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REVIEW OF "THIS TIME IS DIFFERENT: EIGHT CENTURIES OF FINANCIAL FOLLY BY CARMEN M. REINHART AND KENNETH S. ROGOFF"

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Review of
"This Time is Different: Eight Centuries of Financial Folly by Carmen M. Reinhart and Kenneth S. Rogoff"

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Abstract: *This Time is Different: Eight Centuries of Financial Folly* is one of the best, if not the best, books ever written on the history of financial crises. It presents a comprehensive survey of financial crises utilizing an extraordinary database of macroeconomic and financial series. The massive data analysis constituting the core of the manuscript leads the authors to arrive at a simple but powerful conclusion: while times change, locations change, actors change, financial crises often exhibit more similarities than differences throughout history. This conclusion nicely relates to the title of the book as it proves wrong the claim *"this time is different"* that is often heard during boom times preceding crises. The book is a must read for anyone interested in economics and finance. This review presents a brief summary of the book and a discussion about its implications for future research.

* International Monetary Fund; Research Department; email: akose@imf.org. This review is written for the *Journal of International Economics*. I would like to thank Stijn Claessens, Marco Terrones, and Ezgi Ozturk for their helpful comments. The views expressed in this review are those of the author and do not necessarily represent those of the IMF or IMF policy.

I. Introduction

This Time is Different: Eight Centuries of Financial Folly is one of the best, if not the best, books ever written on the history of financial crises. This view is also shared by many others as evidenced by the superlatives in earlier reviews: awesome, superb, masterpiece, terrific… The book by Carmen M. Reinhart and Kenneth S. Rogoff (hereafter RR) is a must read for anyone interested in economics and finance.

The book presents a comprehensive survey of financial crises utilizing an extraordinary database of macroeconomic and financial series. The massive data analysis constituting the core of the manuscript leads RR to arrive at a simple but powerful conclusion: while times change, locations change, actors change, financial crises often exhibit more similarities than differences throughout history. This conclusion nicely relates to the title of the book as it proves wrong the claim *"this time is different"* that is often heard during boom times preceding crises.

It is rarely the case that a primarily academic book with lots of statistics earns many accolades from a wide readership base and quickly becomes a best-seller. What are the unique features making this book such a major success story? First, the timing of the publication cannot be better as the main messages of the book read like a condensed summary of everything that went wrong before the global financial crisis of 2007–09. Second, it is basically a meticulous analysis of a dataset of financial crises, but it masterfully blends economics, finance, history, politics, and human psychology. Moreover, while similar books of economic history often present detailed narratives of events surrounding crises episodes, this one searches for facts, enriches these facts with sufficient historical background, and finally presents them in a digestible format.

RR provide an excellent example of how to structure a book as they present their separate but interrelated analyses of different types of crises in a seamless fashion. The rest of this review broadly parallels with their structure. Section II presents a brief summary of the

book. Section III provides a short discussion about the implications of the book for future research. The last section concludes with a brief list of broader lessons of the book for our profession.

II. What Did We Learn?

Financial Crises: Definitions and Database

Part I of the book has three chapters focusing on the definitions of various crises analyzed, the syndrome of debt intolerance, and their database, respectively. The book focuses on a wide range of crises: sovereign debt crises (associated with domestic and external default), banking crises, inflation crises, and exchange rate crises. RR use qualitative and judgmental analysis to identify the dates of the debt and banking crises. As they acknowledge, this approach to crises dating has some obvious drawbacks: it could date crises too late (or too early) and gives no information about the end date of these episodes. They identify inflation and currency crises by assigning threshold values for the relevant variables. It would be useful to consider the sensitivity of their findings to changes in these thresholds. This would also improve the precision of statistical significance of many point estimates they report.

The first two chapters also provide detailed definitions of many key concepts frequently used in the book, including *serial default*, *the this-time-is-different-syndrome*, and *debt intolerance*. Their empirical analysis of debt intolerance and serial default suggests that, while safe debt thresholds hinge on country-specific factors, such as a country's record of default and inflation, when the external debt level of an emerging economy is above 30–35 percent of GNP, the likelihood of an external debt crisis rises substantially. More importantly, when an emerging market country becomes a serial defaulter of its external debt, this increases its debt intolerance and, in turn, makes it very difficult for the country to graduate to the club of advanced economies.

Their database, which is introduced in Chapter 3, contains a vast array of variables, including price indices, exchange rates, real GDP, exports and imports, government finances, national accounts, public debt, house prices, stock market indices, commodity prices, and global interest rates. It has 66 countries and covers more than 800 years.[1] One aspect of their database deserves special attention: they put together the first comprehensive series of public debt. This is a critical milestone for the literature on public debt since the previous databases only cover the major advanced countries and a handful of emerging markets over the past 30 years.

Many Faces of Crises

Parts II, III, and IV present a detailed account of sovereign external debt crises, domestic debt crises, banking crises, and crises associated with high inflation and currency volatility. RR document that sovereign debt crises have been around throughout history. While emerging markets have often been associated with default during the latter part of the 20th century, today's advanced economies have had their own share of default episodes in the past. The periods of a high number of defaults often coincide with a sharp rise in the proportion of countries going through banking crises. There also appear to be close associations between the global default cycle and cycles in commodity prices and foreign capital.

RR then present a fascinating panoramic view of domestic debt crises, which have received only limited attention in academia and policy circles. Domestic debt tends to account for a large share of the total debt stock and appears to be the key factor behind two puzzling observations. First, many emerging market countries default on their external debt at seemingly low levels of debt thresholds. Second, some countries prefer inflation rates much higher than the seignorage-maximizing rate. RR uncover that one of

[1] Almost one-fourth of the book is allocated to data appendices providing detailed tables about the sources and definitions of variables and crises.

the distinguishing features of such countries in both cases is that they have a sizeable stock of public debt. Their analysis provides not only new stylized facts, but also indicates new directions for theoretical work on domestic debt. For example, although default on domestic debt tends to be less frequent than that on external debt, it still takes place quite often suggesting that the usual assumption about the trivial role of domestic debt in earlier theoretical models needs to be revisited.

They document that the incidence of banking crises is highly similar in the advanced and emerging market countries. It takes a shorter time to resolve a banking crisis than a debt crisis as the adverse impact of the latter is much larger on trade and investment. Banking crises are often associated with substantial declines in tax revenues and significant increases in government spending. These results suggest that the indirect fiscal costs of banking crises are much larger than the costs of bank bailouts typically reported in previous studies.[2]

Their tour de force presentation of inflation and currency crises shows that these episodes also take place at a surprisingly high frequency throughout history. Inflation crises are often followed by episodes of currency crashes probably because of the abuse of governments' monopoly on currency issuance. Although they examine the real effects of debt and banking crises, they skip a discussion of the real consequences of crises associated with high inflation and currency crashes.

Insights about the Recent Global Financial Crisis

One of the main attractions of the book is of course its relevance to the recent global financial crisis, which is covered in Part V. The ideas constituting the first two chapters of this part were extremely influential during the height of the crisis (see Reinhart and

[2] RR extend the work presented in this part of the book and provide a deeper statistical analysis of the linkages between debt and banking crises in Reinhart and Rogoff (2011).

Rogoff, 2008 and 2009). In late 2008, they were the first ones to document the remarkable parallels between the evolution of the U.S. subprime crisis and that of previous banking crises. For example, a deterioration of current account deficits and a sharp increase in housing and equity prices took place ahead of earlier banking crises, which are similar to the dynamics prior to the latest U.S. episode. Moreover, these types of episodes are often accompanied with significant fiscal costs as the value of government debt tends to rise sharply. RR also examine the global implications of the latest episode in light of the lessons from previous crises.

III. What is Next?

RR acknowledge that their book *"can only scratch the surface of ... data set"* and conclude with a list of future areas of research in Part VI. Given that the book is a treasure chest of ideas and data, the typical reader will of course come away with a number of additional questions. Below is a list of their main suggestions and other potential research topics the book raises.

Better understanding of debt dynamics and house prices

RR make a passionate case for additional efforts to collect cross-country data on domestic debt and house prices. The first response to this call provides a rich database covering gross government debt-to-GDP ratios for 174 countries over a long period of time (see Abbas et al., 2010). The BIS has an initiative underway to collect cross-country house price series and recently made them publicly available on its web page. It is necessary to expand these efforts to get a richer understanding of domestic debt dynamics and fluctuations in housing markets.

Early Warning Models (EWM)

RR emphasize the importance of research on EWM in order to improve the prediction of the onset of crises. This issue has also been extensively discussed in policy forums and received substantial attention from international organizations (see IMF, 2010). A number of recent papers also analyze the ability of various EWM in predicting the latest crisis (see Rose and Spiegel, 2010; Frankel and Saravelos, 2010). These studies report that there is a lot of scope to improve these models as there is still an intensive debate about their potential to forecast crises.

This-time-is-different-syndrome

RR's main conclusion has also led to an active research program providing a nuanced perspective about the differences and similarities between the latest episode and earlier ones. Although the latest crisis featured some close similarities to the earlier ones as RR document, it also featured some significant differences, such as the explosion of complex financial instruments in highly integrated global financial markets (see Claessens, Kose, and Terrones, 2010). In contrast to previous crises, balance-sheet opaqueness and reliance on wholesale funding also increased systemic fragility during the latest episode (Gorton and Metrick, 2009; Cecchetti, Kohler, and Upper, 2009). In addition, the latest crisis is different from the earlier episodes in terms of the scale and scope of policy interventions (Laeven and Valencia, 2010).

Dating of crisis

An important lesson from the book is of course our need for a deeper understanding of crises and the policy issues surrounding these episodes. Taking their cues from the book, recent studies provide new insights into the dating of crises and pitfalls of different approaches. After a detailed analysis of events surrounding financial market difficulties over the past 60 years, Lopez-Salido and Nelson (2010) arrive at a substantially different

chronology of U.S. financial crises than RR do. RR identify only one crisis episode (1984–91) before the latest crisis whereas Lopez-Salido and Nelson (2010) document three distinct crises: 1973–75; 1982–84; and 1988–91. Based on their new dating, they argue RR's claim that recoveries are systematically slower in the aftermath of financial crises does not hold for the postwar United States.[3] These differing findings across studies point to the need for continued work on developing robust dating methodologies that are less subjective.

Financial cycles and stress

It would be useful to go beyond the outright financial crises and consider periods of financial disruptions, which are not necessarily crises, yet do create financial stress with possible adverse macroeconomic outcomes. Recent research provides various complimentary approaches to identify such episodes (Claessens, Kose, and Terrones, 2011a, 2011b). In parallel with the business cycle literature, these approaches use a well-established and reproducible methodology for dating cycles in financial markets, including the episodes of disruptions. Moreover, with these approaches, it is possible to consider disruptions in different financial markets (credit, housing, equity, and currency markets) whereas a financial crisis dummy often lumps them together. Recent attempts also examine periods of financial turbulence employing an index of financial stress in banking, securities, and foreign exchange markets (Cardarelli, Elekdag, and Lall, 2009).

Macro-financial linkages

RR conjecture that the latest global financial crisis will have a significant effect on the research program analyzing the linkages between the real economy and financial markets, i.e., macro-financial linkages. The book presents a rich description of the evolution of

[3] A number of recent papers put together new data series of financial crises (see Laeven and Valencia, 2008; Cecchetti, Kohler, and Upper, 2009; Schularick and Taylor, 2009).

these linkages during crises, but it naturally falls short of providing an analysis of structural causes of these episodes. There is already a massive research program underway investigating the macro-financial linkages in order to get a better understanding of the fundamental sources of financial turmoil. These studies focus on market imperfections that give rise to the well-known financial accelerator mechanism, but also consider the operations of financial intermediaries and markets, i.e., the supply side of finance (see Brunnermeier, 2009; Woodford, 2010).

Global spillovers

As RR observe, national financial crises often generate global repercussions. The latest episode is a case in point as its global reach and depth are without precedent in the post–World War II period. This emphasizes the importance of having a better grasp of transmission mechanisms through which such episodes spill over to other countries. In addition to the standard trade and financial linkages, recent research also considers the roles played by new financial channels, such as commercial paper conduits and global banks, and new trade channels, such as vertical trade networks, in the transmission of the latest episode (see Acharya and Schnabl, 2010; Cetorelli and Goldberg, 2011; and Levchenko, Lewis, and Tesar, 2010).

IV. What Broader Lessons?

The latest crisis has led to an intensive discussion among macroeconomists about the research priorities of our profession. RR's book provides important insights into these discussions as it presents a brilliant illustration of how to produce relevant, timely, and influential research. First, it is important to have a deeper understanding of the data. This requires going beyond the short history and thinking about the alternative sources in order to gather the richest possible data series. The historical episodes can be an excellent input into empirical and quantitative analyses, if one can bring enough observations to the table to test certain hypotheses.

Second, given the unprecedented impact of the book, it is useful to acknowledge the immense value of rich empirical work. There are significant benefits associated from the study of historical episodes using empirical approaches as the book clearly shows. In this context, it is important to go beyond the standard moment matching exercises and think about how the dynamics of such episodes compare with the broader patterns of cycles. This type of empirical work should be married with rigorous theoretical and quantitative models in order to arrive at informed policy decisions. However, it is also high time to evaluate the benefits of esoteric theoretical attempts before having a good sense of the empirical evidence (see Caballero, 2010).

Finally, humility goes a long way in our profession like it does in many others. Before congratulating each other for the ability of our sophisticated models in matching certain moments and for our policies achieving durable growth, well-functioning financial markets, and inflation stability, it is useful to be cautious and remember the title of this book: whenever we say *"this time is different"* because we know better, we eventually realize that there is much more we need to learn.

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