What Have We Learned From the Global Financial Crisis of 2008-09 and its Aftermath?

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Key Points

- A number of key lessons can be drawn from the global financial crisis that are vital to understand the effects of financial globalization, the impact of financial shocks on national economies, and the critical role for financial regulation.
- Developments prior to the crisis and since have exacerbated income inequality and called attention to the need for countervailing government action.
- Monetary and fiscal policies have proven to be effective in limiting the depressive effects of the crisis and stimulating economic recovery, notwithstanding poor coordination in their implementation.
- The G20 needs to strengthen the international financial architecture to promote global financial stability, improve international policy coordination and financial regulation, and establish a permanent international lender of last resort mechanism.

The Global Financial Crisis of 2009-09 was a near cataclysmic event for the global economic and financial system that has had profound implications for macroeconomic analysis, monetary and fiscal policy-making, regulatory frameworks, and the reform of the global financial architecture. In this regard, it is likely to be considered in future years as a watershed event in terms of our understanding of financial globalization, financial markets and
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dr even effects on national economies. Much has been written since the crisis in an effort to understand its causes and implications for policy-making and regulatory reform. The purpose of this paper is to try to summarize some of the main lessons and conclusions one can draw from the crisis and its consequences with the benefit of hindsight and the analytical work that has been undertaken thus far. In the paragraphs that follow, 20 lessons are identified (i to xx) and summarized under five general headings:

1) thinking about the aggregate economy;
2) financial markets and regulatory frameworks;
3) monetary policy;
4) fiscal policy; and
5) the global financial architecture.

These lessons are certainly not exhaustive nor complete. However, they represent some key areas of macroeconomic theory and policy and the international financial system where conclusions held prior to the financial crisis have either been confirmed or modified in important ways.

Thinking about the aggregate economy

Lesson (i)

The crisis of 2008-09 has put to rest any claims that national economies can be seen as equilibrium systems which have a natural tendency to self-correct. This is not a new idea in the history of economic thought, and was many decades ago the focus of John Maynard Keynes in his famous work The General Theory of Employment, Interest and Money. In the wake of the Great Depression, Keynes attempted to show that the conclusions of the classical school of economic thinkers beginning in the 19th century which pointed to the ability of national economies to operate as self-equilibrating systems was not true. In the wake of the financial crisis of 2008-09, there has been enormous interest again in the work of Keynes, as analysts and economic commentators have tried to come to grips with an event that shared
much in common with the prelude to the Great Depression. In academic work, the framework of Keynes’ thought had been put aside many years ago for its lack of “micro foundations”.¹ Since then, a new classical school of macroeconomics had come into ascendency in the period leading up to the crisis which reasserted the claims of the prior school regarding the self-equilibrating tendency of national economies. The new classical or closely-related neo-Keynesian macroeconomic paradigm, based on the aggregation of independent “representative agents” operating under rational expectations, was grounded in a much more theoretically sophisticated and mathematically elegant framework than the classical school of Keynes’ time. As a tool for policy analysis, the quantitative framework of the new classical and neo-Keynesian paradigm, which was defined in term of dynamic stochastic general equilibrium (DSGE) models, was widely used in a number of central banks and international financial institutions such as the International Monetary Fund (IMF).² Remarkably, however, prior to the crisis these models completely ignored the financial sector on the premise that it was not subject to any frictions and did not have any enduring effect on the behaviour of the real economy.

In the real world, some basis for thinking that modern advanced economies could demonstrate a tendency to be self-correcting mechanisms could have been drawn from the experience of the “Great Moderation”. During the period of the Great Moderation that ran from the late 1980s until the Global Financial Crisis, there was a marked reduction in the volatility of both the rate of inflation and the growth of real GDP. This tendency was attributed to both increased flexibility on the part of the US economy and improvements in the conduct of monetary policy. Alan Greenspan, Chairman of the Federal Reserve System from 1987 to 2006, was a firm believer in the expanding flexibility of the US economy that allowed it to evolve along a steady growth path with only minor positive or negative deviations as a result of shocks of one kind or another.³ Within the framework of “inflation targeting”, the US Federal Reserve and other major central

¹ The intellectual leader in this revolution in macroeconomic thought was Robert Lucas of the University of Chicago.
² For an exposition on DSGE modelling see Gali (2008)
³ Chairman Greenspan’s speeches in late 2005 provide a clear view of his thinking on this topic.
banks had learned to design monetary policy and communicate its inflation objectives to market participants in a way that gradually stabilized expectations about future inflation and promoted the growth in real GDP close to its potential rate. However, one problem with this framework and its single focus on inflation was that growing systemic financial risks at the national and global levels were ignored. In practical terms, in the years prior to global financial crisis, the policy implications of the main macroeconomic paradigm and the dominant framework of monetary policy were mutually reinforcing.

**Lesson (ii)**

The mainstream macroeconomic paradigm grounded in DSGE models was shown to be problematic in the light of the crisis in that it had failed to identify any significant risks in asset markets and financial market activity in the years prior to the crisis. Some critics have complained that the dominant framework for macroeconomic analysis was defective because it was unable to predict the crisis; however, such a criticism seems unrealistic given the inherent uncertainty that applies to major deviations from forecasts or extrapolations based on recent developments. Nevertheless, one can argue that macroeconomic analysts and modellers should have been able to identify economic or financial activities where significant risks were present and the potential for negative spillovers existed.

By the same token, the mainstream macroeconomic paradigm can also be criticized for its failure to provide any guidance for policy action once the crisis had erupted. Macroeconomic shocks of the magnitude experienced by the US and other major economies were simply not within the normal range of calibration associated with the use of DSGE models. Some commentators have claimed that the actual policy response to the crisis as expressed in central bank liquidity provision, monetary easing and fiscal stimulus was perfectly consistent with the standard macroeconomic policy framework that can be found in economic textbooks (i.e., IS-LM and aggregate demand/supply models). This may be true, but these approaches to macroeconomic analysis have very little direct association with DSGE models and
mainstream academic macroeconomics prior to the crisis. Instead, they derive from work that was first developed nearly 80 years ago by lead interpreters of Keynes’ classic work. ⁴

The growing concern with the potential problem of “secular stagnation” as a means of explaining the slow and uncertain pace of economic recovery in the advanced economies since the global financial crisis, as well as Japan’s experience over the past two and a half decades, only reinforces the basic notion that modern capitalist systems are not inherently self-correcting. ⁵

**Lesson (iii)**

A third distinct but very important lesson from the global financial crisis is that the global capitalist system is not neutral with respect to its impact on income distribution, and in fact has been associated with a substantial increase in income inequality. At first glance, the two issues of the financial crisis and income inequality seem to be unrelated. However, in the wake of the crisis, the impact of the economic downturn on long-term unemployment rates, real income gains, and the increasing share of income accruing to the top one per cent of the income distribution have heightened concern about the connection between economic and financial globalization and income inequality. Prior to the crisis, the issue of income inequality was largely ignored in macroeconomic policy debate even though it had been a growing problem since the onset of economic and financial globalization from the late 1970s. Moreover, since the crisis, economic research has shown that there has been a strong correlation between the growth in the financial industry and rising income inequality. ⁶

As a general matter, issues of income distribution were not a major focus of economic policy and academic debate prior to the crisis. At a conceptual level, one could argue that the main conclusion of economic growth models was that there should be some convergence in income distribution within

⁴ The main exposition of the classic IS-LM model can be found in Hicks (1937).
⁵ Professor Lawrence Summers of Harvard has been a leading exponent of the secular stagnation hypothesis, based on research conducted by Robert Gordon of Northwestern University (Summers 2014).
⁶ This conclusion is based on the work of Thomas Phillipon and Thomas Piketty, as summarized in the blog of the Century Foundation (February 25, 2013).
and across countries over time, as poorer regions and countries tended to grow faster than richer ones with the benefit of domestic or foreign investment and a higher marginal productivity of capital. A similarly benign view was held by many economists, which can be traced to the empirical work of Simon Kuznets in the mid-1950s, who postulated on the basis of historical national income data that over time as industrialization proceeds there should be an initial tendency for income distribution to deteriorate, which is then reversed as a growing middle class develops. On a priori grounds, it may not be possible to determine conclusively whether modern capitalist systems are favourable or unfavourable as regards income distribution, as it depends largely on the institutional, legal and policy arrangements that underpin the market system at a given period in history. Thus it is largely an empirical matter. In this regard, the negative impact of the Great Recession of 2008-09 on incomes of lower and middle class groups in the United States has attracted much attention and has been the focus of great concern in academic and policy circles. This problem is highlighted by the simple fact that more than 90 per cent of the gains in income since 2008 have accrued to the top one per cent of the income distribution, according to research by Emmanuel Saez of the University of California (Berkeley). It is also noteworthy that, following a long period of relative stability, the share of labor income in total factor income started to fall after 2000 from an average of around 65.8 per cent in that year to 61.3 per cent in 2012. There were two developments associated with the financial crisis that could have contributed to the declining share of labor income. One was the explosive growth in executive compensation that was characteristic of both the nonfinancial and financial corporate sectors. The other was the increasing share of financial services in national income that reached a peak in the years prior to the financial crisis. As regards the latter factor, it needs to be recognized that the financial services sector is a vital component of a dynamic capitalist, market-based economy. However, studies have shown that after a

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7 Robert Solow’s neoclassical growth model yielded an expectation of absolute convergence in incomes, but conditional convergence has been shown to be a typical pattern instead (see Jones 2015).
8 These data are presented in Jones (2015)
period of growth there is a turning point after which the further growth in
financial services has a negative influence on growth. According to some
recent empirical studies, such a point was reached in the years prior to the
crisis, and may have reflected the churning of financial activity
(“financialization”) that was associated with momentum trading and the
development of high-speed trading in stocks and bonds. This activity can be
seen as a means of extracting rents from financial transactions that goes
beyond the socially useful role of financial markets in the allocation of
investment and management of risk associated with a well-functioning
financial sector.
A further phenomenon that has catalysed attention on the problem of income
inequality in the advanced countries was the publication in 2014 of Thomas
Piketty’s analysis of income distribution, Capital in the 21st Century. Few if
any studies of economic history in recent memory have had the impact on
academic and popular debate as this one. The detailed historical research
summarized in this book has demonstrated that as an empirical matter
modern capitalist economies have been associated with a clear and sustained
pattern of worsening income distribution since the middle of the last century,
contrary to Kuznets’ conjecture. This trend was particularly noteworthy in
the two decades prior to the global financial crisis. A number of factors have
been at work in bringing about this change in income distribution, such as
the decline in union power, the decline in marginal tax rates at the top level
of the income scale and in taxes on capital income and estates, the upward
spiral in executive compensation, and the impact of globalization on
widening the dispersion between wages for unskilled workers and those for
educated workers, especially in IT-related industries.

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9 This finding is based on the work of Cecchetti and Kharroubi (2012).
The financial sector and its regulation

Lesson (iv)

One principal lesson about the financial system to be drawn from the global financial crisis is that an unregulated financial sector can have a strong tendency to self-destruct. The prime example of this phenomenon was the so-called “shadow banking” system in the United States, which was at the epicentre of the global financial crisis. The “shadow” descriptor applied to this sector was intended to capture the notion that it played a similar role of financial intermediation as the traditional banking sector, but within an institutional framework that was largely outside the perimeter of the government’s regulatory and financial safety net structure. It was comprised of mortgage originators, investment banks, money market funds, and off-balance sheet operations of large commercial banks.

At one level, the behaviour of the “shadow” banking sector, which was largely a capital markets-based system, exhibited many of the tendencies that were identified by Hyman Minsky in his analysis of financial crises. Typically, in a period of relative macroeconomic calm such as that associated with the Great Moderation, Minsky noted that financial institutions begin to seek opportunities to take on activities involving higher risk in an effort to boost their returns. The presence of a bubble phenomenon such as in housing provides an ideal vehicle for generating higher profits for financial institutions. Housing itself can be an attractive form of collateral for supporting bank lending, and rising asset prices in the form of home prices can appear to justify continued lending. However, once the bubble of home prices bursts, often following a tightening of monetary policy, loan defaults rise as home buyers find themselves holding mortgages worth more than the value of their house and facing debt service payments they cannot make because of an increase in lending rates. The banks begin to face losses because of the write-down of loans in default that may threaten the solvency of one or more banks. At this point, depositor panic may set in and a banking crisis may ensue. This scenario based on Minsky’s financial instability hypothesis describes almost exactly what occurred prior to the global

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10 Hyman Minsky’s exposition of his “financial instability” hypothesis can be found in Minsky (1986).
financial crisis, albeit within the framework of financial institutions operating outside the perimeter of the traditional banking system.

At another level, the prelude to the global financial crisis represented a perfect storm in the sense that there was a complete breakdown of the principal-agent relationships and counterparty risk assessments that are normally expected to function without government involvement as a stabilizing influence within an advanced capitalist system. These weaknesses, coupled with widespread fraud and abuse within the “shadow” banking system, created the conditions that gave rise to the global financial crisis. In the context of the housing bubble that preceded the crisis, mortgage originators provided credit to households with minimal conditions, even when the lack of creditworthiness of the borrowers was clearly evident, with the prospect of selling these to willing buyers such as the government-sponsored agencies (Fannie Mae and Freddie Mac). These loans in turn were repackaged by investment banks as securitized instruments such as mortgage-backed securities (MBS) combining a mix of risk-weighted mortgages. The same banks also sold collateralized debt obligations (CDOs) combining a mix of mortgage, credit card and student loan debt. These instruments were given favorable credit ratings by the credit rating agencies under pressure by the investment banks, on which the agencies depended for their fees and business relationships. The CDOs and MBS were sold to individual or institutional investors, in many cases, without full disclosure by the investment banks of the quality of the underlying loan components. Derivative instruments, such as credit default swaps (CDS), were sold by a large insurance company (the American International Group - AIG) as a form of insurance against CDO/MBS defaults without proper reserves and virtually no supervision. These derivatives were sold not only to the purchasers of MBS and CDOs, but also to speculators who wanted to profit from any default on the MBS/CDOs held by other investors. In these activities, boards of directors and equity owners exercised little or no influence on corporate managers as long as the value of their shareholdings was increasing. Finally, in the case of the large investment banks, which held many securitized instruments and derivative positions, accounting firms were willing to advise these banks on accounting manoeuvres at the end of
any reporting quarter that would conceal certain transactions in these instruments or temporarily alter their financial statements in order to reassure investors or financial analysts of their financial soundness. Transactions in securitized instruments and CDS were common not only in the United States, but also in the EU as banks in Europe became eager buyers of MBS/CDOs (given their high credit ratings) and often with cross-border funding secured from money market funds in the US. The extreme fragility of these transactions is evidenced by the fact that typically the financing provided by money market funds and other shadow banking operators was provided in the form of overnight repurchase agreements (REPOs) against the collateral of MBS/CDOs. Once the quality and liquidity of these securitized investments were placed in doubt, as in late 2008, a system-wide panic and failure at the national and global levels became inevitable as investors sought to shift their assets to the safety of government securities.

Lesson (v)

Apart from the idiosyncratic nature of the shadow banking system, we have learned from the crisis that the pattern of events which gave rise to financial crisis followed a familiar sequence based on the experience of other countries which had experienced a banking or financial crisis. These crises have typically developed in the context of a housing or stock market bubble involving the speculative build-up of asset prices, following a liberalization of the financial sector and the failure of the government to put in place adequate supervision of the institutions operating in that sector. In the case of the global financial crisis, the main regulator with oversight of the investment banks, namely the SEC, at the beginning of the 2004 had adopted a posture that these institutions should be allowed to determine their own capital requirements on the basis of their internal risk management systems without any regulatory oversight. Also in 2000, a decision was taken by the US Treasury Department and the Commodities Future Trading

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11 The most elaborate examination of financial crises and their causes and consequences can be found in Reinhart and Rogoff (2009).
Commission (CFTC) that had the effect of removing OTC derivative transactions from any regulation or supervision. In addition, money market funds operated without any regulatory supervision, while AIG was able to take steps that allowed it to select as its regulator a government agency with the weakest reputation for its supervisory activity (Office of Thrift Supervision), which was closed down after the crisis.

With the benefit of hindsight, it is clear that the structure and framework of financial regulation in the United States was woefully inadequate in the lead-up to the financial crisis. Apart from its very selective coverage as regards the shadow banking sector, bank regulation largely ignored the problem of low capital ratios of banks and their reliance on high levels of leverage. Another problem was revealed in the very fragmented and diffuse structure of regulatory agencies that operated in the financial sector.

**Lesson (vi)**

The behaviour of the financial sector as described in the preceding two lessons has a strong implication that financial markets are not “efficient” in the sense of avoiding extreme bouts of exuberance through the rational processing of information and appropriate discounting of future profits and dividends. The existence of a housing bubble in the United States, as well as in Ireland, Spain and the UK in the period leading up to the crisis is clear evidence of the potential inefficiency of asset markets. In addition, the fragile pyramid of risk that was built up around the housing bubble in the United States testifies to the poor judgment of investors in identifying and appropriately pricing that risk. The efficient markets theory of finance was a dominant school of thinking associated with DSGE modelling and the stationary equilibrium approach to macroeconomic analysis.

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12 This decision was the focus of sharp inter-agency debate between the head of the CFTC and the Treasury Department in 1999.
13 The behaviour of AIG prior to the crisis has been examined in a recent study by McDonald and Paulson (2015).
14 Paul Volcker, former Chairman of the Federal Reserve, has been a leading exponent on the need for regulatory reform in the US. For a recent statement of this view, see the Volcker Alliance (2015).
15 The efficient markets theory of finance is most closely related to the work of Eugene Fama of the University of Chicago, who won the Nobel Memorial Prize in Economics in 2013. One of the strongest sceptics of this approach was Robert Shiller of Yale University, who won the Nobel Prize in the same year.
Lesson (vii)

One can also learn from the financial crisis that the links from a collapse of an asset price bubble to a financial crisis and then to a severe recession can be very strong. Once the housing price bubble turned in late 2006 and 2007, the balance sheet of banks weakened with a drop in the value of collateral, a rise in loan delinquency and a decline in the value of securitized instruments. With a decline in the value of securitized instruments, sources of liquidity for banks dried up and banks began to cut back on their loans to other banks. With the drop in the value of securitized assets, the prices of other assets, i.e., stocks and bonds, also declined with second round effects on the balance sheet of financial institutions. At this stage, at least three channels of influence took effect in bringing about a collapse in economic activity. From the side of the banks, the deterioration in their balance sheets led to a generalized decline in lending to households and businesses, which induced a significant “financial accelerator” effect on output. At the same time, the decline in the value of financial assets had strong wealth effects in dampening consumer and investment spending. A third channel operated through the effect of an increasing debt burden on banks and households that reinforced the reduction in lending to businesses and spending by households. Emergency lending by the Federal Reserve and the Treasury Department had the effect of shoring up the liquidity and capital position of large financial institutions, but the government failed to put in place a program of any significance to alleviate the debt burden of private households.

Monetary policy

Lesson (viii)

Prior to the crisis, a consensus seemed to have been reached among academics and policy-makers that a central bank regime focused on inflation targeting and a fiscal policy linked to fiscal rules, operating independently and with full transparency, would be the best guarantor of low inflation and
sustained growth in real GDP close to the economy’s output potential. Most central banks in the advanced countries and leading emerging market economies were following an implicit or explicit regime of inflation targeting. Regimes of fiscal rules were less common, but important examples could be found in the Stability and Growth Pact of the euro zone and the operation of stabilization or sovereign wealth funds in emerging market economies that attempted to smooth out the impact of commodity price volatility on fiscal performance. We have now learned that in the wake of the crisis that consensus was severely deficient. As noted earlier, a regime of inflation targeting was inadequate in that it essentially ignored the potential problem of systemic financial risk, while a regime of fiscal rules in the euro zone has only reinforced the deflationary bias of a fixed exchange rate regime at a time of a global economic downturn.

Lesson (ix)

Monetary policy has proven to be a very potent tool in forestalling a collapse of the financial system nationally and globally and in limiting the downturn in economic activity. The massive provision of liquidity by the Federal Reserve for US-based financial institutions and globally through a network of central banks swaps provided an essential lender of last resort mechanism in the wake of the crisis. This action was supplemented by capital infusions to banks by the US Treasury Department. At the same time, the rapid decline in policy lending rates on the part of the major central banks provided a brake on the drop in global economic activity.

Lesson (x)

Once the zero-lower bound in central bank policy rates was reached, we have seen that the major central banks can continue to play an important role in promoting economic recovery through unconventional monetary policy in the form of “quantitative easing”. This activity has involved a substantial expansion of central bank balance sheets through the purchase of MBS and

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16 One of the leading theoretical foundations for this view was Woodford (2003).
government securities with a view to bending the yield curve down at the medium to long-term range of interest rates in order to encourage borrowing by the private sector. One undesirable side effect of this policy, however, has been a generalized increase in financial asset prices, which has tended to favour the wealth position of upper income groups who typically are the major players in stock and bond markets along with institutional investors. It may have also induced a renewed search for yield on the part of financial institutions, reminiscent of Minsky’s framework, especially at a time when the cost of funding balance sheet operations has been so low.

Lesson (xi)

Another lesson from the crisis is that the announcement of major changes in monetary policy can have powerful effects on exchange rates through shifts in capital flows in anticipation of interest rate adjustments. With a zero lower bound on central bank policy rates, the transmission mechanism for monetary policy has shifted from interest rates and asset prices to exchange rates. This dynamic was in full play during the second half of 2014 and early part of 2015 with a divergence in monetary policy plans among the Bank of Japan, the European Central Bank (ECB) and the Federal Reserve. During the eight-month period leading up to the commencement of quantitative easing by the ECB in early March 2015, as expectations of monetary tightening in the US and monetary loosening in Europe were growing, the euro depreciated against the dollar by around 20 per cent. At the same time, these shifts in monetary policy of the major central banks, and in particular the Federal Reserve, can have powerful spillover effects on interest rates and exchange rates of emerging market economies. The so-called “taper tantrum” in mid-2013 when the Federal Reserve announced its intention to begin to moderate its expansionary monetary policy stance was a prime example of this spillover effect. This issue shows that the exclusive orientation of monetary policy of the major economies to domestic economic objectives may not be optimal from a global perspective, contrary to a widely held view prior to the financial crisis.
Lesson (xii)

We have learned that the zero lower bound for central bank policy rates is not absolute and thus an impediment to the emergence of negative market interest rates in nominal terms. This effect has been most clearly in evidence in the euro zone, where economic activity has remained depressed and expectations of inflation have been severely dampened. Beginning in September 2014, yields on government notes and bonds for Austria, Belgium, France, Germany, Ireland, the Netherlands and Switzerland have slipped into negative territory. For a time, this development was reinforced by the quantitative easing program of the ECB that began in early March 2015.

Lesson (xiii)

Notwithstanding the potency of monetary policy changes for achieving certain economic policy objectives, it is now clear that this policy tool, together with individual bank or micro-prudential supervision, is not sufficient to maintain financial system stability. Accordingly, a consensus now exists that central banks need to add macro-prudential tools to their policy mix in order to minimize the risks of financial system instability arising, for example, from a rapid growth in bank credit and private sector indebtedness. What is still being tested is which macro-prudential tools (such as counter-cyclical capital charges, loan to value limits, or debt to income limits) work best and in what situations, and whether and how these should be coordinated with interest rate adjustments.

Fiscal policy

Lesson (xiv)

In the same way that we have learned from the financial crisis about the potentially strong impact of monetary policy, so too is the case for fiscal policy. The evidence for this lesson has been particularly clear in the wake of an economic downturn and when central bank policy rates have reached the zero lower bound. There was a strong consensus on this view at the
international policy level when the Group of 20 (G20) Heads of State agreed
on a coordinated fiscal stimulus package in their first summit meeting in
Washington in November 2008. Unfortunately, following this action, there
was a fracturing in this consensus which has complicated the strength of
economic recovery in the advanced economies. One fracture was created by
the resurgence of a view from within the new classical school of
macroeconomics that the expansion of fiscal policy through government
expenditure would be counter-productive as it would simply offset a
recovery of private expenditure (both investment and consumption). This
effect is captured by the notion of “Ricardian equivalence”, which postulates
that the economic effect of an expansion of government expenditure without
a commensurate increase in taxes would be offset by a reduction in private
spending as households and businesses seek to increase their saving in
anticipation of a future tax increase needed to bring the fiscal position back
into balance.
The second fracture in the early consensus on fiscal stimulus originated
within the governments of the euro zone and the UK which became pre-
occupied with the mounting public debt associated with their responses to
the global financial crisis. Such thinking was bolstered by an academic view
that government efforts to reduce public debt in situations when debt
sustainability was in question could stimulate the economy. According to this
view, fiscal austerity could be expansionary by restoring private sector
confidence in the government’s intent to stabilize the economy and making
clear that an expansion in private consumption and investment would be
subject to less risk of inflation or the complications of a government debt
default. In the case of the euro zone, this thinking was reinforced by the
rigidity of the fiscal rules under the Stability and Growth Pact that set a target
for government debt not to exceed a level equivalent to 60 per cent of
national GDP. In the euro zone and the UK, it can be argued that when fiscal
policy shifted from an expansionary to a contractionary stance in 2010, this
change operated as a drag on the economic recovery during the period 2010-
12. In the UK, as well as the United States, the reigning concern about the
size of government debt was reinforced by a strong belief that the size of
government spending in the economy needed to be reduced.
Lesson (xv)

Notwithstanding the fracturing of a consensus on fiscal policy as the recovery phase following the global financial crisis further evolved, we have learned that fiscal multipliers arising from fiscal expansion and contraction can be significantly positive, especially at times when the zero lower bound on interest rates is present. Prior to the crisis, the prevailing view was that such multipliers were weak and uncertain, which was consistent with the attachment to fiscal rules and reliance on automatic stabilizers on the revenue and expenditure sides of the government budget. An internal review by the IMF of its policy advice to countries seeking financial assistance in the wake of the crisis was particularly illuminating about the issue of fiscal multipliers. As a result of the programs of fiscal consolidation that were implemented by borrowing countries, this study showed that economic contractions were greater than expected because the impact of efforts to improve the overall government position were significantly larger than projected. 17

Lesson (xvi)

Consistent with the views presented in the two previous points, it seems clear that unconventional monetary policy alone is not sufficient to promote a sound recovery of the economy, and that a further boost to aggregate demand through a temporary expansion of fiscal policy is required. 18 The challenge for fiscal policy-makers whether in the executive or legislative branches of government is that such a posture needs to be framed within a medium-term plan for maintaining or reaching fiscal sustainability. An additional challenge for fiscal policy, as distinct from monetary policy, has always been that there can be significant lags between the point in the economic cycle when it would be seen as desirable to have fiscal stimulus and the time it could be designed, agreed upon and implemented. This issue has raised debate on whether more potent elements of automatic stabilizers need to be embedded in budget design. At the same time, more empirical

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17 This work is presented in Blanchard and Leigh (2013). These results have been further bolstered by a recent study by Abiad, Fuerer and Tapalove (2015) which has identified significantly positive multiplier effects on output growth of public investment in infrastructure.
18 This view about fiscal policy has been articulated very effectively by DeLong and Summers (2012).
work and debate is needed in order to forge a consensus on the proper role of fiscal policy in macroeconomic stabilization. 19

The global financial architecture

Lesson (xvii)

One of the clearest lessons we have learned from the global financial crisis is that the international financial architecture (IFA) is seriously defective. The IFA represents the institutional and informal arrangements that governments have put in place to provide stability to the international monetary system and to manage the systemic risks of financial globalization. The twin institutional pillars of the IFA, which have links with a number of other agencies and committees, are the Financial Stability Board (FSB) and the IMF. The former agency oversees work on standards for the infrastructural aspects of the IFA (accounting, banking regulation, financial market organization, etc.), while the latter has been the main forum for policy deliberation and emergency lending. Both the FSB and the IMF are expected to coordinate their activities with a view to monitoring global financial system stability. The political directorate that guides the IFA is the G20. To be effective, the IFA needs to provide essential public goods in regard to the oversight of systemic financial risk, the coordination of financial regulation, international policy coordination, and an international lender of last resort mechanism. 20 In each of these four areas there were major shortcomings. Clearly the recent growth of financial globalization has far exceeded the capacity of the IFA to guide or manage it.

Lesson (xviii)

In the regulatory field, the financial crisis demonstrated in dramatic fashion that, while the cross-border networks created by financial market institutions

19 An interesting contribution to this debate can be found in chapter 2 of the IMF Fiscal Monitor of April 2015.
20 These features of the IFA together with a brief history of its evolution since the Bretton Woods Agreement of 1944 can be found in Elson (2011).
had become very dense, the regulatory perimeter of governments remained strictly territorial. This reality became evident, for example, in the aftermath of the Lehman Bros. bankruptcy in which the international operations of this investment bank were “ring-fenced” in each country in which it operated. One less common counter-example of this tendency can be found in the handling of the insolvency of Fortis Bank by Belgium and the Netherlands that limited any negative spillover effects from that bank failure. 21

Prior to the crisis, the major effort in international regulatory cooperation was embodied in the Basel Accord for bank supervision, which was first agreed upon in 1988 on a voluntary basis by bank regulators from the G10 countries meeting in the Basel Committee on Bank Supervision at the headquarters of the Bank for International Settlements in Basel, Switzerland. This agreement (Basel 1) established minimum capital requirements for commercial banks according to risk weights for their assets, using ratings of credit rating agencies to determine the riskiness of different asset classes. The Basel Accord was revised in 2004 (Basel 2) to introduce additional risk weights for the determination of capital requirements for most banks and to establish a new regime for larger banks based on their own internal risk models. This regime was already in place in the EU at the time of the financial crisis, but was still in the stage of early implementation in the US, although as noted earlier the bank regulators in the US under pressure from the large banks had already adopted the Basel 2 approach on the determination of capital requirements for those banks. This feature of Basel 2 became a critical factor in laying the groundwork for the global financial crisis, as it led to a reduction in the capitalization of the large banks and an increase in their leverage.

As a result of the crisis, an expanded membership of the Basel Committee that brought in the representatives of all the G20 countries agreed in December 2010 on a revised Basel standard (Basel 3). An important impetus for this revision came from the establishment of the FSB in 2009, comprising finance ministers and heads of regulatory agencies from the G20 countries. The new accord represents a radical revision of its predecessors in that it

21 This and other cases of bank insolvency cases are examined in Schoemaker (2013).
established a more rigorous definition of capital and raised the minimum requirement for all banks, while introducing a new surcharge for the larger banks. It also put in place a new minimum capital asset ratio requirement of 3 per cent and minimum liquidity requirements for banks. While it is clear that improvements have been made to the Basel Accord, it can easily be argued that the overall capital requirements are still too low and that the new capital asset ratio still allows banks to operate with a high degree of leverage (up to 33 to 1).  

**Lesson (xix)**

In the wake of the crisis, there has been some improvement in international policy coordination with the shift in the leaders’ summit from the G7 to the G20 and its links to the IMF through the G20 Finance Ministers and Central Bank Governors. Prior to the crisis, the main continuous forum for international policy discussions was the IMF, which can provide an effective and highly competent secretariat for such discussions, but does not have the power to enforce any agreement or commitment among its members. This limitation on the part of the IMF was evident in pre-crisis efforts to bring about macroeconomic policy adjustments by means of a multilateral consultative process among the major economies to deal with the problem of global imbalances.  

Immediately after the crisis, the forum for international policy discussions shifted to the G20 with the technical support of the IMF. Initially these efforts were very successful, as suggested earlier in the design of policies to respond to the crisis. In this connection, a process of peer review on policy implementation (so-called Mutual Assessment Process) was instituted in 2009 to help reinforce policy commitments, but with the passage of time, this mechanism has weakened. In part, this outcome has resulted from the fact that the agenda for the G20 has been greatly expanded to cover a range of issues beyond international macroeconomic policy, each of which merits political direction at the highest level. The lesson from the crisis in

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22 Prof. Anat Admati has been a persistent critic of the minimum capital requirements of the Basel accord, see Admati and Hellwig (2013).

23 Paul Blustein (2012) has provided a critical review of the interaction between the IMF and the major economies on this issue.
this dimension of the IFA is that the major economies still need to find a way to establish a mechanism of peer review with sanctions, for example, to reinforce key decisions in the international macro policy arena. However, given the many conflicts that characterize the existing global political order, such a goal for the IFA will not be easy to achieve.

Lesson (xx)

One final lesson from the financial crisis, which has become more apparent with the passage of time, is that the IFA is at risk of weakening instead of strengthening, as required by the demands of financial globalization. One evidence of this problem is the failure of the United States, which uniquely holds veto power over IMF decisions, to approve a major reform of that institution which would have rebalanced its weighted voting system in favour of the large emerging market economies (such as China) by reducing the shares of European countries, while increasing its financial resources. Another sign of the weakness in the IFA is the absence of a clear international lender of last resort (ILOLR) mechanism at times of financial stress, such as during the global financial crisis. The IMF is ideally suited to play that role, but it lacks a fully unconditional liquidity instrument that countries can access at a time of financial stress. The two emergency credit facilities that now exist (the Flexible Credit Line and Precautionary and Liquidity Line) require pre-qualification, and access has only been granted to four member countries. During the recent crisis, the US Federal Reserve in effect served as the main international lender of last resort through its central bank swap network, but this was an ad hoc and temporary arrangement established for only 15 countries that was created in response to the global demand for US dollar funding to repay foreign lines of credit denominated in dollars. The Fund played a secondary role in crisis lending by providing conditional lending to 17 other smaller countries under traditional stand-by arrangements during the first year of the crisis.

One result of the absence of an ILOLR is that most emerging market economies have established their own contingent reserve facilities through the accumulation of high levels of foreign assets. This development was in
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full display in the years prior to global financial crisis and was one factor in limiting the spillover effects of the financial crisis emanating from the advanced countries. This decentralization of the ILOLR mechanism has been paralleled by a further build-up or expansion in regional funding facilities, such as the Chiang Mai Initiative for the ASEAN countries, the establishment of a Special Reserve Facility for the BRICS countries, the creation of the Bank of the South (BancoSur) in addition to the Latin American Reserve Fund for different groups of South American countries, and the possibility of a similar arrangement among the countries of the EURASIAN Economic Union.

Conclusion

On the basis of the 20 lessons summarized above, one can argue that the global financial crisis has had, and will continue to have, a significant impact on macroeconomic thinking and the design and implementation of macroeconomic policy in both a national and global setting. It has also brought to the fore the continuing challenges of financial globalization and the need to strengthen the international financial architecture. Since the time of the second amendment of the Fund Agreement in 1978, reform efforts have been mainly focused on creating the conditions for an expansion of capital account convertibility to emerging market and other developing countries, even though an attempt to formalize this goal as an objective of IMF membership in 1998 was not approved. However, since the financial crisis of 2008-09, countries have become more acutely aware of the vagaries of international capital flows and the potentially large destabilizing shocks they can create for emerging market economies, reminiscent of the problem of “sudden stops” during the 1990s. Among the advanced countries, this problem has been evident in the sharp gyrations of exchange rates in response to announced or planned changes in monetary policy. In these conditions, the membership of the IMF has come to accept the notion that a policy of exchange rate flexibility may need to be supplemented by “capital flow management measures” (i.e., capital controls) in order to insulate more effectively the domain of domestic policy-making, especially for emerging
market economies. In certain cases, it may be appropriate to combine these with macro-prudential requirements.

The issue of capital flow management also raises the possible risk of some erosion in financial globalization and makes it imperative that members of the G20 strive to find ways to improve international policy coordination, the monitoring of global financial system stability, international financial regulation, and create a permanent ILOLR mechanism with a view to securing the benefits of financial globalization and minimizing its disruptive tendencies.

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