Is the U.S. Business Sector Vulnerable to a Hard Landing?

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Highlights

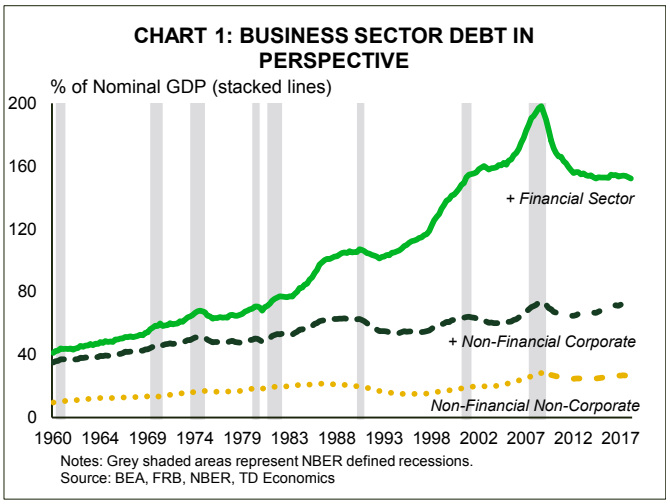
- The debt burden of the non-financial business sector in the U.S. has risen above levels observed prior to the onset of the global financial crisis and previous recessions, raising concerns that the sector may be vulnerable to a sharp increase in interest rates.
- Debt structure plays a prominent role in this assessment. Corporations have taken advantage of favorable financing conditions over the past few years by issuing longer-term fixed-rate bonds, thereby mitigating their exposure to interest rate and refinancing risk. Unincorporated businesses (sole proprietors and limited partnerships), by and large, have floating rate debt with short-term maturities and are therefore more vulnerable.
- At current profit levels, the business sector has sufficient financial resources to manage a smooth transition to a higher interest rate environment. Unincorporated businesses and corporations that have not extended their maturity structure, however, are more vulnerable to a hard landing in the event of a marked deterioration in profitability.

The U.S. business sector debt burden from a historical perspective

The debt burden of the U.S. business sector (encompassing financial and non-financial firms) increased rapidly from the early 1980s up until the global financial crisis (Chart 1). The current level (152.2% of GDP in 2018Q1) is well below the level at the onset of the global financial crisis (186.5%), but slightly above that of the 2001 recession (148.2%) (Appendix Table 1).

Much of the increase over the period 1980 to 2008 occurred in the financial sector. Subsequent deleveraging in the sector followed the implementation of regulatory reforms requiring more stringent capital adequacy levels and reduced dependence on wholesale financing. The Tier 1 capital ratio for the U.S. banking system is currently at 13.5% (2018Q2), well above the 10.1% level established in 2007Q4, while the loan-deposit ratio decreased from 89.6% to 71.2% (in 2018Q1).[1] The debt burden in the financial sector is currently well below the level at the onset of the global financial crisis and below the level at the onset of the 2001 recession. By contrast, the debt burden in the non-financial sector is currently above levels at the onset of all previous recessions.

CHART 1: BUSINESS SECTOR DEBT IN PERSPECTIVE



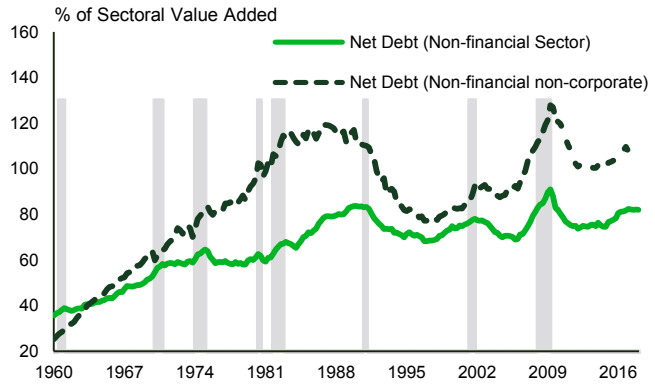
Notes: Grey shaded areas represent NBER defined recessions.
Source: BEA, FRB, NBER, TD Economics

The above analysis gauges the debt burden in the non-financial sector with reference to GDP at the aggregate level. Value-added output at the sectoral level (sectoral GDP) provides a meaningful measure of the ability of firms to meet their debt service payments. In the non-financial sector, value-added output currently accounts for about two-thirds of aggregate GDP, down from over 70% in the early 1960s. On this basis, the debt burden of the non-financial sector is currently above levels at the onset of the global financial crisis and previous downturns (Appendix Table 2). Unincorporated businesses (sole proprietorships and limited partnerships) account for most of the increase (Chart 2).

Debt levels are less onerous, however, when one takes into account the high amount of cash that businesses are currently holding on their balance sheets.[2] Netting off cash holdings brings the corporate debt burden down slightly below levels at the onset of the past three recessions (Appendix Table 3). Taking into account cash holdings of unincorporated businesses reduces the debt burden to the level observed at the onset of the global financial crisis but above levels at the onset of previous recessions (Chart 3).

There is an important caveat here – much of the cash is believed to be held by relatively few businesses.[3] Cash holdings at the aggregate level therefore overstate the reserves available to most corporations in the event of a major downturn in the credit cycle.

CHART 3: NON-FINANCIAL DEBT LESS CASH



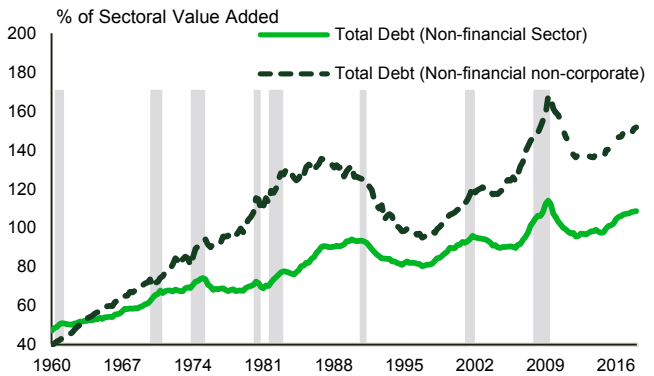
Notes: Grey shaded areas represent NBER defined recessions.
Source: BEA, FRB, NBER, TD Economics

Strong corporate profits support higher debt levels, for now

Corporate profits are currently elevated relative to sectoral GDP, averaging 14.3% since the economic recovery began. This is higher than the level seen at the onset of the 2001, 1990, and 1981 recessions, but below the average in the year preceding the global financial crisis (15.2%) (Chart 4). Meanwhile, corporate debt has grown in line with profitability. The corporate debt-to-profit ratio is currently just above the level at the onset of the global financial crisis and well below levels prior to the previous two recessions.

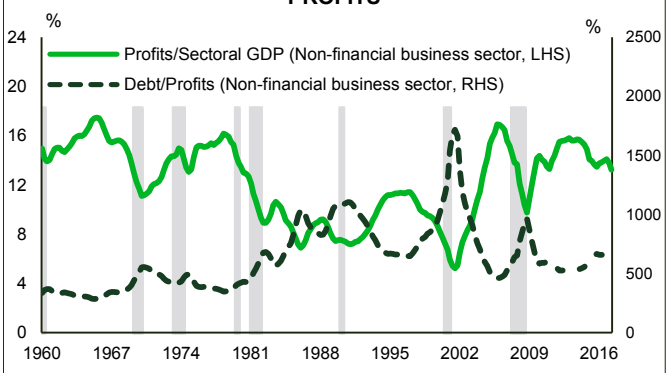
The debt burden appears manageable under current economic and financial conditions. However, it's hard

CHART 2: NON-FINANCIAL DEBT



Notes: Grey shaded areas represent NBER defined recessions.
Source: BEA, FRB, NBER, TD Economics

CHART 4: CYCLICAL NATURE OF DEBT AND PROFITS



Notes: Grey shaded areas represent NBER defined recessions. All metrics are represented as a 4-quarter moving average.
Source: BEA, FRB, NBER, TD Economics

not to notice the cyclical regularities in corporate debt, profits, and output. Recessions have more often than not been preceded by a downturn in corporate profits relative to sectoral GDP. The corporate profit-to-GDP ratio has tended to peak prior to the onset of recessions. This ratio peaked at 16.1% back in 2014.

How will firms' interest expenses evolve in a rising rate environment?

Non-financial corporations have taken advantage of favorable financing conditions over the past few years by issuing bonds with longer maturities, predominantly with fixed rates. Bonds currently account for 60% of their outstanding debt, up from 45.2% at the onset of the global financial crisis.[4] The average maturity of corporate bonds issued over the past three years has exceeded 15 years, up from less than ten years prior to the global financial crisis (Chart 5). Floating rate issues accounted for only 10.7% of total bond issuance over the past ten years, compared to 45.2% over the four years preceding the global financial crisis. Interest rate expenses are expected to increase more gradually for companies that have relied on long-term fixed rate financing.

To illustrate, consider a corporation with interest rate expenses equal to 4.2% of their outstanding bonds (equal to the average effective interest rate on the 10-year BBB corporate bond index over the past six years). Assume that the corporation's debt level continues to grow in line with earnings (3.8% on average) and the maturity structure of its bonds are the same as that for the total investment-grade corporate debt outstanding. The cost of bond financing is set to the 10-year BBB corporate yield, which we project to increase to a peak of 5.2% by the end of 2019. Debt accumulation accounting calculations indicate that the average effective interest rate on the firm's bonds would increase gradually to 4.7% over the five-year projection horizon (Chart 6).

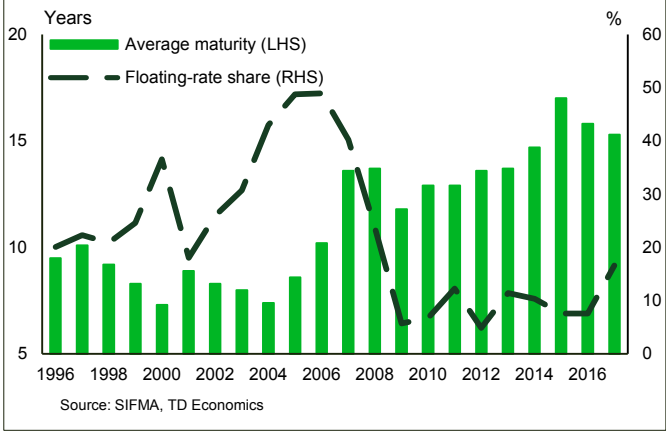
Interest rates are projected to peak in 2020. Analysis by Standard and Poor's (2018) of S&P-rated U.S. corporate debt indicates that as of December 2017 approximately 30% of S&P-rated non-financial corporate debt was scheduled to mature over the three-year period 2018-2020. Speculative grade issuers, in particular, have taken advantage of favorable financing conditions to extend the maturity structure of their debt - only about 21% of their debt was scheduled to mature over the period 2018-2022, compared to 35% for investment grade issuers.

Unincorporated businesses are vulnerable to both interest rate and refinancing risk

Debt of sole proprietors and limited partnerships largely consists of leveraged loans and revolving credit facilities, which generally have shorter maturities than corporate bonds and are predominantly on floating rate terms.[5] Interest expenses on those debt instruments are expected to rise significantly over the next two years.

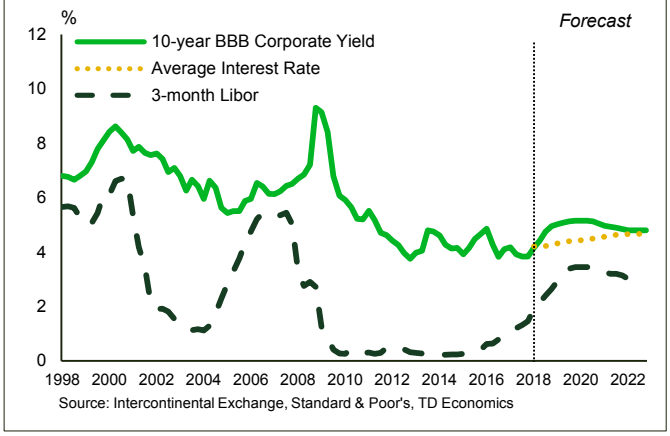
To illustrate, consider the following scenario. If the entire amount of non-corporate debt was on floating rate terms,

CHART 5: CORPORATE BOND ISSUANCE



Source: SIFMA, TD Economics

CHART 6: BENCHMARK INTEREST RATES

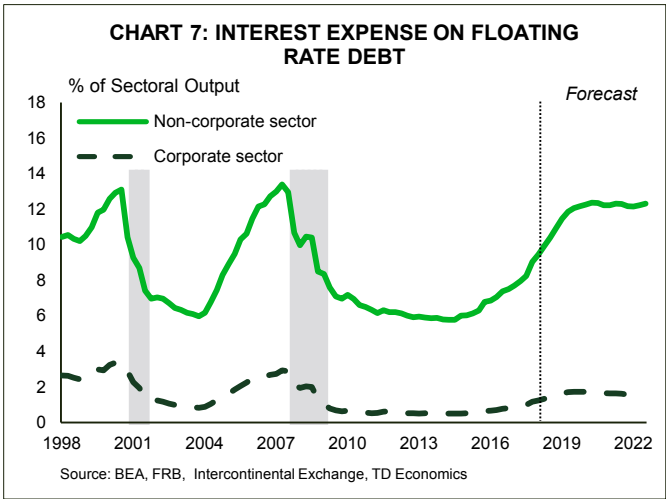


Source: Intercontinental Exchange, Standard & Poor's, TD Economics

a spread of 410 basis points over LIBOR would be required to reconcile interest paid in 2016 (the most recent period available from the integrated macroeconomic accounts) with debt outstanding at that time. Maintaining that spread above the projected LIBOR rate as shown in Chart 6 would increase interest expenses from 9.0% of GDP in the sector to over 12% by the end of 2019, which is close to the levels observed at the onset of the global financial crisis and the 2001 recession (Chart 7).

The projected increase in interest expenses on floating-rate debt is much more subdued in the corporate sector. This reflects two factors. The amount of debt on floating rate terms is much lower equating to approximately 30% of debt outstanding.[6] And the spread needed to reconcile interest paid in 2016 with debt outstanding was much lower (198 basis points). In this scenario, interest expenses in the corporate sector would increase from 1.2% of sectoral GDP to 1.7%, well below the levels observed at the onset of both the global financial crisis and the 2001 recession (equaled 2.9% in 2001Q1 and 2007Q4).

The U.S. Federal Reserve Board faces a difficult challenge at the current phase of the business cycle with the unemployment rate at a near-record low and core PCE inflation expected to rise above the target level in the coming year. Similar episodes have, more often than not, ended with sharp increases in interest rates, along with a deterioration in profitability.



Non-financial corporations reliance on long-term, fixed-rate debt mitigates their exposure to such an outcome. However, the ability of unincorporated businesses to manage their high debt burden could deteriorate sharply in such a scenario given their reliance on short-term floating rate debt.

Appendix Table 1: Business Sector Debt / GDP at the Onset of Recessions (Previous Quarter)			
*Recession start date**	Total	Financial	Non-Financial
1960-Q3	42.3	6.4	35.9
1970-Q1	56.2	11.9	44.3
1974-Q1	64.3	15.1	49.2
1980-Q2	69.3	19.8	49.5
1981-Q4	71.0	21.4	49.7
1990-Q4	105.4	42.9	62.5
2001-Q2	148.2	85.1	63.1
2008-Q1	186.5	117.7	68.8
Current:			
2018-Q1	**152.2**	**80.0**	**72.3**

* First quarter of the contraction based on the NBER recession dating procedure. All metrics are based on the quarter prior to the onset of the recession.
Source: BEA, FRB, NBER, TD Economics

Appendix Table 2: Non-Financial Sector Debt / Sectoral GDP at the Onset of Recessions (Previous Quarter)			
*Recession start date**	Total	Corporate	Non-Corporate
1960-Q3	48.6	50.0	40.7
1970-Q1	62.4	56.4	73.6
1974-Q1	69.2	62.5	80.6
1980-Q2	70.8	57.2	108.0
1981-Q4	70.2	55.5	112.9
1990-Q4	93.3	80.9	125.7
2001-Q2	92.3	85.9	112.5
2008-Q1	103.0	87.5	146.6
Current:			
2018-Q1	**108.6**	**93.0**	**151.7**

* First quarter of the contraction based on the NBER recession dating procedure. All metrics are based on the quarter prior to the onset of the recession.
Source: BEA, FRB, NBER, TD Economics

Appendix Table 3: Non-Financial Sector Debt less Cash / Sectoral GDP at the Onset of Recessions (Previous Quarter)			
*Recession start date**	Total	Corporate	Non-Corporate
1960-Q3	36.8	39.7	26.7
1970-Q1	52.9	47.3	64.0
1974-Q1	58.9	52.7	70.2
1980-Q2	61.2	48.6	95.8
1981-Q4	61.2	47.7	100.9
1990-Q4	83.5	72.9	110.8
2001-Q2	76.0	73.4	84.3
2008-Q1	81.2	71.0	109.7
Current:			
2018-Q1	**82.0**	**71.4**	**111.4**

* First quarter of the contraction based on the NBER recession dating procedure. All metrics are based on the quarter prior to the onset of the recession.
Source: BEA, FRB, NBER, TD Economics

Endnotes

1. Tier 1 Capital and the loan-to-deposit ratio reported by BankRegData.com
2. Cash includes liquid financial assets comprise of bank deposits, repurchase agreements, and money market mutual shares.
3. Estimates reported by Standard and Poor's (2018) indicate that in 2017, 1% of rated U.S. non-financial corporate borrowers held more than one half of the total cash pile.
4. These calculations do not take into account interest rate swap contracts which enable firms to modify their exposure to interest rate risk. Data limitations on derivative positions makes this difficult to assess. Analysis by Ogden and others (2016) found that approximately 30% of investment grade and 10% of speculative grade issuers entered a fixed for floating interest rate swap agreements. However the analysis is based on a small sample of corporate bond issuance during 2015 (accounting for less than 2% of total outstanding stock at the time).
5. Kumbhat, Palomino, and Perez-Orive (2017) estimate that as of March 2017, 85% of nonfinancial corporate loans have floating rates, while only 2.8% of investment grade corporate bonds have floating rates.
6. Ibid. Using the author's assumptions to calculate based on 2018Q1 data from the Z.1 Financial Accounts of the United States.

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