2017 ■ Number 1
https://doi.org/10.20955/es.2017.1

ECONOMIC Synopses

Secured and Unsecured Debt Over the Business Cycle

Maria A. Arias, Senior Research Associate
Yi Wen, Assistant Vice President and Economist

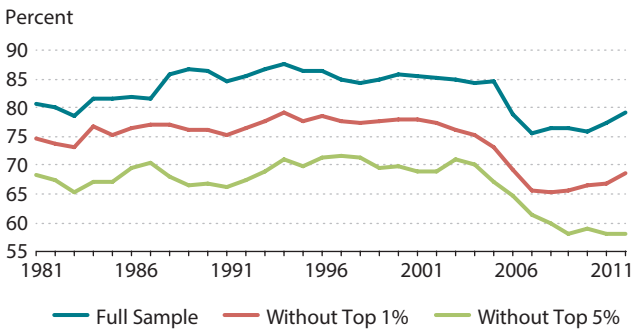
Recent macroeconomic research has emphasized the importance of secured (collateralized) debt in driving the business cycle. In fact, one of the reasons why the recent financial crisis was so deep and the recovery so slow was the amount of borrowing in the housing market: When house values declined, mortgage debt was often larger than the value of the house. This reality supports a conventional view in business cycle theory that the amount of secured debt drives business cycle fluctuations. Accordingly, during upswings, people borrow to buy houses and other assets (secured debt), increasing leverage ratios and asset prices, while during downswings people find credit more difficult to get so they pay down loans and thus reduce leverage. The conventional view, then, implies secured debt is strongly correlated with gross domestic product (GDP). But how important is debt in determining business cycle fluctuations? And is there a difference between the effects of secured debt and unsecured debt?

Azariadis, Kaas, and Wen (2015) first decomposed total corporate debt into secured and unsecured debt to study the relationship between firm-level debt and the business cycle. Using Compustat data for nonfinancial publicly traded firms in the United States, they found that the average share of unsecured debt was much larger than the share of secured debt. It was between roughly 80 and 85 percent of total debt before the recent financial crisis and only slightly less than that after (Figure 1).[1] That is, firms mostly issue unsecured debt and the recent financial crisis did not change that much.

Unsecured debt better predicts economic activity than secured debt.

Further, the authors show that the amount of unsecured debt is strongly and positively correlated with GDP across all samples (0.70 to 0.75 correlation), while secured debt is only weakly correlated with GDP and its relationship is negative in two of the three samples: the full sample and the sample excluding the largest 1 percent of firms (–0.15 to 0.15 correlation). Moreover, unsecured debt tends to lead GDP by one year—suggesting that it might drive GDP—whereas secured debt tends to lag GDP in the sample that excludes the top 5 percent of firms (Figure 2). Finally, the authors conclude that unsecured debt usefully forecasts GDP, conditioned on the history of GDP, while secured debt is not helpful in predicting GDP.

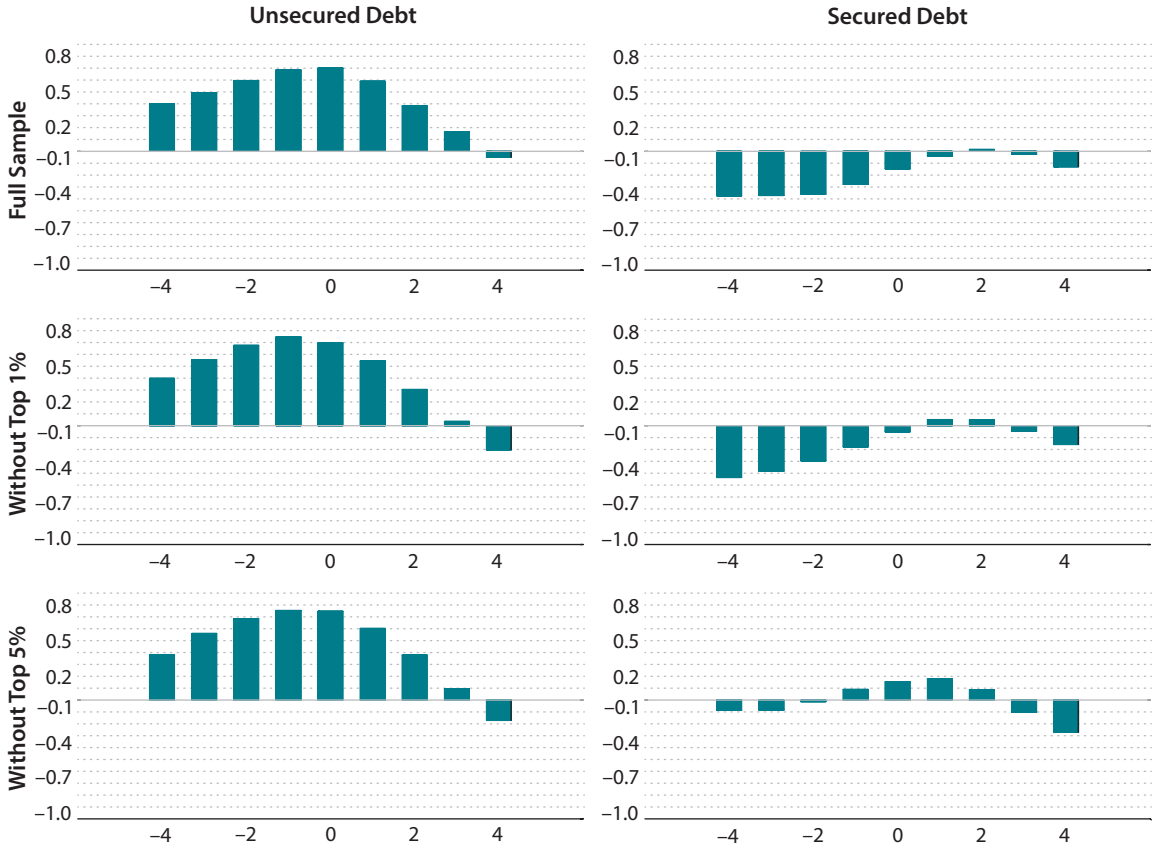
Figure 1
Average Share of Unsecured Debt in Total Debt for Compustat Firms



SOURCE: Compustat.

The authors also used data from the flow of funds account to measure secured debt and unsecured debt in the U.S. economy and found similar results. The authors document that unsecured debt is a key contributor to fluctuations in GDP at least after 1980, while secured debt is not strongly correlated with and does not drive movements in GDP. This finding is important because conventional macro-finance theories assume the value of collateral—which allows firms to issue secured debt—is the important factor that allows firms to borrow. The data show, however, that unsecured debt is the important driver of economic activity, so the value of collateral is probably not very important. So, at the firm level, unsecured debt is more important than secured debt in understanding the business cycle.

Figure 2
Lead-Lag Correlations Between Output (at Period *t*) and Debt (at Periods *t*+*j*, *j* ∈ [–4, 4])



SOURCE: Compustat (1981-2012) and Azariadis, Costas, and Wen (2015).

To explain these empirical findings, the authors build a theoretical business cycle model. Specifically, they argue that because a firm's reputation in the market plays a critical role in its ability to issue debt in the unsecured debt market and because reputation is a self-fulfilling behavior (in the sense that one's desired future self-image influences current behavior), a firm's belief about future credit market conditions (such as the likelihood of default in the market) is important in shaping its present behavior in the credit market. As a result, the more confident firms are about future credit market conditions, the less likely they will choose to default and thus the more likely they will be able to borrow to finance investment, which in turn will strengthen credit market conditions in the future. Thus, firms' confidence in the credit market will affect the size of the unsecured debt market, which in turn influences aggregate GDP. The authors' calibration exercise based on their theoretical model shows that these self-fulfilling shocks to firm confidence in future credit market conditions can account for about 50 percent of aggregate fluctuations in GDP. ■

NOTE

[1] Unsecured debt here is measured as the difference between total debt and secured debt (mortgages etc.), so a decline in the share of unsecured debt implies a rise in mortgage or other collateralized debt. Since large firms can skew the results, Figure 1 compares the results for the samples excluding the largest 1 percent and 5 percent of firms by asset size. While removing the largest firms lowers the average share of unsecured debt, the time variation of debt does not vary significantly.

REFERENCE

Azariadis, Costas; Kaas, Leo and Wen, Yi. "Self-Fulfilling Credit Cycles." Working Paper No. 2015-005B, Federal Reserve Bank of St. Louis, November 2015; https://research.stlouisfed.org/wp/2015/2015-005.pdf.

Posted on February 17, 2017