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Banking crises: An equal opportunity menace

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ABSTRACT

The historical frequency of banking crises is similar in advanced and developing countries, with quantitative parallels in both the run-ups and the aftermath. We establish these regularities using a dataset spanning from the early 1800s to the present. Banking crises weaken fiscal positions, with government revenues invariably contracting. Three years after a crisis central government debt increases by about 86%. The fiscal burden of banking crisis extends beyond the cost of the bailouts. We find that systemic banking crises are typically preceded by asset price bubbles, large capital inflows and credit booms, in rich and poor countries alike.

1. Introduction

Until very recently, the study of banking crises has typically focused either on earlier historical experiences in Reinhart and Rogoff (2008d)advanced countries, mainly the banking panics before World War II, or else has focused on modern-day emerging market experiences.[2] This dichotomy is perhaps shaped by the belief that for advanced economies, destabilizing, systemic, multi-country financial crises were a relic of the past.[3] Of course, the recent global financial crisis emanating out of the United States and Europe has dashed this misconception, albeit at great social cost.

As this paper will demonstrate, banking crises have long been an equal opportunity menace. We develop this finding using a core sample of 66 countries (plus a broader extended sample for some exercises).[4] We examine banking crises ranging from Denmark's financial panic during the Napoleonic War to the current "first global financial crisis of the 21st century." The incidence of banking crises proves to be remarkably similar in the high- and middle-to-low-income countries. Indeed, the tally of crises is particularly high for the world's financial centers: the United Kingdom, the United States, and France. Perhaps more surprising still are the qualitative and quantitative parallels across disparate income groups. These parallels arise despite the relatively pristine modern sovereign default records of the rich countries.

Three features of our expansive dataset are of particular note. First, our data on global banking crises go back to 1800, extending the careful study of Bordo et al. (2001) that covers back to 1880. Second, to our knowledge, we are the first to examine the patterns of housing prices around major banking crises in emerging markets, including Asia, Europe and Latin America. Our emerging market data set facilitates comparisons, across both duration and magnitude, with the better-documented housing price cycles in the advanced economies, which have long been known to play a central role in financial crises.[5] We find that real estate price cycles around banking crises are similar in duration and amplitude across the two groups of countries. This result is surprising given that almost all other macroeconomic and financial time series (income,

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1 This is a February 2009 version of Reinhart and Rogoff (2008d).

2 See Calomiris and Gorton (1991) and Gorton (1988) on pre-WWII banking panics; Sundararajan and Baliño (1991) for several emerging market case studies; Jácome (2008) on banking crises in Latin America.

3 Studies that encompass episodes in both advanced and emerging economies include Bordo et al. (2001), Demirgüç-Kunt and Detragiache (1998) and Kaminsky and Reinhart (1999).

4 The core sample spans 66 advanced and emerging market economies in Africa, Asia, Europe, Latin and North America and Oceania; see Appendix Table A1. The extended sample includes all countries, see Table A3.

5 See Reinhart and Rogoff (2008b) for an analysis of all post-WWII banking crises in advanced economies.

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consumption, government spending, interest rates, etc.) exhibit higher volatility in emerging markets.[6]

Third, our analysis employs the comprehensive historical data on central government tax revenues and debt compiled in Reinhart and Rogoff (2008a,c). These new data afford a new perspective on the tax and debt consequences of the banking crises. (Previously, the kind of historical data on debt necessary to analyze the aftermath of banking crises across countries was virtually non-existent for years prior to 1990.[7])

We find that banking crises almost invariably lead to sharp declines in tax revenues as well significant increases in government spending (a share of which is presumably dissipative). On average, government debt rises by 86% during the 3 years following a banking crisis. These indirect fiscal consequences are thus an order of magnitude larger than the usual bank bailout costs that are the centerpiece of most previous studies. That fact that the magnitudes are comparable in advanced and emerging market economies is also quite remarkable. Obviously, both the bailout costs and the fiscal costs depend on a host of political and economic factors, including especially the policy response as well as the severity of the real shock which, typically, triggers the crisis.[8]

The paper proceeds as follows. Section 2 provides an overview of the history of banking crises, with particular emphasis on the post-1900 experience. We also document the incidence and frequency of banking crises by country and by region. We discuss the links between banking crises, financial liberalization, the degree of capital mobility, and sovereign debt crises and discuss international financial contagion.

Section 3 examines some of the common features in the run-up to banking crises across countries and regions over time. The focus is on the systematic links between cycles in international capital flows, credit, and asset prices—specifically, home and equity prices. The next section examines some of the common features of the aftermath of banking crises. We document the toll that the crisis takes on output and government revenues, as well as the typically profound effect on the evolution of government debt during the years following the crisis. The concluding section takes up the question of "graduation." Specifically, to what extent do countries ever "graduate" from (stop experiencing) serial major financial crises as they seem to graduate from serial sovereign debt crises?

2. Banking crises in historical perspective

We begin this section by providing an overview of the evolution of banking crises through history. To do so, it is necessary to first identify and date banking crisis episodes. Our approach, which follows the standard methodology in the literature (e.g., Kaminsky and Reinhart, 1999; Bordo et al., 2001, and Caprio and Klingebiel, 2005, among others), is documented in detail in the Appendix, along with our principal bibliographical sources.[9]

One dimension that distinguishes this study from previous efforts is that our dating of crises extends far before the much-studied modern post-World War II era. Specifically, we start in 1800. Our work was greatly simplified back to 1880 by the careful study of Bordo et al. (2001), but for the earlier period we had to resort to old and often obscure works. The earliest advanced-economy banking crisis in our sample is France 1802; early crises in emerging markets befell India, 1863, China (several episodes during the 1860s–1870s), and Peru in 1873.[10]

It may come as a surprise to the reader that previous attempts to document banking crises for the pre-World War II period are so limited. The problem is that because domestic banking crises do not typically impinge on large powerful creditors in the international financial centers, they do not leave the same imprint on the global press as, say, sovereign external defaults. For this reason, we acknowledge that despite our best efforts, our chronology may be missing a number of banking crises in emerging markets prior to World War II.[11] Fortunately, banking crisis episodes in the developed world tend to be better documented even throughout the 19th century.

2.1. The big picture: banking and sovereign debt crises

Fig. 1 plots the incidence of banking crises among the countries in our sample (which account for about 90% of world GDP). Specifically, the figure shows the percentage of all independent countries during 1900–2008 having a banking crisis in any given year. The tally weighs countries by their share of global GDP. This weighted aggregate is meant to provide a measure of the "global" impact of individual banking crises. As such, a crisis in the United States or Germany is accorded a much higher weight than a crisis in Angola or Honduras, all of which are part of our 66-country sample.

It is no surprise that the worldwide Great Depression of the 1930s posts the highest readings of banking crises during this 109-year stretch. Earlier, less widespread, "waves" of global financial stress are evident during and around the Panic of 1907 that originated in New York, as well as the crises accompanying the outbreak of the First World War. Another striking feature of Fig. 1 is the relative calm during the late 1940s to the early 1970s. This calm may be partly explained by booming world growth, but perhaps more so by the repression of the domestic financial markets (in varying degrees) and the heavy-handed use of capital controls that followed for many years after World War II. (We are not necessarily implying that such repression and controls are the right approach to dealing with the risk of financial crises.)

Since the early 1970s, financial and international capital account liberalization took root worldwide. So, too, have banking crises. After a long hiatus, the share of countries having banking difficulties first began to expand in the 1970s. The break-up of the Bretton Woods system of fixed exchange rates together with the sharp spike in oil prices catalyzed a prolonged global recession, resulting in financial sector difficulties in a number of advanced economies. In the early 1980s, a collapse in global commodity prices combined with high and volatile interest rates in the United States contributed to a spate of banking and sovereign debt crises in emerging economies, most famously in Latin America and then Africa.

The United States had its savings and loan crisis beginning in 1984. During the late 1980s and early 1990s, the Nordic countries experienced some of the worst banking crises the wealthy economies had known in post-WWII following a surge in capital inflows and real estate prices. In 1992, Japan's asset price bubble burst and ushered in a decade-long banking crisis. Around the same time, with the collapse of the Soviet bloc, several formerly communist countries in Eastern Europe soon joined the ranks of nations facing banking sector problems. As the second half of the 1990s

[6] See, for instance, Agénor et al. (2000).

[7] Jeanne and Guscina (2006) provide domestic debt for 19 countries for 1980–2005. The Reinhart and Rogoff (2008c) time series for 66 countries spans 1913–2007, and much earlier for a large subset of these countries.

[8] Reinhart and Rogoff 2008a,c show that output growth typically decelerates in advance of a crisis.

[9] See also Reinhart and Rogoff (2008a).

[10] The work of Andrea McElderry (1976) and Cheng (2003) was invaluable in developing the timeline for China. The Peruvian case comes from a little-known 1957 book published in Lima by Carlos Camprubí Alcázar.

[11] The challenges encountered in dating banking crises are along similar lines as those faced when trying to construct a chronology of sovereign default on domestic debt, see Reinhart and Rogoff (2008c).