CREDIT CONDITIONS AND THE REAL ECONOMY

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Summary and Major Conclusions:

An analysis of all previous business cycles since 1960 reveal that recessions are always preceded by a systematic deterioration in credit conditions that typically begins several years in advance of the onset of recession. An analysis of current credit conditions suggests that financial pressures are minor and that credit markets are in good health. Credit is available to virtually all borrowers and at very reasonable terms. The implication is that a recession triggered by spreading credit pressures does not appear likely during the next 12 months. In the absence of recessions, common stocks should massively outperform bonds over the next year.

- An analysis of previous business cycles reveals that end-of-cycle recessions are typically preceded by certain systematic trends in credit markets. These recurring pre-recession warning signs include a boom in credit creation; a tightening in monetary conditions; excessive leverage; increasing debt service burdens; and rising delinquencies and defaults.
- None of these conditions are evident today: The amount of credit outstanding is increasing at a moderate pace; monetary policy is accommodative; private sector balance sheets are not overly leveraged; debt service burdens are manageable; and delinquencies and defaults are stable at depressed levels.
- Perhaps the strongest argument for continued economic growth is the nearly unprecedented health of the banking sector. Simply put, because of very strong finances, banks are in a favorable position to extend credit to consumers, businesses, and the real estate sector.
- The plunge in mortgage rates since the end of last year provides an additional source of stimulus for the US economy. Lower mortgage rates will spark a revival in housing sales and new construction that should persist for most of next year, at a minimum.
- Household finances will also benefit from a refinance boom triggered by the sharp decline in mortgage rates. Nearly 90% of mortgage loans outstanding have a rate above the current 3.5%. These loans are therefore eligible for refinancing, significantly reducing monthly interest and principal payments.
- Investor obsession with the yield curve is unwarranted. Although an inversion of the Treasury yield curve has been an extremely reliable signal of recession, there are unusual factors at work in the current environment that greatly reduce the predictive power of the curve.
- A close inspection of Treasury yields reveals that the yield curve is *upwardly sloped* from maturities of five years to 30 years. History clearly reveals that only when the yield curve is inverted across all maturities has it accurately predicted a recession.
- In principle, recessions are always preceded by a rising trend in delinquencies, defaults, and non-performing bank loans. With only a few exceptions, credit losses have been minimal and balance sheets remain in excellent health.
- The overall delinquency rate on household debt of 2.3% is near the lowest level in 50 years. Delinquencies on credit card debt are also near all-time lows. Mortgage credit quality remains excellent: The delinquency rate of 4.5% is near the lowest level in many years, while foreclosures are at a 25-year low.

- There is widespread controversy regarding the health of the US nonfinancial corporate sector. Most analysts are concerned about the record ratio of corporate debt to GDP, currently at 47%.
- The absolute level of debt has never been a reliable indicator of recession. The most compelling indicator of stress in the corporate sector measures the level of interest payments as a percentage of pre-tax cash flow. This ratio is comfortably below previous levels that have preceded recessions in the past.
- Nonetheless, credit conditions within the nonfinancial corporate sector are likely to deteriorate over the next several years. That said, a sustained increase in defaults is unlikely to occur until there is a significant erosion in profit margins, accompanied by a declining trend in the absolute level of cash flow.
- An analysis of credit conditions suggests that financial pressures are minor and that credit markets are in good health. The implication is that a recession precipitated by widespread credit losses does not appear likely during the next 12 months, and that common stocks should outperform bonds.

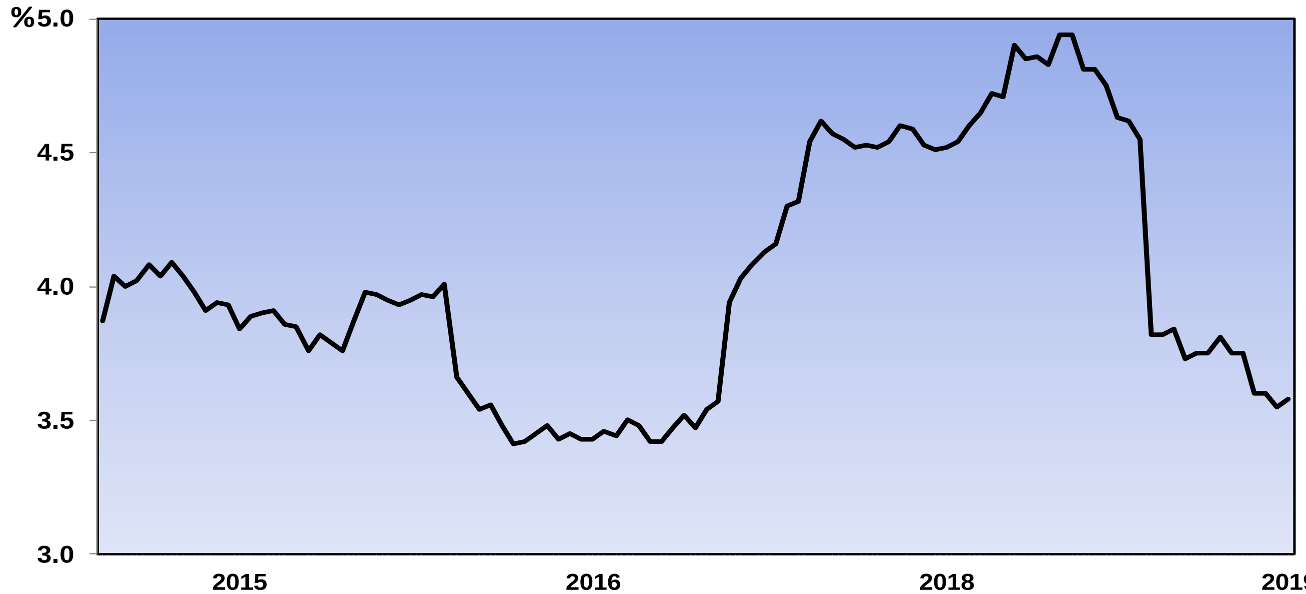
One of the primary lessons of the Great Recession is that the real economy is only as strong as underlying credit conditions. The cost and availability of credit, the quality of debt on private sector balance sheets, and excesses in credit creation are crucial inputs to any economic forecast. This week's *Economic Perspective* provides an analysis of major trends affecting domestic credit markets and implications for the economy.

***An analysis of previous business cycles reveal that end-of-cycle recessions are typically preceded by negative trends in credit markets, including the following*:**

- Rapid growth in credit creation culminating in a credit boom and bust
- A gradual tightening in monetary conditions
- A sustained inversion of the Treasury yield curve
- A gradual reduction in the capacity of banks to extend credit
- Excessive leverage in the household and business sectors
- A sustained increase in debt service ratios for businesses and consumers
- A steady increase in problem loans, delinquencies, and defaults

<u>The bottom line is that with the sole exception of an inverted yield curve, no other classic warning signs of recession are evident today</u>.

Chart 1: Plunge in Mortgage Rates Triggers a Refinance Boom
Home Mortgage Contract Rate (%)
Thirty-Year Fixed-Rate Mortgage
Source: Freddie Mac



COMMERCIAL BANK LENDING

Perhaps the strongest argument for continued economic growth is the nearly unprecedented health of the banking sector. Simply put, because of very strong finances, *banks are unconstrained in their ability to extend credit to the household, business, and the real estate sectors*. Multi-decade highs in capital and liquidity ratios along with a near record low ratio of loans to deposits underscore the abundant capacity of the banking sector to lend. Bank loans and total bank credit remain in a moderately rising trend.

Fed Bank Lending Survey: Consistent with this analysis, the Federal Reserve's quarterly *Senior Loan Officer Lending Survey* reveals that most banks have ***eased*** lending standards in recent months. Because banks often fill the role of backstop for the business sector when corporate bond financing is not available, a strong banking system is also supportive of the junk bond market. *The key point is that the availability of credit through the banking system remains ample and supportive of continued economic growth*.

MORTGAGE FINANCE

The plunge in mortgage rates since the end of last year has provided an additional source of stimulus for the US economy. From a peak of nearly 5% in November, the average contract rate on 30-year fixed-rate mortgages has declined to 3.5%, the lowest level in three years. As always, lower mortgage rates will spark a revival in housing sales and new construction that should persist for most of next year, at a minimum.

Refinance Boom: Less obvious is the stimulus derived from a refinance boom triggered by lower mortgage rates. Households hold nearly $10 trillion in home mortgage debt; it is estimated that nearly 90% of these loans have a rate above the current spot rate of 3.5%. These loans are therefore eligible for refinancing, significantly lowering ***monthly interest and principal payments***. *According to Freddie Mac, the average borrower could save more than $4,500 annually by refinancing into a new mortgage at 3.5%*. (see chart 1).

The bottom line is that the collapse in mortgage rates should not only boost housing demand but also support future growth in consumer incomes and spending. *Household balance sheets should also benefit from the decline in debt service burdens*.

AN INVERTED YIELD CURVE

As I have previously discussed, market obsession with the Treasury yield curve is unwarranted. Although an inversion of the yield curve has been an extremely reliable signal of recession, there are unusual factors at work in the current environment that greatly reduce the predictive power of the curve:

- **Search for Yield**: The unprecedented low level of yields worldwide has sparked a stampede into assets with relatively high yields. With negative yields on $17 trillion of investment-grade bonds, global investors have flocked into higher-yielding US Treasury securities, pushing up prices and depressing yields. *Demand for long-maturity bonds has been the most pronounced* — the current yield on 30-year government bonds recently declined to less than 2%, an all-time low.

- **Monetary Conditions**: Above all else, an inverted yield curve is a classic manifestation of restrictive monetary policy. However, an examination of a wide range of data leads to the conclusion that monetary policy is far from restrictive.

- **Credit Availability**: A genuinely inverted yield curve typically coincides with widespread evidence of tight credit conditions. In fact, credit is readily available to virtually all borrowers and on very favorable terms.

- **Only Partial Inversion**: Historically, when an inverted yield curve has correctly signaled recession, the entire curve from three months to 30 years became inverted. *Currently, only the front-end of the yield curve is inverted, while the back-end has a steep upward slope*. Most notably, the yield on 30-year bonds (2.15%) is well above those of ten-year (1.70%) and five-year (1.55%) notes. In short, ***history clearly reveals that only when the yield curve is inverted across all maturities has it accurately predicted a recession*** (see chart 2).

Chart 2: Yield Curve Upward Sloping from Five to Thirty Years
Term Structure of Interest Rates
US Treasury Market, September 13, 2019
Source: Federal Reserve

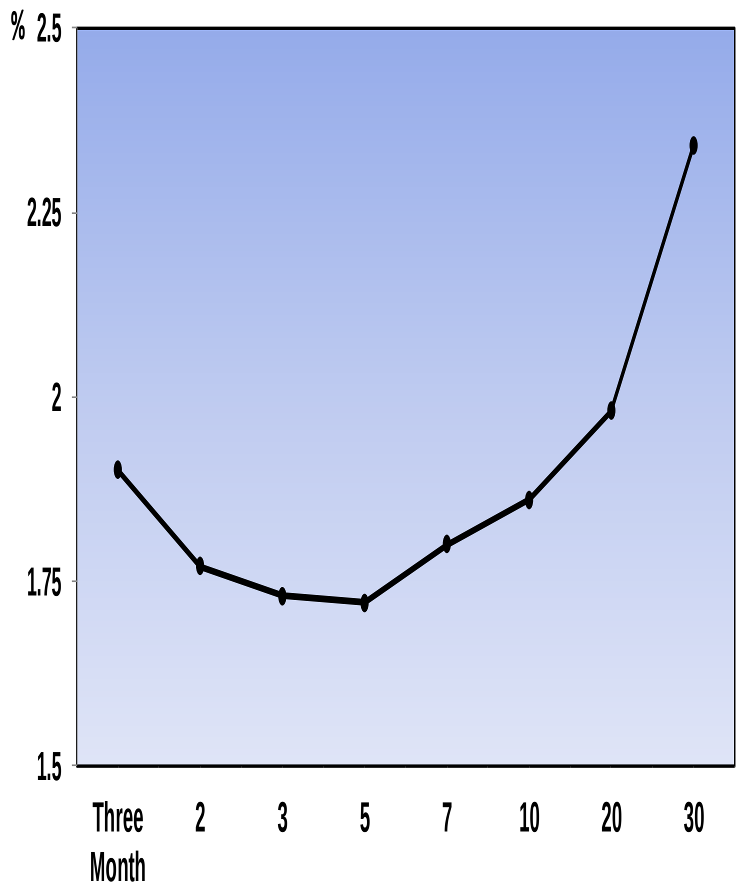
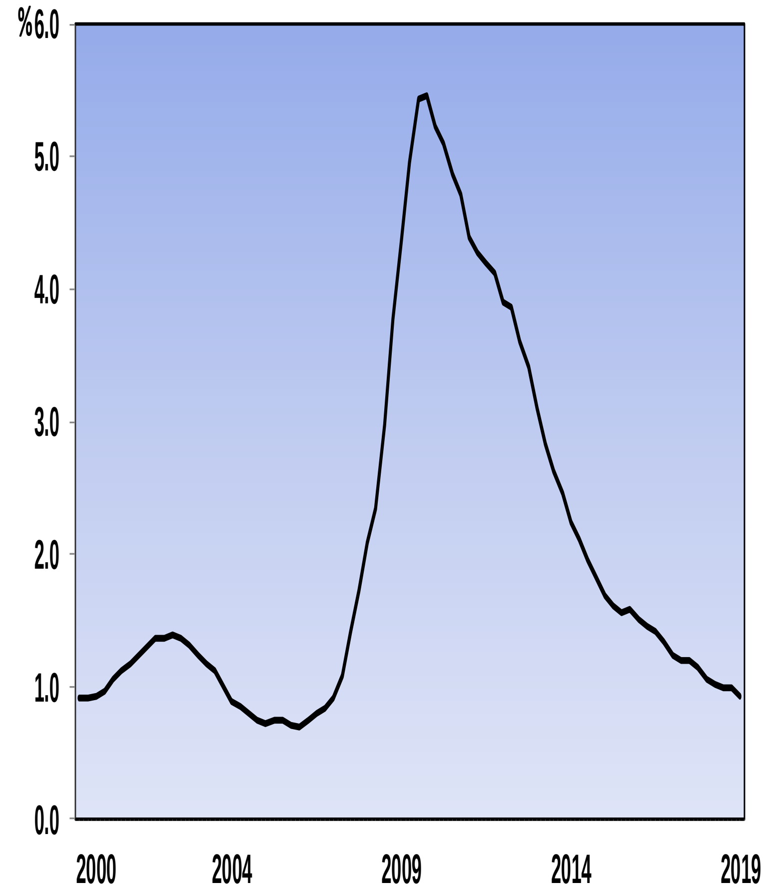


Chart 3: Bank Credit Losses at a Ten-Year Low
Nonperforming Loans as a Percent of Total Bank Loans
Source: FDIC



The bottom line is that there are numerous unusual factors at work that have culminated in a (partially) inverted yield curve. Moreover, conventional conditions normally accompanying an inverted yield curve are not present. Investors should exercise caution in jumping to the conclusion that the term structure of interest rates is signaling a recession.

CREDIT LOSSES

Recessions are always preceded by a rising trend in delinquencies, defaults, and non-performing bank loans. *With only a few exceptions, current trends pertaining to credit quality have been stable, and credit markets remain in excellent health.* ***Nonperforming loans*** have declined to less than 1% of total bank loans, a multi-decade low. The primary concern pertains to segments of the nonfinancial corporate sector, auto loans, and commercial real estate debt (see chart 3).

- **Nonfinancial Corporate Credit**: Despite a steep rise in energy sector defaults, the overall default rate on corporate debt has been stable at around 2.5% over the past year, and is likely to remain stable in coming months.

Chart 4: Delinquencies on Credit Card Debt Near All-Time Lows
Credit Card Debt 90+ Days Delinquent, Percent of Total Card Debt
Source: Federal Reserve

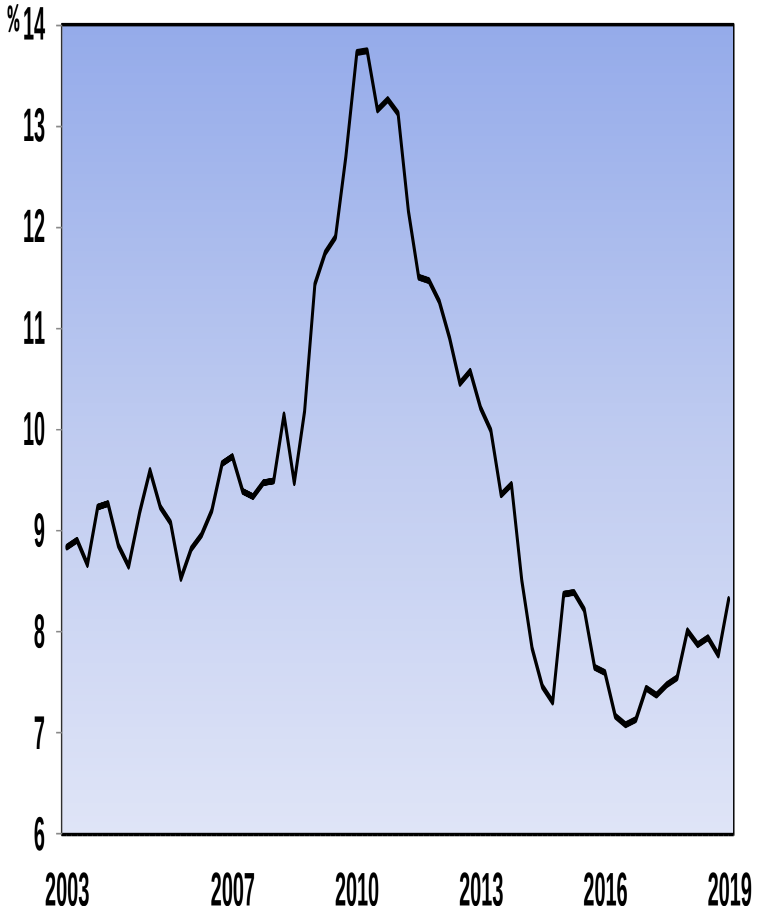
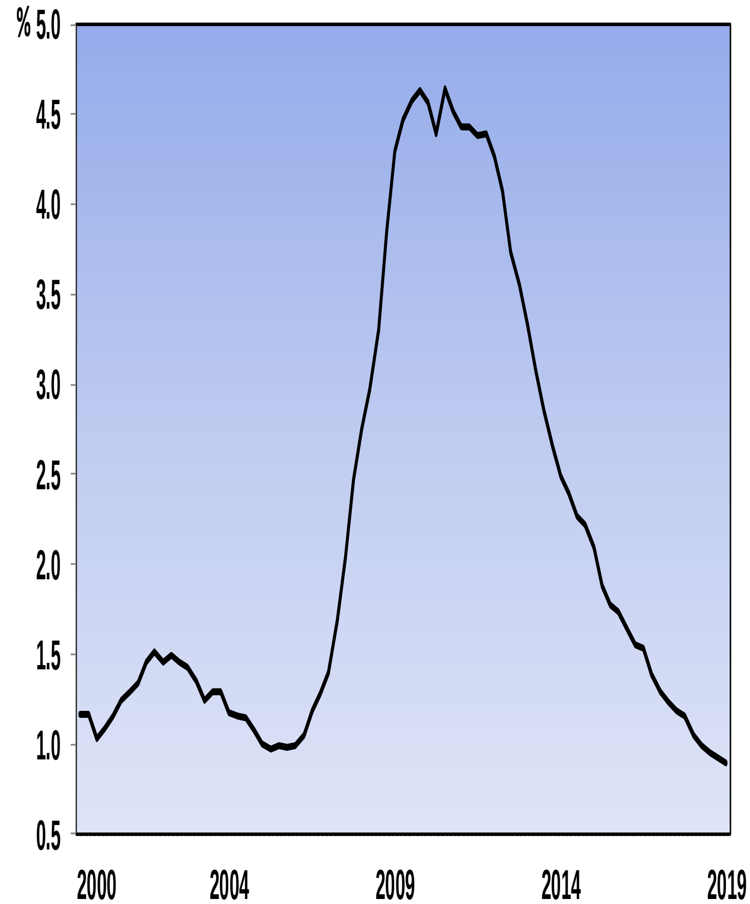


Chart 5: Mortgage Foreclosures at a Multi-Year Low
Foreclosures as a Percent of Total Mortgage Loans
Source: Mortgage Bankers Association



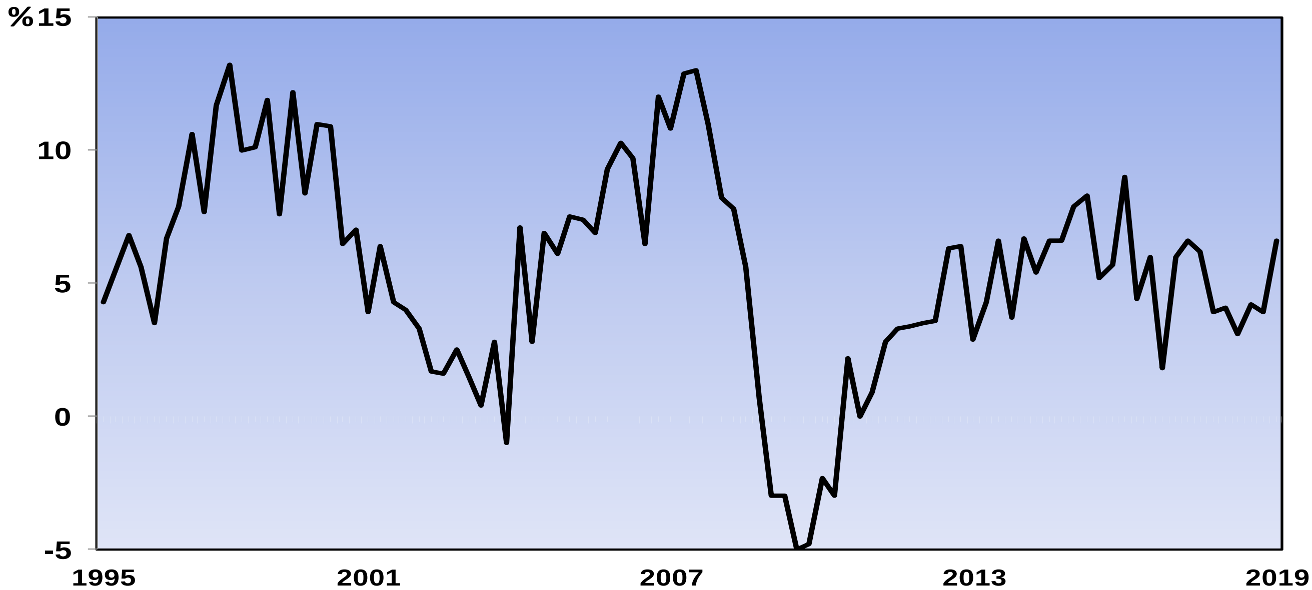
- **Consumer Credit**: The overall delinquency rate of 2.3% on household debt of is near the lowest level in 50 years. Delinquencies on credit card debt are also near all-time lows (see chart 4).

- **Mortgage Credit**: Mortgage credit quality remains excellent: The delinquency rate of 4.5% is near the lowest level in many years, while the value of foreclosures as a percentage of total mortgage loans outstanding is at a 25-year low (see chart 5).

CORPORATE CREDIT CONDITIONS

There is considerable controversy regarding the financial health of the US nonfinancial corporate sector. Corporate debt outstanding is expanding at a 6.6% annual rate. Most analysts are concerned about the record ratio of corporate debt to GDP, currently at 47%. However, history reveals that the absolute level of debt — or the ratio of debt relative to GDP — *has never been a reliable indicator of recession* (see chart 6).

Chart 6: Moderate Growth in US Corporate Debt Outstanding
Total Corporate Debt Outstanding, Annual % Growth
Source: Federal Reserve



Debt Service Coverage: The most reliable indicators of stress in the corporate sector are measures of debt service coverage, most importantly *the level of interest payments as a percentage of pre-tax cash flow*. *This measure is comfortably below levels that have typically preceded recessions in the past*. Moreover, total corporate debt outstanding is rising at a moderate rate, well below the dangerous peak growth rates of previous pre-recession periods.

That said, there is some cause for concern:

- **Ratings Migration**: An unusually large percentage of corporate bonds outstanding have either below-investment-grade (junk) ratings or are in the lowest category (BBB) of investment grade, raising the risk of default.

- **Covenants**: In an endeavor to maximize portfolio yields, fixed-income managers have been voluntarily foregoing covenants in bond agreements. Protective covenants are legal restrictions on bond issuers often put in place by lenders to protect themselves from default. *Moody's Covenant Quality Index declined to near-record lows in August*. The dominance of these "covenant-lite" loans increases the risk of future defaults while diminishing the recovery that investors would realize upon default.

- **Composition of Debt by Size**: An analysis of debt levels by ***company size*** reveals a large divergence in creditworthiness between large and small companies. Various measures of debt levels, debt service burdens, and liquidity reveal that small companies are at far greater risk of credit losses than large companies (see chart 7 and 8).

Chart 7: Historically Low Debt Ratios Among Large Companies
Percentage Debt to Total Assets, S&P 500 Companies
Source: Bloomberg

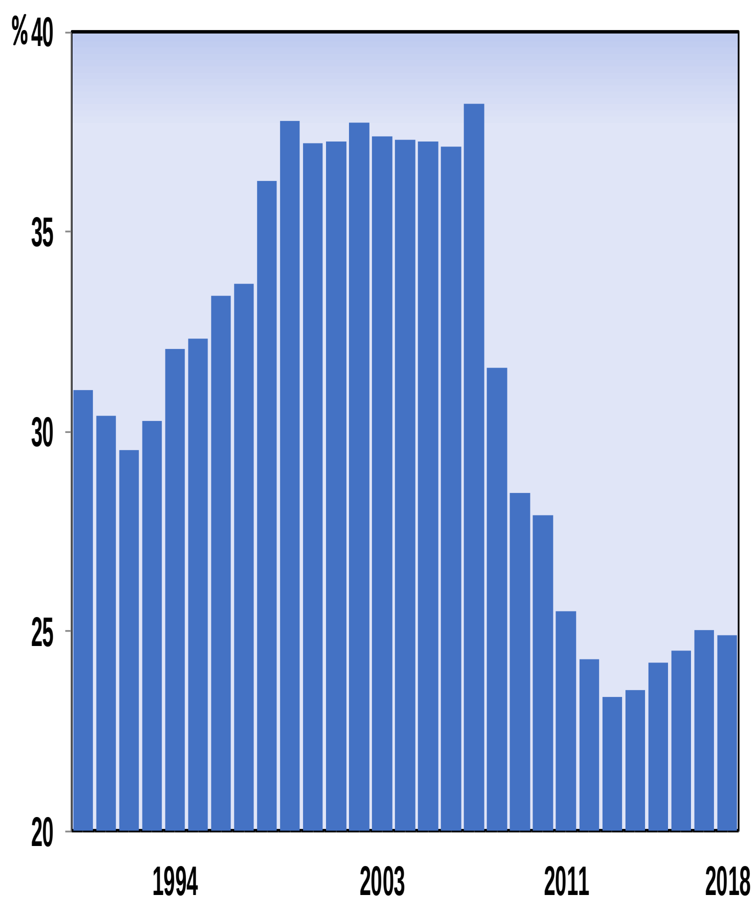
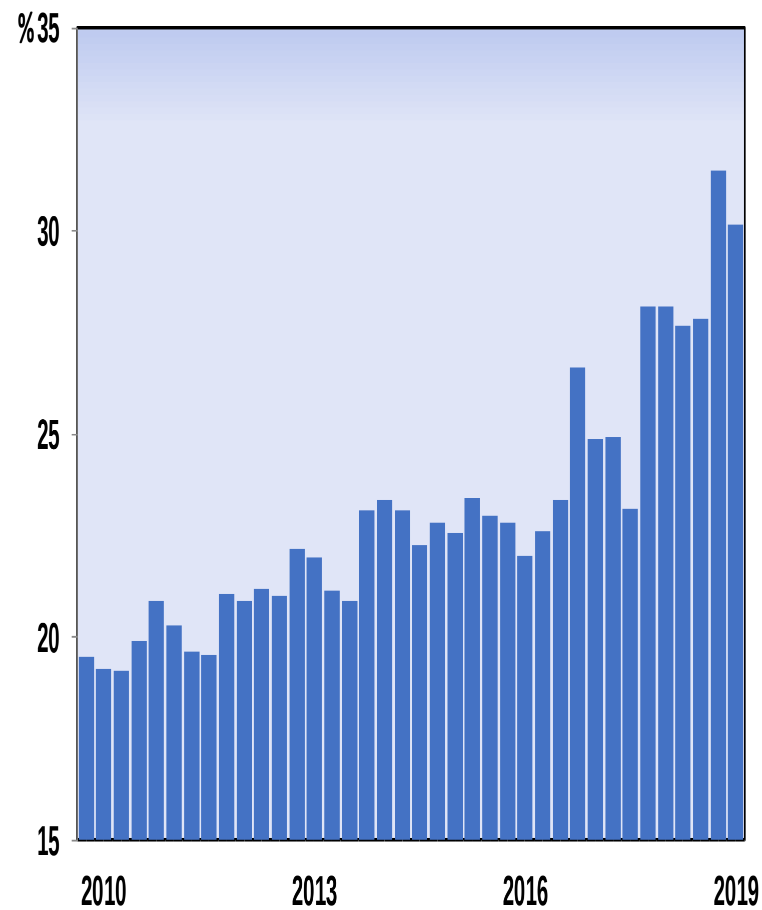


Chart 8: Steadily Rising Debt Ratios Among Small Companies
Percentage Debt to Total Assets, S&P 600 Small-Cap Index
Source: Bloomberg



Corporate Debt Refinance: As in the residential mortgage market, the plunge in long-term interest rates has triggered a wave of refinancing of corporate debt. An all-time record $75 billion in US investment-grade bonds were sold last week, as companies rushed to refinance higher-cost debt to lock in historically low borrowing costs. Apple, Disney, and Coca-Cola recently issued 30-year bonds at rates ***below*** 3%. The plunge in market interest rates should allow companies to save millions of dollars in debt service costs.

In conclusion, corporate credit conditions are nuanced. Credit conditions within the nonfinancial corporate sector are likely to deteriorate over the next several years; however, a sustained increase in defaults is unlikely to occur until there is significant erosion in profit margins. ***A sustained decline in the absolute level of corporate earnings and cash flow will be a signal that the corporate bond default rate will be trending higher***. In the interim, the high level of debt in the corporate sector — on its own — is unlikely to trigger a recession in the short term.

INVESTMENT IMPLICATIONS

An analysis of all previous business cycles since 1960 reveals that recessions are always preceded by a systematic deterioration in credit conditions that typically begins several years in advance of the onset of recession. Of course, the Great Recession of 2008 was preceded by an outright world financial ***crisis***, which laid the foundation for the worst economic downturn since the 1930s.

It is crucial for investors to closely monitor an unfolding of the traditional credit cycle in order to detect preliminary evidence of pre-recession financial pressures well in advance of an economic downturn.

An analysis of current credit conditions suggests that financial pressures are minor and that credit markets are in good health. While there are potential areas of concern — most notably within the nonfinancial corporate sector, leveraged loans, automotive credit, collateralized loan obligations (CLOs), and the commercial real estate market — the big picture is one of a benign credit environment. Credit is available to virtually all lenders on very favorable terms.

The implication is that a recession triggered by tightening financial conditions and widespread credit losses does not appear likely during the next 12 months. In the absence of recession, the equity market should massively outperform fixed-income markets over the next year.

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Bloomberg Barclays U.S. Treasury Inflation-Protected Securities (TIPS) Index: Measures the performance of rules based, market value-weighted inflation protected securities issued by the U.S. Treasury. It is a subset of the Global Inflation-Linked Index (Series-L).

CBOE Volatility Index: An index of implied equity market volatility, reflecting the market estimate of future volatility for the S&P 500 Stock Index over the next 30 days, using options.

MSCI Emerging Market Index: An index of equity market performance for developing markets, primarily in Asia, Latin America, and Eastern Europe. The index tracks both large-cap and small-cap stocks and is weighted by market capitalization.

MSCI World Ex US Index: Measures the performance of the large and mid cap segments of world, excluding US equity securities. It is free float-adjusted market-capitalization weighted.

Russell 2000 Small-Cap Index: Is an index measuring the performance of approximately 2,000 small-cap companies within the United States.

S&P 500® Index: Measures the performance of 500 widely held stocks in US equity market. Standard and Poor's chooses member companies for the index based on market size, liquidity and industry group representation. Included are the stocks of industrial, financial, utility, and transportation companies. Since mid 1989, this composition has been more flexible and the number of issues in each sector has varied. It is market capitalization-weighted.

State Street Investor Confidence Index: measures investor confidence or risk appetite quantitively by compiling actual buying and selling patterns of institutional investors.

US Trade-Weighted Dollar Index: An index that measures the value of the US dollar in relationship with other currencies, statistically weighted on the basis of importance to the US as trading partners.

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