Preparing for the Next Financial Crisis: Policies, Tools and Models

Edited by Esa Jokivuolle, Bank of Finland and Radu Tunaru, University of Kent


Hardback: EUR 102.85.
Paperback: EUR 54.60.

Reviewed by Morten Balling, Emeritus Professor of Finances, University of Aarhus, SUERF Honorary Member

In September 2015, the Kent Business School at the University of Kent, UK in close cooperation with Bank of Finland organized a workshop. The invited specialists were asked to present contributions on how in their view regulators, policymakers, risk managers, academics and general practitioners can best prepare themselves for the next financial crisis. The organizers had brought together experts from a wide range of areas involving finance, policymakers, chief economists of investment banks, central bankers, academics and regulators from the United States, United Kingdom and the European Union. The resulting book is structured in two parts. The first part comprises more policy-oriented contributions while the second part contains some analytical studies from a "financial stability laboratory".

In chapter 1, Huw Pill (Goldman Sachs) and Lucrezia Reichlin (London Business School) look at two rationales for central bank balance sheet expansions. One set of measures aims at maintaining the normal channels of monetary policy transmission during crisis times. Another set aims at exploiting unconventional channels of monetary policy transmission beyond the conventional impact of lower interest rates. ECB’s asset purchase programs belong to the second category. The central bank increases the incentive for the private sector to invest in riskier assets. The flatter yield curve implied by quantitative easing threatens bank earnings from maturity transformation. Expansionary emergency measures should, however, not blunt the incentives for governments, regulators and the private sector to address the underlying structural problems in the financial system and the economy more broadly.

ECB asset purchases reduce the sovereign spread of peripheral over core EU countries. At the beginning, asset purchases yielded a one-off capital gain for banks owning bonds from peripheral countries. In the longer term, the impact of quantitative easing on bank earnings is viewed as negative. The ECB has induced a “search-for-yield” in riskier and longer duration assets. Several German institutions have remained reluctant to shift into riskier peripheral and corporate instruments despite the yield differential that quantitative easing has opened up. In developing an appropriate macrofinancial policy mix, EU-authorities must take into account that German institutional investors traditionally have a home-bias in their asset holdings.
In chapter 2, Seppo Honkapohja (Bank of Finland) also discusses ECB’s outright monetary transactions (OMT) program. He refers to Mario Draghi’s famous statement from 26. July 2012: “Within (its) mandate, the ECB is ready to do whatever it takes to preserve the euro.” The ECB’s President’s intention was to convince the market participants that the persistence of the OMT program could be trusted. It worked! The author also gives an overview of (other) reasons for and risk consequences of the growth in the financial sector in recent years. Global imbalances, short-comings in risk measurement and lack of loss-absorbing capital are mentioned. The author is sceptical regarding financial innovation. Market expectations of public support in the event of crisis may weaken risk-management by private financial institutions. The different financial reforms after the crises – including the endorsement of the Basel III framework, the Single Resolution Mechanism and the Banking Union - have all contributed to re-establishment of financial stability. The author concludes by underlining the crucial importance of still having high minimum capital requirements.

In chapter 3, Larry D. Wall (Federal Reserve Bank of Atlanta) reviews the changes in prudential regulation of banking organizations adopted by the United States in the wake of the financial crisis. Regarding capital adequacy, the US supervisors decided in 2010 to require all US banks with assets greater than USD 500 million to comply with Basel III. The US requirements will, however, go beyond Basel III in a variety of ways. Thus, the US has added a second formula for calculating the systemic importance of a GSIB, which incorporates the bank’s reliance on wholesale funding and increases the maximum potential surcharge to 4.5 of risk-weighted assets. The US applies also stricter rules for the supplemental capital ratio, and US bank holding companies with more than USD 50 billion in assets are required to conduct an annual stress test using 3 scenarios as a part of the Federal Reserve’s Comprehensive Capital Analysis and Review. US Authorities have strengthened accounting rules for special-purpose vehicles and loan loss accounting. The full American version of Basel’s liquidity coverage ratio is somewhat more stringent than that required by Basel III. The author concludes the chapter by referring to prudential measures regarding OTC derivatives, proprietary trading, approval of mergers based on antitrust considerations, and living wills for globally systemically important financial institutions (G-SIFIs). In chapter 4, Jouko Vilmunen (University of Turku) presents his views about Dynamic Stochastic General Equilibrium (DSGE) models. DSGE macroeconomics is a very broad field. In his view, the DSGE Approach is the mainstream modelling framework. Most critics of the DSGE Approach base their arguments on the failure of the DSGE-models to predict systemic events such as financial crises. Systemic risk is a poorly understood and measured concept. The DSGE Approach impose two types of methodological restrictions: Conceptual restrictions and quantitative methods and restrictions. Being able to analyze the interaction between financial market disruptions and the macroeconomy requires more than what most of the current DSGE-models can handle. Recent advances in DSGE-modelling have only scratched the surface on how to extend these models to improve our understanding of the macroeconomic consequences of upheavals in financial markets – and to improve the quality of policy advice. Several open research questions remain. The author confesses that he is a DSGE enthusiast (p.60). On the other hand, he sees a need for more “out-of-box thinking” and methodological diversity in macroeconomics to test new ideas and aim to model them using a full-fledged DSGE Approach only ultimately, once we have found the best way to formalize them in a macroeconomic context.

In chapter 5, Juha Tarkka (Bank of Finland) offers a historical perspective on regulatory ideas of how banks should invest. The reviewer finds it quite charming that an author after in 2015 having been asked how best to prepare for the next financial crisis, answers by recommending works by Adam Smith (1776) and David Ricardo (1817). In the decades following the Second World War, liquidity considerations were progressively displaced by credit risk management and focus on capital adequacy. However, during the latest crisis in 2008 severe disruptions in the functioning of money and capital markets were experienced. This forced managers and regulators to reconsider the liquidity of bank
portfolios. A quotation from Adam Smith (1776) reminds the reader of the “Real Bill Doctrine”, which historically has represented “good practice” in bank liquidity management. The doctrine was reflected in the wording of the act of Congress founding the Federal Reserve System in 1913. In their critique of the Fed’s lending policy after 1929, Milton Friedman and Anna Schwartz (1963) also referred to the doctrine. One of the most important changes in banking practice in the last half century was the growth of liability management as a doctrine of bank balance sheet management. Large banks started to rely increasingly on their ability to borrow from short-term money markets as a source of liquidity. The global financial crisis, which culminated in 2008, was an enormous shock to the contemporary liquidity management practices. Interbank money markets dried up. The regulatory response was introduction of the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR). Today, regulators and bankers agree that solvency does not guarantee liquidity that must be taken separately into consideration.

In chapter 6, Adrian Pop (University of Nantes) provides an overview of stress testing in banking. Historically, the Basel Committee on Banking Supervision in its market risk amendment to Basel I (1996) give the first references to stress testing. Several examples of stress scenarios are listed based on past episodes of market turbulence. Basel II that entered into force in 2007 formally asked bank managers to carry out regular stress tests under the Pillar 1 guidelines for internal model validation purposes. Basel II also referred to stress tests under the supervisory approach in Pillar 2. Since 2009, stress testing programs have been developed in the United States as part of the Supervisory Capital Assessment Program (SCAP). The Basel Committee published in 2009 a study on sound stress testing practices pointing out some deficiencies in existing programs. The author of chapter 6 focus on a key methodological issue: the design and calibration of initial shocks to be used in stress scenarios. He lists main advantages and drawbacks associated to historical and hypothetical shocks and scenarios. He presents also a rigorous and flexible methodological framework to select initial shocks to be used in stress scenarios based on statistical techniques for detection of outliers in time-series of risk factors.

Chapter 7 is written by three authors, who are all affiliated with the European Central Bank: Timotej Homar, Heinrich Kick and Carmelo Salleo. There are two different approaches to engineer EU-Wide stress test impacts on bank capital: The ECB/eba vulnerability measure and the SRISK approach. The ECB/eba stress test starts by specifying a macro scenario and possible shocks to the financial markets and derives key metrics for credit losses such as probability of default and loss given default for loans. The SRISK Approach infers the stress impact from the long-term covariance of bank stock returns with market returns, specifying the initial shock in terms of a decline in the stock market. The ECB/eba stress test was conducted on 130 Eurozone banks as a part of a Comprehensive Assessment in 2014 and utilized results from the asset quality review. SRISK is available only for publicly traded banks, limiting the regression sample to about 40 banks corresponding to 50 % of total banking assets covered by ECB’s Comprehensive Assessment. The authors compare the explanatory power of the regressions. The comparison shows that the ECB/eba approach, which relies on a much broader data foundation, shows more credible results. In a large table (p.130), the authors compare the stress impact of the ECB/eba adverse scenario with the SRISK stress impact on a sample of individual banks. It shows that for poorly capitalized banks, the SRISK stress impact is only a small fraction of the impact under the adverse stress scenario. In their conclusion, the authors write that the SRISK stress impact is rather disconnected from both basic risk factors related to credit losses and market-implied measures of bank vulnerability. The authors deliver a strong defense for the ECB/eba approach.

In chapter 8, Thomas Noe and Nir Vulkan (both affiliated with Said Business School, Oxford) study the role of personality in financial decisions and financial crises. The social psychology perspective on decision making is fundamentally different from the economic and financial economics perspective. Incorporation of personality into economics is therefore challenging.
Risk taking is associated with emotional stability. Empirical studies can document relations between personality variables and trading behavior. The authors find that personality has a strong effect in group decision contexts and an insignificant effect in individual decision contexts. This might reflect that in group contexts the participants care not only concerned about the monetary rewards but also about mutual status. The authors close the chapter with an optimistic note: The gain to society at large may be that economic models informed by personality will be better able to capture warning signs for looming financial crises and thus provide policymakers with the tools they require to avert them.

In chapter 9, Radu Tunaru (University of Kent) look at “model risk”. Large financial institutions have suffered serious losses due to use of inadequate internal pricing models. Portfolios of mortgage-backed securities, swaps and options, interest rate derivatives etc. have been mispriced and lead managers to wrong decisions. All models rely on simplifications. The author defines model risk as the inability of a proposed mathematical statistical structure to reflect homogeneously over time the object under analysis (p.160). In financial markets, the problem is that plenty of models work well during normal times but give very bad results in turbulent times. In order to illustrate how risk measures depend on the choice of models, the author calculates Value-at-risk (VaR) estimates obtained by four models. The production of “knowledge” in finance has grown enormously in recent years. A “mountain of research” is available. It raises the question of how many new ideas, results and techniques the staff working in a bank should take into consideration. There must be a limit somewhere. Decision makers should remember that the precision of models may be only illusory. Researchers should try to criticize models and techniques more.

This book is written by and aimed at academic specialists, practitioners and professionals in the field of finance and financial markets. The authors all have a deep knowledge of the very varying topics they write about. Readers can learn about or be reminded of the development of recent financial crises and the monetary policy and regulatory measures that have been applied in US and Europe to manage the crises. Structural conditions for and tests of resilience of banks are well explained in several chapters of the book. Most of the authors are, however, cautious when it comes to policy recommendations. Their common message to the readers seems to be, that our understanding of financial crises and the complexity of real world financial systems is not so good that we are allowed to draw strong policy conclusions. The agenda for future research is long.