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# The real effects of banking shocks: Evidence from OECD countries

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ABSTRACT

This paper studies the impact of shocks to banks' balance sheets on real economic activity. The sample consists of 18 OECD countries observed annually from 1979 to 2003. Using the Rajan–Zingales method, I find that industries that depend more heavily on external finance respond more strongly to bank income shocks, suggesting that banking shocks propagate to the real economy. The bank effect lasts for 2 years, but it is economically significant mainly for large shocks, which are relatively rare. Similar findings are obtained by comparing durable versus non-durable goods and by estimating aggregate bank effects.

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## 1. Introduction

The global recession that followed the burst of the subprime crisis has restored interest in the impact of banks on the real economy (Gertler and Karadi, 2011; Gertler and Kiyotaki, 2009). This subject has been developed in a large body of literature on banks as financial accelerators (Bernanke and Blinder, 1988; Bernanke and Gertler, 1987, 1989; Holmstrom and Tirole, 1997). The literature has argued that the supply of bank loans depends on the financial state of the banking sector. Hence, shocks that hit the banking sector can affect the real economy through their impact on the supply of bank loans.

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A long research on the bank-lending channel has confirmed that shocks to banks' balance sheets affect the supply of bank loans.[1] The findings in these studies support the bank-lending channel hypothesis. However, they cannot confirm that the channel is an important source of business fluctuations. For this purpose, it is essential to estimate the effects of banking shocks on real economic variables, which is the objective of the present paper. In this regard, the existing evidence is still scarce, as was recently noted by the Basel Committee on Banking Supervision. The Basel Committee conducted an extensive review of the literature and found that "a key gap in our knowledge is on the influence of lending on real economic activity. Specifically, while there is a sizable body of research on the question of how bank balance sheet positions influence lending, there is significantly less research on the question of how lending affects *real* activity, which moreover is a topic of some debate" (Basel Committee on Banking Supervision, 2011b, emphasis added).

Furthermore, a review of the papers that document real effects of banking shocks (provided below) shows that most of this literature is about banking crises. There is much less evidence on the real effects that prevail outside crisis episodes. Hence, it is still not clear whether shocks to banks' balance sheets can generate significant business fluctuations in normal times, namely, outside crisis episodes. This stands in sharp contrast to the literature on non-financial firms. There is a wealth of evidence that the balance sheet positions of non-financial firms significantly affect the real economy (see the literature review in Bernanke et al., 1996). Thus, the empirical literature has managed to confirm the existence of a robust balance sheet channel that works through the non-financial sector. However, the importance of a separate channel working through banks' balance sheets is still debatable, as most existing evidence is confined to banking crises.

Studies on crisis effects cannot be easily generalized to non-crisis periods since banking crises are unique in many respects. In general, the bank effects during crises are stronger than in normal times, because the shocks that trigger the crises are particularly large. Moreover, banking crises influence the economy through various channels that do not exist in non-crisis periods. For example, crises may involve bank runs, bank failures, financial contagion, bailout programs and so on. These events are unique to crisis episodes and amplify the crisis effect. In normal times they usually do not exist, suggesting that the bank effect might be weaker. Therefore, the literature on banking crises does not necessarily imply that banks are an important source of business fluctuations also in non-crisis periods. Hence, more evidence is required to evaluate the contribution of banking shocks to business volatility.

The role of banks' balance sheets in generating and propagating shocks is not merely a topic of business cycle theory. It is also a key issue in the design of financial stability policy. Banks are subject to a range of regulatory constraints, such as capital and liquidity requirements. These constraints narrow the flexibility of the bank in choosing its optimal lending strategy. Hence, the regulatory environment affects the response of the bank to balance sheet shocks. As a consequence, it could change the way banking shocks propagate to the real economy. A recent example is the risk-sensitive capital requirements introduced by Basel II accord. The procyclicality of these capital requirements raised concerns that they would amplify the business cycle (Kashyap and Stein, 2004). To mitigate these concerns, the Basel III reform proposed several measures to reduce the cyclicality of capital requirements (Basel Committee on Banking Supervision, 2011a). These policy discussions show that the reaction of the economy to banking shocks is part of the ongoing debate on bank regulation. Yet the empirical literature on this issue is far from being conclusive, as most evidence is confined to crisis episodes.

The present paper provides new evidence on the bank balance sheet channel. It studies the effects of shocks to banks' balance sheets on industrial growth in a panel data set constructed at the industry level. The sample consists of 18 OECD countries, observed annually from 1979 to 2003. Note that the sample does not include the recent global financial crisis that affected many OECD countries and led to unprecedented banking shocks in a number of OECD countries. Exclusion of this more recent episode from the analysis may significantly bias downward the estimated real effects of banking shocks in OECD countries. After all, banking crises are infrequent in these developed countries.

[1] See Sharpe (1995), Kashyap and Stein (2000), Kishan and Opiela (2000), Loutskina and Strahan (2009), Altunbas et al. (2009), Bernanke and Lown (1991), Peek and Rosengren (1995, 1997), Woo (2003) and Watanabe (2007).

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