



Bank vs. Bond Financing Over the Business Cycle

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The recent financial crisis has fostered a growing economic literature investigating Wall Street interaction with Main Street—during times of acute financial distress and also, more generally, over the business cycle. Firms finance their activities and projects through two primary channels: equity (including reinvested earnings) and debt. Recent studies document heterogeneity in debt structure across firms, in addition to large differences in the choice between debt and equity. In this essay, we describe several stylized facts regarding the structure of corporate debt and its behavior over the business cycle.

Roughly speaking, debt can be divided into the following mutually exclusive types: commercial paper, drawn credit lines, term loans, senior bonds and notes, subordinated bonds and notes, capital leases, and other debt. Colla, Ippolito, and Li (2013) define these types of debt and find the following results from firm-level data: Eighty-five percent of firms borrow predominantly with one type of debt, and systematic patterns differentiate firms in their debt choice, depending on the cost of bankruptcy, opaqueness, or even simple access to some segments of the debt market. We focus on the two primary types of firm borrowing—corporate bonds and bank loans—which represent the majority of corporate debt (see the first chart).

Banks vs. Bonds

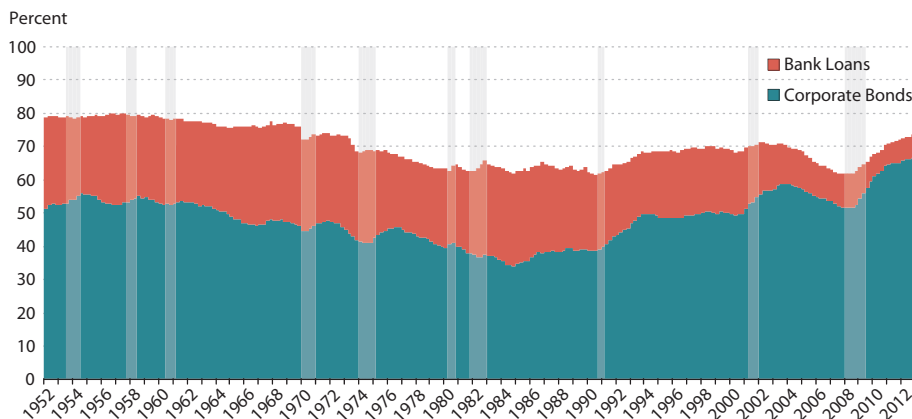
Bonds are commonly referred to as “unmonitored” lending because of the dispersed pool of bond investors who cannot or choose not to “monitor,” or influence, the business activities of the bond issuers. In contrast, banks specialize and spend resources to acquire information and monitor borrowers, which typically results in a higher cost of lending. Given the

choice between the two, certain firms lean toward bond financing because it is typically cheaper than bank loans. That is, on average the bond yield is lower than the bank interest rate for the lowest-risk borrowers (Russ and Valderrama, 2012).

While bank lending contracts during the typical recession, liquidity in bond markets may not.

After World War II, U.S. corporate bond financing developed substantially. Today, the value of outstanding corporate bonds (in real 2009 dollars) is more than five times larger than in the mid-1980s. Corporate bonds as a share of total credit market instruments averaged about 37 percent in the first half of the 1980s compared with 58 percent between 2003 and 2013. The share of bank loans fell from about 26 percent in the mid-1980s to less than 10 percent between 2003 and 2013 (see the second chart).

Bank and Bond Borrowing as a Source of Nonfinancial Corporate Financing (1952:Q1–2013:Q1)



NOTE: The bars indicate recessions as determined by the National Bureau of Economic Research.
SOURCE: Financial Accounts of the United States; Board of Governors of the Federal Reserve System.

There are also important cross-country differences. For example, in the euro area and much of Asia, bank loans are the dominant source of debt financing (De Fiore and Uhlig, 2011, Ghosh, 2006).

Business Cycle Behavior

The choice of bonds versus bank loans is important from a macroeconomic perspective because some types of debt may be more or less resilient, or countercyclical, during recessions or times of financial distress.¹ For instance, De Fiore and Uhlig (2012) point out that total bank loans behaved in a markedly procyclical manner (with a lag) during the recent financial crisis, while bond markets did not.² As the third chart shows, over the 2007-13 period, the correlation between the growth rates of real gross domestic product (GDP) and real bank loans is 0.32 and that between real GDP and real bonds is close to zero (0.0048). So, while bank lending contracts during a typical recession, liquidity in bond markets may not.

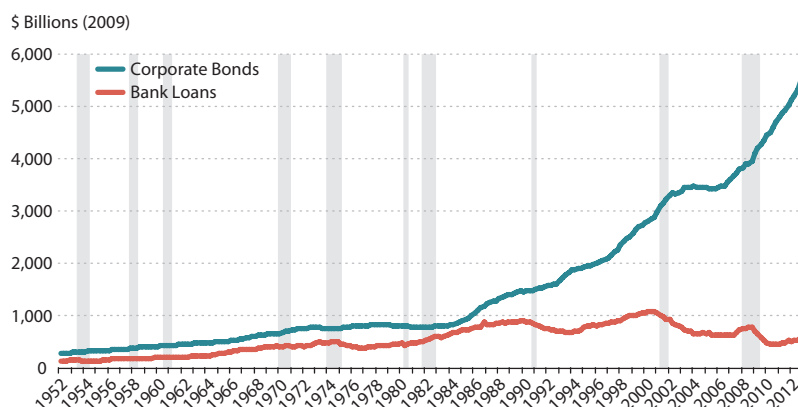
To focus on changes over the business cycle, we further decompose the data to extract the secular (long-run) growth of bond finance and the slower but secular decline of bank finance. As shown in the fourth chart, which plots the cyclical component of the two series,³ bank loans are indeed markedly procyclical, contracting significantly during recessions and recovering during expansions even when the trend is removed. Liquidity in bond markets, however, is actually *countercyclical*. Since 1952, the correlation between the cyclical component of real bank loans and real GDP is 0.34, while that between the cyclical component of real corporate bonds and real GDP is -0.21, confirming the evidence in the third chart.

Why are the correlations with the business cycle so different for these two forms of debt financing? One possibility is that uncertainty may increase during hard times (Bloom et al., 2012), forcing banks to more intensely monitor and screen customers, reducing the cost efficiency of banks as financial intermediaries and reducing risk-taking behavior (Gaggl and Valderrama, 2013). Another possibility is that aggregate data mask large differences in firm-level choices over the business cycle: Bank lending may contract considerably for some borrowers but expand for others, producing a net contraction during recessions. Because

bond borrowing is used primarily by large, extensively screened firms, these firms' use of bonds is less likely to be influenced by cyclical factors.

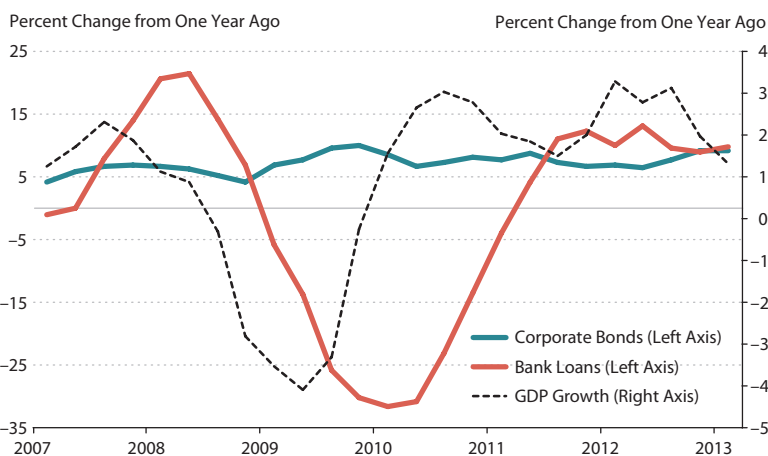
It is important to note that some firms may be protected from the harmful effects of financial crises by the ability to easily substitute one type of debt with another; this is not the case for all firms. Examining heterogeneity in access to financing through bank loans and bonds across borrowers and local banking markets could yield new insight into business cycle dynamics and new options for policymakers in difficult times. ■

Bank Loans and Bonds Outstanding for Nonfinancial Corporations (1952:Q1–2013:Q1)

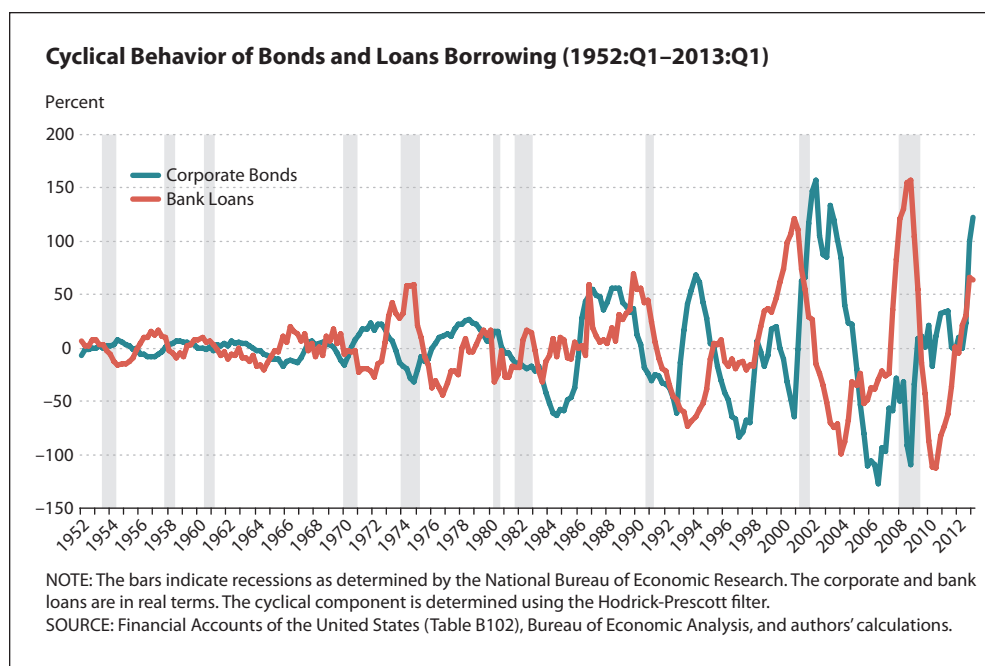


NOTE: The bars indicate recessions as determined by the National Bureau of Economic Research. SOURCE: Financial Accounts of the United States (Table B102) and Bureau of Economic Analysis.

Real Growth Rate of Bonds, Loans, and Gross Domestic Product for Nonfinancial Corporations (2007:Q1–2013:Q1)



SOURCE: Financial Accounts of the United States (Table B102) and Bureau of Economic Analysis.



Notes

¹ More generally, because a large variety of instruments is available to corporate borrowers, the cyclical properties of bank lending and firm borrowing can be very different (see Contessi, Di Cecio, and Francis, 2013).

² Research on bank lending during the financial crisis shows that lending did not begin to decrease until 2009, while the recession hit much earlier. At the peak of the crisis in the fall of 2008, several businesses cashed in their unused commitments, which appeared as an increase in business lending (see Contessi and Francis, 2013).

³ We obtain the difference between the level of the series and its trend using the Hodrick-Prescott filter.

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Posted on November 15, 2013

Views expressed do not necessarily reflect official positions of the Federal Reserve System.