Belgian Financial Forum

Book Review: Preparing for the Next Financial Crisis – Policies, Tools and Models / Edited by Esa Jokivuolle and Radu Tunaru

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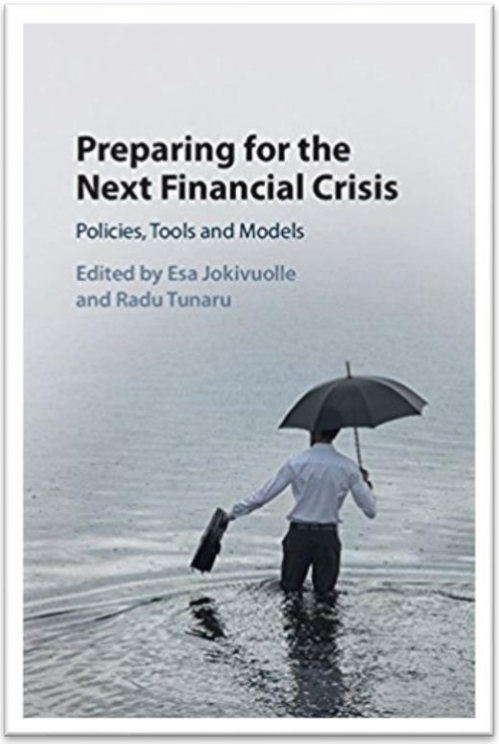

Review by Guy Verfaille

The cover of the book nicely captures the essence of the situation in which the financial sector finds itself in today. It shows a man in the universal bankers' outfit, knee-high wading in the sea, drawn towards deeper water where bigger fish can be caught. He is out in heavy weather, rain is pouring down on him and his umbrella barely offers any protection against the risks he is running. The future is uncertain. No horizon is visible as sea and sky have merged into one vast grey and opaque mass. A storm might be building up already. Out of sight to our canny practitioner, but he clearly senses the danger. He holds a black suitcase in his hand, some would call it a black box. It contains risk maps, compass, navigation models, reports of underwater currents and other useful material but unfortunately some of the territory laying ahead has remained uncharted. If only he knew where the pitfalls were such that he could better prepare himself for the next storm!

Such is the situation in which financial agents, risk managers, regulators and supervisors find themselves in today. The timing, nature and consequences of the next financial crisis are unpredictable, almost by definition. But it is crucial to better understand and identify dangerous developments that increase the likelihood of a major crisis and to take appropriate measures to reduce this likelihood early enough. This book does not provide final answers or solutions (are there any?), but it can help raising awareness and points into some useful directions.

The book bundles nine contributions from policy makers, academics, central bankers and regulators who participated in a workshop held in 2015 on how to better prepare for the next financial crisis. The following research agenda would in my opinion be appropriate for the analysis

1. Are at the micro level the correct pricing models being used? 2. Is at the macro level the financial sector well organised taking into account its impact on the whole economy and society? 3. Do we have the instruments to timely diagnose a crisis? 4. Are our instruments yielding a correct diagnosis? 5. In case there is an issue with all of the above, are the appropriate correcting measures prescribed, imposed and their application monitored? The contributions in the book cover all these points although not exactly in that sequence as will become clear below.

The final chapter offers a critique of the model development process in finance and argues that the lack of a thorough understanding of the models applied in the financial sector may well generate a significant crisis in the near future. Mispricing based on wrong or wrongly understood models has taken place in the past and has put financial institutions into trouble. The number of models used in practice has increased exponentially and their validation is insufficient to rule out model risk. A model outcome should never be taken at face value as underlying implicit assumptions may drive the result such that in a way you get out what you have put in in the beginning. The author illustrates his point by showing how different models for calculating the volatility of a particular asset or different VaR models for estimating market risk lead to different outcomes. We probably don't need more models, but better understood and tested models.

Chapters 2 and 3 offer a view on how the financial crisis of 2008 has induced reforms in Europe and the US respectively while chapter 5 gives a broad historical overview of the change in banking doctrines. The thinking on how banks are supposed to guarantee their health through their balance sheet management has evolved enormously. This overview starts with Adam Smith and concentrates on the US and British banking system. Initially, a good investment for a bank was considered to be a short term commercial bill since the guarantee of the underlying goods and the high degree of liquidity shielded the balance sheet from liquidity issues. After the Great Depression, the emphasis was put more on the general soundness of the borrowers than on the liquidity of the loan itself and longer-term assets were allowed. From the 1960's the focus of the balance sheet management shifted from the asset side towards the liabilities side as the short-term money markets blossomed as a source of liquidity. From the 1970's the trend in regulation shifted from conduct regulation (do's and don'ts) towards prudential regulation where the focus is less on the composition of bank's asset portfolios but more on capital adequacy. Liquidity needs were managed through the interbank money markets and securitisation strategies. The global financial crisis of 2008 has however demonstrated the deficit of this approach. Hence the regulatory response of giving liquidity a much greater role in the regulatory toolkit through the introduction of the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR). So, on point 2 of the research agenda one could state that each crisis indeed induces new reforms, but this has never prevented new crises to erupt.

To timely diagnose issues that could potentially evolve into a crisis, stress testing is used. From a macroprudential perspective, the main objectives of a stress testing exercise are to properly identify the risk drivers and vulnerabilities that are most likely to generate financial instability and assess the resilience of the banking system to various macroeconomic or financial shocks. Particularly, they allow supervisors to identify the relevant transmission channels of extreme, but still plausible, events affecting the stability of the banking system. Two chapters of the book deal with issues regarding stress testing. Chapter 6 focuses on a key methodological issue in this respect i.e. how to design and calibrate the initial shocks to be used in stress scenarios. After a broad overview of the literature highlighting pros and cons of different methodologies, the author advances a new approach to select shock scenarios. This is based on endogenously identified outliers in time-series of risk factors. This should remedy for the ad hoc approach commonly used in practice. The subsequent chapter on stress testing compares the ECB/EBA vulnerability measure with the SRISK measure of capital shortfall in a stress scenario. The two measures take a fundamentally different approach. While the ECB stress test starts by specifying a macro scenario and possible shocks to the financial markets and derives key metrics for credit losses, SRISK 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 SRISK and ECB/EBA stress test results largely diverge, especially for extremely well capitalised banks and also for banks that are poorly capitalised as the SRISK measure is not suitable for shocks that fully wipe out equity. The ECB/EBA stress test moreover provides more information that can help bank supervisors to step in at an early stage and thus prevent the worst of a crisis.

A timely diagnosis of upcoming issues is of course one thing, correctly diagnosing the impact of a potential crisis and of correcting measures taken on the financial sector and the economy as a whole is something different. This calls for a correct and comprehensive model. The workhorse modelling framework used by central banks are the Dynamic Stochastic General Equilibrium (DSGE) models. Although a self-declared enthusiast of DSGE modelling, the author of chapter 4 sees clear limits to the usefulness of this instrument to study financial crises and to provide policy advice, at least given the current state of the art. He argues for more out-of-box thinking and more diversity in macroeconomic modelling. The authors of chapter 8 point to another important gap in current modelling. The personality characteristics of the financial agents clearly have an impact on their behaviour and potentially also on their market strategies. This aspect is totally absent from current models and the authors explore ways in which this could be introduced in models of financial behaviour. The social context of the decision making is obviously a key element to be included. This line of research is still in its infancy but could be a promising route for capturing at an early stage warning signals of potentially damaging (group) behaviour.

Much has been said and written on the reaction of central banks to the 2008 crisis. It is of course crucial to take the right measures and to monitor their impact as mistakes could inadvertently plant the seeds of a future crisis. This is one of the concerns of the authors of the first chapter when analysing the impacts of non-standard monetary policy instruments on the future financial stability. The ECB's asset purchase program can indeed support financial stability in the short run but endanger it in the long run as banks try to compensate the impact of a flatter yieldcurve on their profitability by switching to assets with a longer duration and a higher risk profile.

The book is aimed at regulators, policymakers, risk managers, academics and professionals in finance. It covers a wide range of topics and is in general accessible without advanced mathematical baggage. Unfortunately, with a price above € 100 for the hardback edition, the book may be beyond reach for the individual researcher and the less endowed institutions. Which is a pity.

Are we prepared for the next financial crisis? My conclusion after reading the book is not that comforting. Although much work has been delivered and progress has been made in some respect, much still needs to be done to be confident about weathering the next storm on the financial markets. The suitcase of the banker on the cover clearly needs to be better equipped.