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The banking bailout of the subprime crisis: Was the bang worth the buck?

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We employ event study methodology to examine government policies aimed at rescuing banks from the effects of the 2008–2009 financial crisis. Announcements directed at the banking system as a whole were associated with positive cumulative abnormal returns, whereas announcements directed at specific banks were associated with negative cumulative abnormal returns. The effects of foreign general announcements spilled over across different areas and were perceived by home-country banks as subsidies to foreign banks. Specific announcements produced effects consistent with other banks being crowded out for government resources. Multiple specific announcements exacerbated banks' moral hazard. Findings suggest that individual institutions were reluctant to seek public assistance.

1. Introduction

The financial earthquake of the subprime crisis, starting in 2007 and further developing in the subsequent two years, generated a tsunami of public interventions into banking systems. In this paper, we examine government policies aimed at rescuing banks from the effects of this crisis. To delimit the scope of the analysis, we concentrate on the fiscal side of interventions and ignore, by design, the monetary policy reaction to the crisis (in essence, we ignore inflation as a possible exit strategy).

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Governments intervened massively and repeatedly to support banks during the crisis. We examine the effectiveness of these interventions by measuring the markets' reaction to intervention announcements. To do so, we create an original dataset of public interventions that distinguishes announcements directed at the banking system as a whole (general announcements) from those directed at specific banks (specific announcements) (Fratianni and Marchionne, 2010a). With this dataset, we apply event-study methodology to estimate the value of government interventions to support banks and their shareholders. The maintained hypothesis is that the announcement of a rescue plan is credible if it affects rates of return of the targeted banks. We test for these effects by computing cumulative abnormal returns (CAR) of the participating banks around a window that includes announcement dates. We perform four separate tests on our sample of large banks. One test estimates, with panel data, the overall impact on banks' equity value of the two types of government rescue announcements; a second estimates cross-area spillover effects of general announcements; a third estimates cross-bank spillover effects of specific announcements using US banks; and a fourth considers the impact of multiple specific announcements.

Our findings show that general and specific announcements are priced by the markets as CAR over the selected window periods. General announcements tend to be associated with positive CAR and specific announcements with negative ones. Foreign general announcements exert cross-area spillovers, but are perceived by home-country banks as boosting the competitive advantage of foreign banks. Specific announcements exert spillovers on other banks. Our results are also sensitive to the information environment. Specific announcements tend to exert a positive impact on rates of return before the crisis erupts, when announcements are few and markets have relative confidence in the "normal" information flow. The opposite takes place when the crisis explodes, announcements are the order of the day and markets mistrust the information flow. These results appear consistent with the observed reluctance of individual institutions to seek public assistance. Bank size is priced positively by the markets, but there is no clear evidence of too-big-to-fail policy. Specific announcements exacerbate moral hazard of subsided banks and make the banking system more fragile to negative shocks and less sensitive to further injections of public funds.

The paper is organized as follows. Section 2 discusses the data and shows that Lehman Brothers' failure was a critical event. Section 3 reviews event-study methodology with a focus on the event-parameter application within a regression framework. Section 4 describes our testable models, presents the long list of government bank bailout announcements, and discusses our dataset. Section 5 employs event-study methodology to estimate the impact of government interventions on banks and their shareholders. Conclusions are drawn in the last section.

2. Data

Stock market data show the extent of the financial maelstrom. We collect equity prices for a sample of banks from three areas of the world: the United States, Western Europe, and the Pacific region. The actual list, shown in Table A1 of the Appendix A, includes 45 US banks, 51 banks from 15 different Western European countries, and 26 banks from three different Pacific region countries; more on our data below.[1] The listed banks tend to be large and thus capable of engaging in complex structured finance. Table 1 provides average rates of return, both in local currency and in US dollars, at the country level for three periods: the first phase of the crisis from the starting pre-crisis date of July 31, 2007 to September 15, 2008, an expanded phase of the crisis from the same starting date to March 9, 2009, and the complete sample period from the same starting date to our last observation of December 31, 2009. September 15, 2008 is a significant date because it is the day when Lehman Brothers filed for Chapter 11 bankruptcy protection, an event widely believed to be a watershed in the crisis; March 9, 2009 was selected because is the date when the market finally bottomed out.

Over the extended period from July 31, 2007 to March 9, 2009, the crisis destroyed \$3.34 trillion of market values in our bank sample. European banks were hit the hardest with a 79.94% decline, the

[1] Only the largest listed banks are included. For Ireland, Norway, and Switzerland, we have one bank each. See Fratianni and Marchionne (2010b).