the Federal Reserve, while Merrill Lynch agreed to be purchased by Bank of America. If protections such as deposit insurance are extended to shadow banks, they will have to be regulated in the same way as conventional banks to prevent "moral hazard".

(iii) *Order should be brought to the market for CDS*. In particular, creation of a central clearing house would lower counter-party risk.[12] However, such an institution would require "tremendous creditworthiness and iron-clad risk controls" (*The Economist*, November 6, 2008b).

(iv) *Development of a global regulator of highly-leveraged financial institutions*. A problem with recent financial regulation has been the adoption of a "micro-prudential" approach to examining risk one bank at a time, systemic risk having been largely ignored (*The Economist*, November 13, 2008a). Dealing with system-wide vulnerability requires a "macro-prudential" approach, but unfortunately it will likely be stymied by the primacy of national over supra-national regulation. However, an interim step might be creation of a single US regulator, and an EU-wide regulator.

(v) *Create a uniform regulatory framework for credit-rating agencies*. Rating agencies have been subject to a good deal of criticism, ranging from their not downgrading companies promptly enough to making errors in rating particular financial products such as structured debt. The most fundamental problem is the clear conflict of interest rating agencies face when paid by an issuer of securities to provide a risk rating. If such payments are to continue, the conflict of interest can be removed only if financial regulators select the rating agency as opposed to the firm issuing securities (Buiter, 2008). At the same time, information provided by issuers of securities to rating agencies should be made public, allowing investors themselves to evaluate the risk (*The Economist*, November 13, 2008b).

(vi) *Continued use of mark-to-market accounting should be reviewed*. The objective here would be to establish whether or not it has helped to amplify "boom-bust" cycles in asset prices. Tobias Adrian of the Federal Reserve Bank of New York, and Hyun Song Shin at Princeton University (2008) suggest that valuing assets at market as opposed to book value might actually be pro-cyclical if financial institutions actively manage the leverage ratio on their balance sheets, leverage being the ratio of total assets to net worth. If asset values increase (fall), net worth increases (declines), and leverage declines (increases), i.e., leverage should vary inversely with total asset value if firms are passive.

However, Adrian and Shin's work suggests that US commercial banks have targeted a fixed leverage ratio, while for broker-dealers leverage has varied positively with asset values. In other words, suppose a bank holds securities financed with debt, and the price of those securities increases (falls), it has to take on (pay down) extra debt and purchase (sell)an equivalent amount of securities in order to maintain its targeted leverage ratio. Obviously if leverage is adjusted upwards (downwards) with increases (falls) in asset prices, it is pro-cyclical. This effect is reinforced if financial markets are not perfectly liquid, i.e., greater demand (supply) for securities puts upward (downward) pressure on asset prices, which then feeds back into balance sheets reinforcing the leveraging (de-leveraging) of balance sheets.

Finally, as well as increased regulatory oversight of the financial system, it is also important not to forget the broader macroeconomic environment. As noted earlier, there are still significant global imbalances that grew out of the 1997 Asian

[12] Each member would face only the clearing house as opposed to multiple partners.

financial crisis, characterized by trade surpluses and growth in foreign-exchange reserves in emerging economies matched by trade-deficits elsewhere in advanced economies such as the US. Recycled money from the former high-savings countries to the latter low-savings countries helped fuel the asset-price bubble. There will be further instability if these imbalances were to unwind very quickly.

Currently, the IMF has insufficient lending capacity to deal with any extensive capital flight. It is critical that its resources be augmented from its current lending capacity of $250 billion to a minimum of $1 trillion so that it can "…play a helpful part in putting out emerging market fires…", and $1.75 trillion would be required for the IMF "…to be able to act in a systematic emerging markets crisis…" (Buiter, November 11, 2008). A number of ways of doing this have been put forward, most notably recycling emerging economy financial resources through the IMF. In return, a country such as China should then be included in a reformulated G7 responsible for steering the world economy (Eichengreen, CEPR November 11, 2008).

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