THE GREAT RECESSION

LESSONS FOR CENTRAL BANKERS

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Preface

The recent global crisis was the worst since the Great Depression of the 1930s, and it was deep enough to shake not only the global economy and the financial systems of most major economies, but also conventional wisdom and accepted practices of economic policy-making, regulation of financial markets, and more. The recovery and return to normality is certainly long and painful in most developed countries. Further, as protests against the role of banks in the crisis and other aspects of the economic situation on its eve are still unfolding, we do not yet know what the final effects of the Great Recession on the political economy of the future will be.

In the beginning the crisis seemed manageable. It began in July 2007 as the subprime crisis, a problem in a relatively small segment of the US financial system. Subsequently it spread to other markets and countries. Yet for over a year the extent and nature of the crisis were not fully appreciated. In mid-2008 the partial recovery in share prices and additional positive indications from the financial markets led to a sense of relief that a global financial crisis had been averted.

The collapse of Lehman Brothers in mid-September 2008 marks the moment at which the crisis worsened decisively from a primarily US to a truly global event. Mid-September also marks the turning point of the policy response, a change most dramatically reflected in the massive rescue of AIG immediately after Lehman was allowed to collapse. Policy makers now realized the severity of the crisis and what might happen if they did not act immediately. Worldwide, governments and central banks acted on an unprecedented scale. The policy response was unique not only in its magnitude, but also in the type and variety of the measures undertaken. Policy makers considered and adopted measures that had so far been almost unthinkable. Much of this change in thinking and action took place in real time, amid high uncertainty and in a rapidly changing environment.

The extraordinary policy response was a success. It prevented the deterioration of the crisis into a complete meltdown of the financial system and a prolonged collapse of the global economy. Thus the fear of another Great Depression, which was palpable in late September through November 2008, did not materialize. The global situation stabilized by the second quarter of 2009, and later that year—earlier than had previously been expected—recovery, albeit slow and fragile, began in most countries. Nonetheless, uncertainty about the sustainability of the recovery remained high and many problems in the financial system have remained unresolved.

This success, resulting from the aggressive policy response, however, came at a cost: budget deficits and the government debt of many countries increased dramatically; the unbalanced global recovery resulted in large capital flows that exerted pressure on exchange rates and raised concerns about the possibility of currency wars; and recovery remained highly dependent on the continuation and feasibility of effective fiscal and monetary stimuli.

The crisis has led to a re-evaluation of preventive and remedial policies, and to the questioning of both the conventional wisdom and fundamental concepts that have long guided policy makers. This is evident in the reassessment of preventive policies for reducing the risk of a crisis, with greater emphasis on macroprudential policies—a concept that barely existed before the crisis, and stronger regulation and supervision of financial markets and institutions. Such rethinking is true also of remedial policies for dealing with a crisis once it occurs. Notable examples include a generally more favorable view of fiscal expansions and interventions in various financial markets, a renewed debate on capital controls and exchange rate intervention, and a new understanding of the role of quantitative easing in pursuing further monetary expansion as the nominal interest rate approaches the zero bound.

This volume brings together selected papers from an international conference on *Lessons from the World Financial Crisis* held by the Bank of Israel in Jerusalem on March 31 to April 1 2011. Its participants were members of central banks and important international institutions. The volume is highly policy oriented and presents the experience and perspective of a variety of countries—advanced economies as well as emerging ones, countries that were hard-hit by the crisis and countries that weathered it rather successfully. The focus—in terms of writers and content—on central banks reflects the prominent role they played in responding to the crisis, as well as the major role that they should play in preventing or preparing for future crises.

The papers in the volume cover primarily monetary policy, macroprudential policy, and issues of exchange rates, capital flows, banking and financial markets as these relate to the crisis and its lessons. The choice of papers retains the focus on monetary and financial policies while providing a broad enough mix to highlight the interactions among these issues, such as the interaction between monetary and macroprudential policies. The importance of such interactions and the need for integration among policy areas is surely one of the important lessons of the crisis.

The issues covered in the volume were highlighted during the crisis itself, and many of them are currently at the center of events, debate and policy-making as countries around the world experience an uneven recovery. These include not only factors leading to the crisis and events and policies during the crisis, but also lessons for macroprudential policy and changes in the regulation of financial markets that would reduce the risk of future crises.

The timing of this volume combines the benefit of the still-vivid experience of policy makers who participated in making the key decisions, as well as some longer term perspectives on events and policy measures taken, including negative side effects of some of these measures. However, it is by no means too early, as certain lessons should be implemented immediately and may serve to prepare for another crisis which—it seems at the end of 2011 as this introduction is being written—may come sooner rather than later.

The ten lessons for central banks from the global crisis, which Fischer offers in the Introduction, provide an interesting framework for the volume. These lessons come to mind time and again as one reads through the papers on various policy aspects and the experience of different countries. Some of the lessons refer to policy during a crisis such as feasibility of monetary expansion even as the nominal interest rate approaches zero, the crucial role of the central bank as a lender of last resort and exchange rate policies in small open economies. Other lessons focus on policies to reduce the risk of a crisis and increase the economy's resilience should a crisis occur. These include the importance of macroprudential supervision, sound macroeconomic policies in normal times, and the need to deal with bubbles in a timely manner. The tenth lesson is a general call for open-mindedness on part of policy makers—*Never say never*. It reflects more than any particular lesson the change that had occurred during the crisis in both the practice and concept of policy-making. Previously unthinkable policies were and are being considered and adapted, and conventional wisdoms are being questioned.

Monetary policy during the crisis was aggressive and exceptional. Part I discusses the effectiveness and exceptional dimensions of monetary policy. Pill and Smets review the interaction between two of the most outstanding features of monetary policy during the crisis—nonstandard measures (NSMs), and the lower bound on nominal interest rates. They also analyze the effectiveness of NSMs in supporting monetary policy transmission in the euro area. While Turkey did not reach the zero bound, it pursued an aggressive monetary expansion. Alp and Elekdağ examine how much deeper would the recession in Turkey have been absent the sharp cuts in its interest rate. Soto assesses the effectiveness of monetary and other policies in Chile's response to the crisis. He pays special attention to the zero bound.

While part I discusses policies for dealing with the crisis once it occurs, part II focuses on macroprudential and financial policies for reducing the risk of a crisis occurring and for increasing the resilience of the financial system. Alberola, Trucharte, and Vega assess Spain's system of dynamic loan loss provisioning and find that to a certain extent the system has proved useful in mitigating the buildup of risks and in strengthening the loss absorbency capacity of financial institutions. Schuberth's chapter highlights the broad scope of financial stability policy and its interaction with other areas of policy. She examines the role of tax policies in increasing vulnerabilities, such as by encouraging high leverage and risk-taking, and also discusses taxes that might internalize negative externalities of financial sector activities.

Capital flows and controls and exchange rate policies have been central to the debate and to actual policies in many countries during the crisis. The debate intensified as global recovery began, because the recovery was very unbalanced. Some countries, particularly emerging and several developed ones, recovered relatively rapidly, thereby attracting significant capital inflows. The corresponding pressures for the appreciation of their currencies raised concerns about potential currency wars.

Part III addresses these issues. Ostry reviews arguments about the management of capital inflow surges and focuses on the conditions under which capital controls may be justified. As he notes, the debate on this is hardly new but the recent crisis has revived it. He concludes that under certain conditions such controls are justified as part of the policy tool kit to manage the macroeconomic risks that inflow surges may bring. The next chapter provides a concrete example of dealing with capital flows. Chung and Kim describe the capital inflows into Korea during the 2000s and the policy responses to them. They then examine the effectiveness of Korea's foreign exchange policy, especially as related to capital outflow liberalization and foreign reserves accumulation, in terms of confronting the recent crisis. The challenge that sharp reversals in capital flows pose to emerging economies also motivates the third chapter in this section. Capistrán, Cuadra, and Ramos-Francia use a New Keynesian model to illustrate how credible monetary and fiscal policies increase policy makers' degrees of freedom to respond to adverse external shocks. This helps to explain why during the crisis, emerging economies, with better economic fundamentals, were able to implement countercyclical policies.

The last part of the book describes the experience and lessons of four countries. Three of them—Australia, Norway, and Israel—are developed economies that were affected rather mildly by the crisis. Their recessions were relatively moderate and short-lived; they did not suffer from failures of financial institutions, and their currencies appreciated during much of 2009. The lessons from the experience of such countries are no less instructive than those of the countries that were badly hurt. One may find certain similarities among these more successful countries, such as solid growth, fiscal discipline and conservative and tightly regulated financial systems in the years preceding the crisis. All of this underlines the importance of the initial conditions under which a country enters difficult times. All these countries also took timely and significant policy measures during the crisis. Yet conclusions based on such similarities should be drawn with caution, and these countries too need to learn and apply lessons from the crisis.

As Kearns points out, Australia and Canada are similar in many respects but fared quite differently through the crisis, largely due to luck—Canada's exports are oriented toward the United States, while Australia's toward East Asia. Berg and Eitrheim note that while the financial stability measures taken in Norway during the crisis sufficed this time, they would not have been adequate if Norwegian banks faced the same degree of distress that some banks in other countries had faced. Braude notes that Israel benefited from strong macroeconomic fundamentals and certain features of its financial system as well as from a fortunate timing of the shock following five years of rapid growth. However, the crisis also highlighted the vulnerabilities of its financial system, particularly in the nonbank credit market.

Ireland's case is different—it suffered a major financial crisis that later evolved into a public debt crisis. Browne and Kelly trace the origins of the crisis in Ireland (as well as in Spain, Greece, and Portugal) to the

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Introduction: Central Bank Lessons from the Global Crisis

Stanley Fischer

During and after the Great Depression many central bankers and economists concluded that monetary policy could not be used to stimulate economic activity in a situation in which the interest rate was essentially zero, as it was in the United States during the 1930s—a situation that later became known as the liquidity trap. In the United States it was also a situation where the financial system was grievously damaged. It was only in 1963, with the publication of Friedman and Schwartz's *Monetary History of the United States* that the profession as a whole[1] began to accept the contrary view, that "The contraction is in fact a testimonial to the importance of monetary forces" (Friedman and Schwartz 1963: 30).

Twenty years later, in 1983, Ben Bernanke presented the view that it was the breakdown of the credit system that was the critical feature of the Great Depression (Bernanke 1983: 257–76)—that it was the credit side of the banks' balance sheets, the failure or inability to make a sufficient volume of loans, rather than the behavior of the money supply per se, that was primarily responsible for the breakdown of the monetary transmission mechanism during the Great Depression. The Bernanke thesis gained adherents over the years, and must recently have gained many more as a result of the Great Recession.

In this introductory chapter, I present preliminary lessons—ten of them—for monetary and financial policy from the Great Recession. I do this with some trepidation, since it is possible that there will later be an eleventh lesson: that given that it took fifty years for the profession to develop its current understanding of the monetary policy transmission mechanism during the Great Depression, just two and a half years after the Lehmann Brothers bankruptcy is too early to be drawing even preliminary lessons from the Great Recession. But let me join the crowd and begin doing so.

Lesson 1: Reaching the zero interest lower bound is not the end of expansionary monetary policy.

Until the 2008 crisis the textbooks said that when the nominal interest rate reaches zero, monetary policy loses its effectiveness and only fiscal policy remains as an expansionary policy instrument—the pure Keynesian case. Now we know that there is a lot that the central bank can do to run an expansionary monetary policy even when it has cut the central bank interest rate essentially to zero—as did the Fed, the Bank of England, the Bank of Japan, and other central banks during this crisis.

In the first instance there is the policy of *quantitative easing*—the continuation of purchases of assets by the central bank even when the central bank interest rate is zero. Although these purchases do not reduce the short-term interest rate, they do increase liquidity. Further, by operating in longer term assets, as in QE2, the central bank can affect longer term interest rates, which may have an additional impact on the private sector's demand for longer term assets, including mortgages and corporate investment.

During the crisis several attempts were made to calculate how much quantitative easing was needed at a particular point in time. The calculation used a Taylor rule to calculate what the (negative) interest rate should have been in the given circumstances, combined that with an estimate of the increase in the money supply or central bank assets that would normally be needed to reduce the interest rate by one percentage point, and thereby calculated the needed increase in central bank assets. This is a logical approach, but we should note that it extrapolates economic behavior far beyond the range of the experience on which the estimated Taylor rule is based (Hatzius 2009).

Second, there is the approach that the Fed unsuccessfully tried to name "credit easing"—actions directed at reviving particular markets whose difficulties were creating serious problems in the financial system. For instance, when the commercial paper market in the United States was collapsing, the Fed entered on a major scale as a purchaser, and succeeded in reviving the market. Similarly it played a significant role in keeping the mortgage market alive. In this regard the Fed became the *market maker of last resort.*[2]

In a well-known article, James Tobin in 1963 asked in which assets the central bank should conduct open market operations. His answer was the market for capital—namely the stock market—since that way it could have the most direct effect on the cost of capital, later known as Tobin's q, which he saw as the main price through which the central bank could affect economic activity. Although central banks have occasionally operated in the stock market—notably the Hong Kong Monetary Authority in 1997—this has not yet become an accepted way of conducting monetary policy.[3]

Lesson 2: The critical importance of having a strong and robust financial system.

This is a lesson that we have all thought we understood for a long time—not least since the financial crises of the 1990s—but whose central importance has been reaffirmed by the recent global crisis.

This crisis has been *far* worse in many of the advanced countries—among them the United States, the United Kingdom, and some other European countries—than it has been in the leading emerging market countries. This was not the situation in the financial crises of the 1990s, and it is not a situation that I expected would ever occur.

The critical difference between countries that have suffered from exceptionally deep crises and those that had a more or less standard business cycle experience during this crisis traces to what happened in their financial sectors. Those countries that suffered financial sector crises had much deeper output crises.

In their important book, *This Time Is Different*, Carmen Reinhart and Kenneth Rogoff (Reinhart and Rogoff 2009) document the fact that over many centuries, downturns that also involved a financial crisis were more severe than those that did not. This is not coincidental, for the collapse of the financial system not only reduces the efficiency of financial intermediation but also has a critical effect on the monetary transmission mechanism and thus on the ability of the central bank to mitigate the real effects of the crisis.

If the financial system is intact, the standard anticyclical monetary policy response of cutting interest rates produces its response in the encouragement of purchases of durables, ranging from investment goods and housing to consumer durables. This happened during this crisis, in that many countries that did not suffer from a financial crisis but had cut interest rates sharply to deal with the negative effects of the global crisis returned to growth more rapidly than other countries, and soon found asset prices, particularly the price of housing, rising rapidly. Among these countries are Australia, Canada, China, Israel, Korea, Norway, and Singapore.

The main question is: What needs to be done to maintain a strong and robust financial system? Some of the answers to this question are to be found in the blizzard of recommendations for financial sector and regulatory reform coming out of the Basel Committee—now extended to include all the G-20 countries plus a few more—and the Financial Stability Board (the FSB).

In particular the recommendations relate to the capital requirements of the banks, which the Basel Committee and the FSB recommend raising sharply, including by toughening the requirements for assets to qualify as tier 1 and tier 2 capital. In addition there are recommendations on the structure of incentives, on corporate governance, on the advisability of countercyclical capital requirements, on risk management, on resolution mechanisms including eventually on how to resolve a SIFI (systemically important financial institution, typically a bank with major international operations) —and much more.[4] Further there has been a focus on systemic supervision and its organization, a topic to which I will return shortly.

These recommendations make sense, and the main question relating to them is whether and how they will be implemented, and whether political pressures will either prevent their implementation and/or lead to their gradual weakening. There is already cause for concern in that some of the recommendations are to be implemented only by 2019—a period sufficiently long for everyone to forget why such drastic changes are regarded as essential, and why they are indeed essential. One element of the conflicting pressures can be seen in the concern in many countries that the banks not tighten capital requirements too fast, since an expansion in credit is needed to fuel the recovery.

Lesson 3: The need for macroprudential supervision.[5]

There is not yet an accepted definition of macroprudential policy or supervision, but the notion involves two elements: that the supervision relates to the entire financial system; and that it involves systemic interactions. Both elements were evident in the global financial crisis, with analyses of the crisis frequently emphasizing the role of the shadow banking system and of the global effects of the Lehman bankruptcy.

Thus, in discussing macroprudential supervision, we are talking about regulation of the financial system at a very broad level, going beyond the banking system. We are also going beyond bank supervision in considering macroprudential policy instruments—and we are therefore also discussing an issue that requires coordination among different regulators.

It is not clear whether the inclusion of a responsibility for (or contributing to) financial stability in modern central bank laws, such as those of the ECB, the Bank of England and many others, including the Bank of Israel, reflects the concerns that have led to the emphasis on macroprudential supervision, or rather primarily the traditional role of the central bank as lender of last resort. No one who has read Bagehot on panics can think that understanding of the potential for systemic crises is a new problem. However, its importance has been reinforced by the dynamics of the most recent crisis, in which a problem initially regarded as manageable—the subprime crisis—gradually developed into the worst financial crisis since the Great Depression, involving financial instruments built on mortgages, and after the Lehman bankruptcy which revealed interactions among financial institutions to be much stronger than policy makers must have thought at the time.

What macroprudential policy tools do central banks have? In the first place they have their analytic capacities and their capacity to raise policy makers' and the public's awareness of critical issues. These are reflected in the financial stability reports that some central banks have been producing for over a decade.

What about other macroprudential policy tools? Central banks have been engaged in a search for them since the financial crisis, but the search has not been especially fruitful. Some have defined countercyclical capital requirements[6] as a macroprudential policy tool, presumably because they reflect a macroeconomic assessment and because they apply to the entire banking system. Nonetheless, they are not particularly aimed at moderating systemic interactions, and thus it is not clear that they are the archetypal macroprudential policy tool.

More generally, it seems that there are few specifically macroprudential policy tools, and that the main tools that central banks and financial supervisors will be able to deploy to deal with systemic interactions will be their standard microprudential instruments or adaptations thereof.

Like other economies that did not suffer from a domestic financial crisis during the global crisis, Israel has had to deal with the threat of a housing price bubble in the wake of the global crisis. Housing prices, after falling gradually for over a decade, grew by around 40 percent in the last two years. The Bank's housing sector model suggests that while prices in the middle of 2010 were not far above their long-run equilibrium level, a continuation of their recent rapid rates of increase would definitely put them well above the equilibrium level. Further the atmosphere in the housing market was becoming increasingly bubble-like, with discussion of the need to buy before prices rose even further.

Because the exchange rate had been appreciating rapidly, the Bank preferred if possible not to raise the central bank interest rate too rapidly. Since bank supervision is located within the Bank of Israel, policy discussions in the Bank resulted in the supervisor undertaking measures that in effect increased mortgage interest rates, without affecting other interest rates. These, together with tax and other measures undertaken by the government, and with government measures to increase the supply of land for building, appear to have begun to dampen the rate of increase of housing prices—though it will take some time yet to know whether that has happened.

In announcing the new measures, the Bank of Israel emphasized that they were macroprudential, and that our aim was to ensure financial stability. In speeches we noted that our measures operated on the demand for housing, and that it would be preferable to undertake measures that would increase the supply—as some of the measures undertaken by the government soon afterwards were designed to do.

In this case the central bank was in the fortunate position of having at its disposal policy measures that enabled it to deal directly with the potential source of financial instability. Further the banks are the main source of housing finance, so the Bank of Israel's measures were unlikely to be circumvented by the responses of other institutions not supervised by the central bank. Even so, we in the Bank of Israel knew there were better ways of dealing with the price rises, and that it was necessary to cooperate with the government to that end.

Even within a central bank that is also the banking supervisor, questions arise about how best to coordinate macroprudential policy. In the case of the Bank of Israel, which still operates under the single decision maker model (but will shortly cease to do so as a new central bank law goes into effect), it was relatively easy to coordinate, since it was possible to include the bank supervisor in the nonstatutory internal monetary policy advisory committee, and to use the enlarged committee as the advisory body on macroprudential decisions.

More generally, macroprudential supervision could require actions by two or more supervisory agencies, and there then arises the issue of how best to coordinate their actions. A simple model that would appeal to those who have not worked in bureaucracies would be to require the supervisors to cooperate in developing a strategy to deal with whatever problems arise. However, cooperation between equals in such an environment is difficult, which is to say inefficient, all the more so in a crisis.

It is thus necessary to establish mechanisms to ensure that decisions on macroprudential policy are made sufficiently rapidly and in a way that takes systemic interactions into account. The issue of the optimal structure of supervision was discussed well before the recent crisis, with the FSA in the United Kingdom being seen as the prototype of a unitary regulator outside the central bank, the twin peaks Dutch model as another prototype, and various models of coordination and noncoordination among multiple regulators providing additional potential models.

The issue of the optimal structure of supervision came into much sharper focus in the wake of the financial crisis, with the failure of the FSA to prevent a financial crisis in the United Kingdom having a critical impact on the debate. Major reforms have now been legislated in the United States, Europe, and the United Kingdom. In the Dodd–Frank bill, the responsibility for coordination is placed in a committee of regulators chaired by the secretary of the treasury. In the United Kingdom, the responsibility for virtually all financial supervision is being transferred to the Bank of England, and the responsibility will be placed with a Financial Policy Committee, chaired by the Governor. The structure and operation of the new Committee will draw on the experience of the Monetary Policy Committee, but there are likely to be important differences between the ways in which the committees will work. In other countries, including France and Australia, the coordination of financial supervision is undertaken in a committee chaired by the Governor.

At this stage it is clear that there will be many different institutional structures for coordinating systemic supervision, and that we will have to learn from experience which arrangements work and which don't—and that the results will very likely be country dependent.

It is also very likely that the central bank will play a central role in financial sector supervision, particularly in its macroprudential aspects, and that there will be transfers of responsibility to the central bank in many countries.

Lesson 4: Dealing with bubbles.

One casualty of the crisis has been the Fed doctrine that the central bank should not react to asset prices and situations that it regards as bubbles until the bubble bursts. This is known as "the mopping up approach" —which is to say, to wait for the bubble to burst and then to mop up the mess that results.

The origin of this approach may lie in the expansion and stock market boom of the 1990s. As is well known, Chairman Alan Greenspan