



# Macroeconomic effects of corporate default crisis: A long-term perspective<sup>☆</sup>



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## ABSTRACT

Using an extensive data set on corporate bond defaults in the US from 1866 to 2010, we study the macroeconomic effects of bond market crises and contrast them with those resulting from banking crises. During the past 150 years, the US has experienced many severe corporate default crises in which 20–50% of all corporate bonds defaulted. Although the total par amount of corporate bonds has at times rivaled the amount of bank loans outstanding, we find that corporate default crises have far fewer real effects than do banking crises. These results provide empirical support for current theories that emphasize the unique role that banks and the credit and collateral channels play in amplifying macroeconomic shocks.

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## 1. Introduction

In this paper, we use an extensive data set compiled by Giesecke, Longstaff, Schaefer, and Strebulaev (2011) on

corporate bond defaults to study the macroeconomic effects of major crises in the corporate bond market. To provide additional perspective, we contrast these effects with those resulting from banking crises.

Our motivation for doing this is threefold. First, while banking crises in the US have been the focus of many studies [important examples include Reinhart and Rogoff, 2009; Schularick and Taylor, 2012], relatively little attention has been given to corporate bond market default crises (corporate default crises, for short) in the literature. The corporate bond market, however, has been a major source of credit in the US during the past 150 years, and the amount of outstanding corporate bonds has occasionally rivaled, or even exceeded, the amount of bank loans outstanding. We focus on the US because, until the latter part of the 20th century, it has been the only country where privately owned corporations issued public debt on a large scale. By studying this important but

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underresearched market, we hope to broaden understanding of the role that credit plays in the macroeconomy.

Second, the corporate debt markets have experienced many major shocks during the past 150 years. A number of these shocks were much more severe than even those during the Great Depression. For example, more than 50% of all outstanding bonds in the US defaulted during the 1871–1879 period as many railroads found themselves overextended in the wake of their rapid expansion during the post-Civil War technology boom.<sup>1</sup> Thus, corporate bond markets have suffered crises that could be as severe as any experienced by the banking sector. Furthermore, [Friedman and Schwartz \(1963\)](#) argue that large declines in the market value of banks' portfolios of corporate bonds were a major contributing factor to the widespread bank failures of the Great Depression.<sup>2</sup> Because of this, the historical experience of the corporate bond market in the US could provide a new perspective on financial crises.

Third, by contrasting the effects of corporate default and banking crises on the economy, we hope to be able to shed new light on the mechanisms by which financial crises propagate economic fluctuations. This is because the two primary channels by which current theory suggests that banking crises accelerate economic downturns are largely absent in corporate bond market crises. Thus, studying the macroeconomic effects of corporate default crises essentially provides an additional test of the role of these two channels.

More specifically, current theoretical models of banking crises emphasize the central role of the credit and collateral channels. For example, [Bernanke \(1983\)](#) argues that a major reason for the persistence of the Great Depression was the collapse of the credit channel after a large fraction of US banks failed. This collapse hit small and medium-size firms particularly hard because they did not have the same access to alternative forms of credit that a larger firm might [see the discussion by [Reinhart and Rogoff, 2009](#) in their comprehensive review of banking crises]. This theme also appears in [Bernanke, Gertler, and Gilchrist \(1996\)](#), who explicitly incorporate heterogeneity in firms' abilities to borrow in the capital markets into their model of the financial accelerator.<sup>3</sup> Another important literature focuses on the role of the collateral channel in triggering economic downturns. For example, [Kiyotaki and Moore \(1997\)](#) show how an initial decline in asset values can reduce the ability of firms to borrow because their collateral is impaired, which, in turn, can lead to further rounds of declines in asset values. Similarly, [Bernanke and Gertler \(1995\)](#) study a model in which shocks affect the value of firms' collateral, forcing them to turn to more expensive external credit channels.

In contrast, neither the credit nor collateral channels are likely to play much of a role in a corporate bond

market crisis. In particular, only larger firms would be initially affected by a corporate default crisis because they are the only firms that participate in this capital market. Among the many reasons that this is the case are the fixed costs of issuance as well as the disclosure costs that make only issues of large size economically viable. These larger firms, however, might be able to find alternative sources of credit in a crisis, thereby cushioning the output effects of the initial shock. Furthermore, the vast majority of corporate bonds issued in the US are in the form of unsecured debentures instead of mortgage or equipment-secured bonds.<sup>4</sup> Thus, large firms that issue bonds in the capital markets are able to borrow against their future income streams, instead of being limited to their current collateral. Because collateral plays a much smaller role in the corporate bond market, the ability of the collateral channel to function as an accelerator in a corporate default crisis is limited, thereby dampening the potential effects on the macroeconomy.

For these reasons, an examination of the macroeconomic effects of a corporate default crisis could provide useful insights into the importance of the credit and collateral channels. For example, finding that the real effects of a corporate default crisis were just as severe as those of a banking crisis would argue against these two channels playing a central role in accelerating economic downturns. However, finding that corporate default crises have only relatively minor macroeconomic effects would be consistent with the credit and collateral channels being prime suspects for explaining why banking crises are particularly damaging.

We begin by showing that corporate default and banking crises are separate and distinct phenomena. In particular, very little correlation exists between the timing of corporate default and banking crises.

Next, we confirm that significant differences are evident in the roles that the credit and collateral channels play in the two types of crises. Not surprisingly, we find that bank lending growth declines after a banking crisis. Interestingly, however, we find that bank lending increases significantly shortly after a corporate default crisis. In contrast, the opposite is not true after a banking crisis. Thus, these results strongly suggest that large corporate bond issuers are able to substitute sources of credit after a corporate default crisis, thereby mitigating the impact of the credit channel mechanism. This finding is consistent with [Ivashina and Scharfstein \(2010\)](#) who find that large corporate borrowers increased their bank borrowing significantly in the wake of the 2008 Lehman Brothers crisis in the capital markets by drawing on their existing banking lines of credit. These results are also consistent with [Gertler and Gilchrist \(1994\)](#), [Chari, Christiano, and Kehoe \(2007\)](#), and many others who argue that large firms have greater access to capital during a crisis than do small firms. In an important and closely related paper, [Schularick and Taylor \(2012\)](#) demonstrate that bank loan growth has

<sup>1</sup> In contrast, the highest corporate default rate during the Great Depression was 6.73% in 1933. The highest business failure and mortgage foreclosure rates during the Great Depression were 1.53% in 1932, and 2.39% in 1933, respectively [rates based on series V27 and N301 of US Department of Commerce, Bureau of the Census, 1975].

<sup>2</sup> For a discussion of the evidence on this issue, see [Calomiris and Mason \(2003b\)](#).

<sup>3</sup> Also see [Calomiris \(1993\)](#), who discusses the evidence showing that larger manufacturing firms had greater access to credit during the Great Depression than smaller firms.

<sup>4</sup> This is also true during the earlier part of the study period. For example, [Hickman \(1953\)](#) estimates that the fraction of corporate bonds issued in the US between 1990 and 1945 that were secured by claims against assets such as equipment was on the order of 2–3%.

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