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The systemic risk of European banks during the financial and sovereign debt crises [☆]

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ABSTRACT

European banks became a source of risk to global financial markets during the financial crisis and attention to the European banking sector increased during the sovereign debt crisis. To measure the systemic risk of European banks, we calculate a distress insurance premium (DIP), which integrates the characteristics of bank size, probability of default, and correlation. Based on this measure, the systemic risk of European banks reached its height in late 2011 around €500 billion. We find that this was largely due to sovereign default risk. The DIP methodology is also used to measure the systemic contribution of individual banks. This approach identifies the large systemically important European banks, but Italian and Spanish banks as a group notably increased in systemic importance during the sample period. Bank-specific fundamentals like capital-asset ratios predict the one-year-ahead systemic risk contributions.

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1. Introduction

In late 2011, the European financial system appeared to be on the brink of a major crisis. Investors were faced with the possibility of a Greek default while European leaders wrestled with a fiscal situation that had no clear precedent. As contagion fears spread to Italy and Spain, market participants began to consider the worst-case scenarios. One of the greatest concerns was the systemic risk of the European banking system. If a sovereign default were to lead to a failure of a systemically-important European bank, the resulting financial instability could be disastrous. This type of scenario highlights the need for identifying and understanding the contribution of banks to systemic risk in the financial system.

In this paper, we provide a measure of systemic risk for a broad range of European banks and examine contributing factors. Our systemic risk measure is a distress insurance premium (DIP), which integrates the characteristics of bank size, probability of failure, and correlation. These components capture the main characteristics of systemic risk (Huang et al., 2009, 2012). Based