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The Global Credit Cycle

What Inning Are We In (Or, What Game Are We Even Playing)?

One of the questions we hear most frequently from our clients is, "Where are we in the credit cycle?" Having studied (and lived through) many credit cycles, we are reminded of the words attributed to Mark Twain, "History never repeats itself, but it does rhyme." And, these cycles do rhyme! All credit cycles have almost eerie similarities, but each certainly has its own nuances. In this paper, we will:

- *Define the "credit cycle"*
- *Describe the unique characteristics of the current credit cycle*
- *Highlight how different industries are moving through the current cycle*
- *Assess the implications of these findings on fixed income portfolio construction*

The Credit Cycle Defined

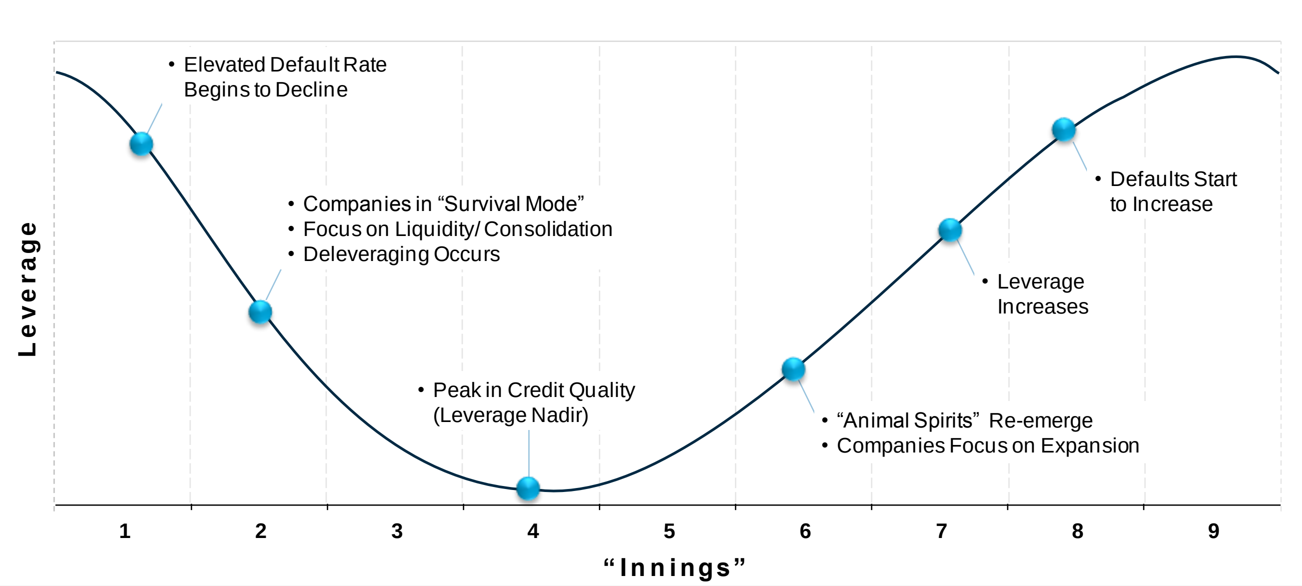
In describing the global credit cycle, we believe the great American pastime—the game of baseball—is an apt metaphor. Since the last handful of credit cycles have averaged about nine years, a nine-inning ballgame also provides more tenure and flexibility than other sport games consisting of two halves, three periods, or four quarters.

The onset of the game, or credit cycle, is marked by intensive deleveraging (typically during or after a recession) amid heavy defaults and serious soul-searching by corporate management teams as they shift from expansion to survival mode. As the game progresses through the early innings, deleveraging continues and ultimately bottoms out. The end of the deleveraging process is notable in that it represents the apex in credit quality for the cycle.

Ultimately, during the middle innings of the game, the natural animal spirits re-emerge as companies refocus on growth, expansion, and competitive factors. Typically by this point in the cycle, the financial markets and financial intermediaries (e.g. banks) are fully healed and are actively seeking investment opportunities. Individuals, corporations, and even the banks themselves usually start slowly, but eventually embark on borrowing and releveraging binges. This aggressive, risk-seeking behavior almost always leads to the end of the game—high bankruptcy levels, credit losses and, typically, a recession.

As is illustrated in the chart on the following page, a typical credit cycle exhibits a fairly standard pattern of deleveraging, releveraging, and often times the development of "bubbles," which ultimately burst.

A Typical Credit Cycle Exhibits a Pattern of Deleveraging, Then Releveraging



Source: PGIM Fixed Income as of June 30, 2016.

What Are the Similarities and Differences of the Current Cycle Relative to Past Cycles?

History does not repeat itself, but it does often rhyme and this cycle is no different. The "Great Recession" witnessed an extreme level of defaults, with the U.S. high yield bond market reaching a 14% trailing annual default rate late in 2009.[1] An extended healing period followed during which time corporations, banks, and individuals substantially reduced their debt. Naturally, corporate releveraging ensued, fueled by low interest rates and tremendous demand for fixed income securities by investors of all stripes. That sequence of events describes the extent to which the current cycle *rhymes* with almost all past cycles. However, the following list of notable nuances within the current cycle has prevented history from *repeating*:

- **Regulation, Regulation, Regulation:** Like economic and credit cycles, regulations also move in cycles, albeit typically very long ones. And we are clearly in the midst of a heavy regulatory cycle. In fact, we believe that most of the nuances of the current credit cycle that follow are related to, if not the direct result of, the flood of regulations that have been rolled out following the worst recession and financial crisis since the Great Depression. In typical fashion, regulators have attempted to "fight the last war" by heavily regulating financial institutions, mortgage lending, structured products, and derivatives—the areas generally considered to have caused the *last* crisis. Accordingly, the expansion, releveraging, and heightened risk of these areas have been severely hampered, placing them in the *early* innings of their respective cycles (as we describe in the next section).

- **European Political Risk:** As the global economy started to recover from the Great Recession, the European continent was hit with "strike two" in the form of its peripheral debt crisis. Bond prices for peripheral government and corporate debt began spiraling lower in 2010, hitting a nadir in 2012. Now the continent has to deal with the looming uncertainty and volatility associated with the recent "Brexit" referendum. While political risk across the UK and Europe will continue to weigh on the financial markets, the fixed income markets in Europe have been largely well behaved due to aggressive quantitative easing (QE) by the European Central Bank (ECB) and the prospect for additional support. The advent of the peripheral crisis so shortly after the global credit crisis, followed by the bursting of the commodity bubble, and now Brexit, has led some market participants to characterize the current cycle as actually a rolling set of crises.

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[1] *Source: Moody's Investor Services*

- **Bursting of the Commodity Bubble:** Many market participants wonder when the next recession will hit. Arguably, we have *already* had a global recession across most commodity sectors and even many manufacturing sectors. Many global commodity companies borrowed heavily to fund aggressive expansion since the credit crisis. In particular, metal/mining and commodity firms raced to provide raw materials to feed China's seemingly limitless demand, and U.S. energy companies fueled the "shale revolution" via aggressive, largely debt-financed, capital spending programs.

  As China's growth slowed and commodity prices plummeted, commodity companies' cash flow vanished, leverage spiked, and a classic default cycle ensued within those industries, and remains ongoing as of this writing. The trailing 12-month default rates for high-yield energy companies and metals/mining companies are in the mid-teens to nearly 20%, respectively.[2] As we'll discuss later, we believe these sectors are in a unique position within their own credit cycle.

Nuances within the current credit cycle have prevented history from repeating itself

- **Emerging Markets Stagnation and Developed Country Stability:** The current cycle has witnessed a historic divergence in growth trajectories between emerging and developed countries. For much of the past two decades, the contribution to global growth from emerging market countries grew steadily. That trend has reversed over the past few years, driven by the negative commodity cycle and the downturn in China's economic growth. While growth rates in the U.S., Europe, and Japan have been nothing to write home about, economic activity in the "G-3" has at least been stable, albeit with potentially slower near-to-intermediate-term growth in Europe following the Brexit vote.

  Meanwhile, many emerging market countries—notably Brazil, Russia, and China—have seen their growth rates plummet into or toward recessionary levels. To be sure, the bursting of the commodity bubble and the strong U.S. dollar (driven by central bank policy divergence)—have been blamed for the deep cyclical downturns and financial market weakness across many emerging markets. This cycle contrasts with the 2008/2009 downturn, which was led by developed country weakness.

- **Divergent Central Bank Policies:** The U.S. Federal Reserve has been agonizingly slow to commence its "normal" rate hiking regimen. A major part of the reason (in addition to the factors above) is that other major central banks—the ECB and Bank of Japan—have continued to cut interest rates and embark on additional QE programs, and are expected to remain accommodative, especially in light of the recent Brexit referendum. The U.S. dollar has surged vs. most other currencies even at the hint of Fed rate hikes. The Fed will continue to have one eye on the global economy and currency markets as it attempts to nudge the Federal funds rate higher.

- **Demographics**: The highly anticipated "pig through the python" migration of the baby boomers from their entry into the workforce beginning in the mid-1960s to retirement is transpiring in spades! The oldest baby boomers began turning age 65 in 2011, just as the current economic recovery should have been gaining steam. The generational diminution of the labor force has almost fully offset the entry of "millenials" and immigrants, resulting in a U.S. labor force growth rate just above zero and a well-documented reduction in potential U.S. GDP to, by some estimates, as low as 1.5%. The lower level of growth is keeping interest rates lower than "normal" this cycle. This stagnation could be a long-lasting headwind—some estimate the labor force growth rate may not resume its upward trend until the youngest boomers turn age 65 in 2029. Of course, the demographic headwinds to U.S. growth pale in comparison to the structural demographic challenges facing most of Europe, Japan, and even China. Low economic growth and commensurately low interest rates are likely to be a lasting characteristic of many large countries and regions.

- **Solid U.S. and Developed Country Consumers:** Despite tremendous volatility across global markets, emerging market economies, and commodities, consumers in the U.S. and some other developed countries are in relatively good shape. Improvements in the housing and labor markets, lower energy costs, and consumers' inability/unwillingness to take on new debt (especially mortgage debt), have left them in a relatively strong financial position.

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[2] *Source: PGIM Fixed Income and JP Morgan as of June 30, 2016.*

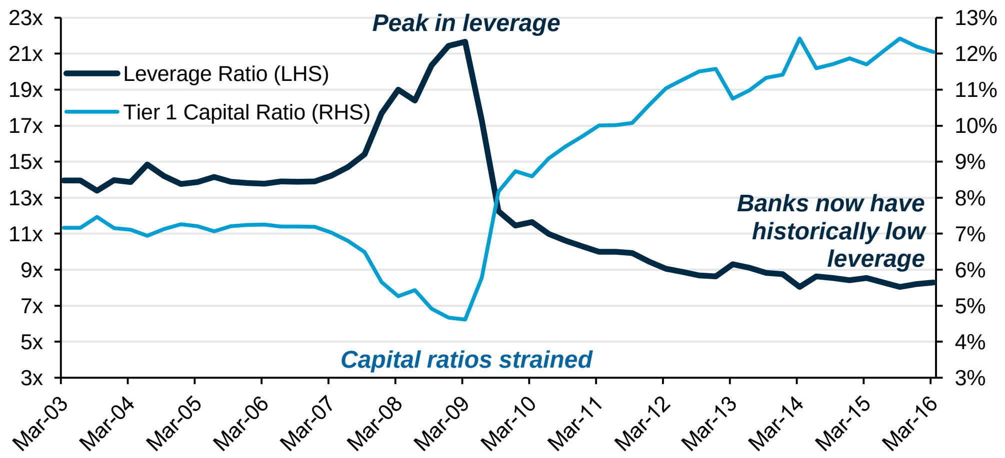
Where Are We in Today's Credit Cycle?

At PGIM Fixed Income, we have been monitoring the maturation of the current credit cycle since its onset (i.e. "first pitch") about seven years ago and it is clear to us that this cycle is very different from past cycles. The biggest difference is that this is not *one coordinated cycle*. Rather, as outlined previously, different countries, sectors, and industries are each in their own unique phase of the cycle. Below we take a closer look at the credit standing of several key sectors:

Banks

Due to the heavy-handed regulatory focus on the banks' capital, asset quality, and liquidity requirements (i.e. "fighting the last war"), the big U.S. money center banks have just about *finished* their deleveraging process and are probably at the *apex* of their credit quality, as is illustrated below. In other words, they are still in the early innings of the credit cycle. Typically, by this point in an economic expansion, banks have been already aggressively lending and leveraging up and, as in past cycles, providing financing to their clients (e.g. hedge funds) to leverage themselves. They've hardly even *started* making bad loans today.

U.S. MONEY CENTER BANKS ARE STILL IN THE EARLY STAGE OF THE CREDIT CYCLE



Source: PGIM Fixed Income as of March 31, 2016. Represents the average ratios for larger, U.S. money center banks.

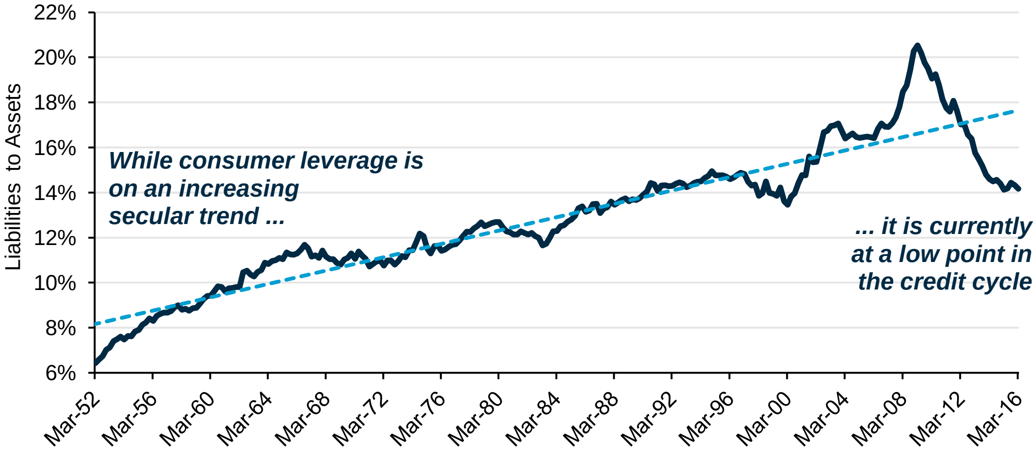
At the height of the commodity sector's weakness earlier in 2016, analysts focused on the energy exposure on bank balance sheets only to find that most banks were effectively managing that risk. Meanwhile, the major UK and European banks are one and two innings behind the U.S. banks, respectively. They are still working off bad loans, particularly within their peripheral and/or emerging market exposures. Most are also required to raise additional capital, so their deleveraging continues.

Consumers

The U.S. consumer (and other developed country consumers, for the most part) have delevered as a whole. Granted, much of their debt reduction results from writing off (i.e. defaulting on) their mortgages while the incurrence of new mortgage debt has been thwarted by tight lending standards due, again, to new banking regulations. But consumers have been also diligently increasing their savings rate. Moreover, the consumer has benefitted from low energy costs, improved job security, gradual improvements in wages, and a positive wealth effect from rising home/financial asset prices.

On the downside, there have been pockets of increased borrowing, particularly in the sub-prime auto and student loan categories. Also, there is recent evidence of increased revolving credit usage (e.g. credit cards) among consumers. Despite this secular increase in overall consumer debt, consumer leverage is significantly *below* the long-term trend line, as is illustrated below. All of this places the consumer, as a whole, in the transitional middle innings of the cycle.

CONSUMERS ARE IN THE MIDDLE INNINGS OF THE CREDIT CYCLE



Source: PGIM Fixed Income and Federal Reserve as of March 31, 2016.

Real Estate

There are even divergences within the real estate sector. The construction of traditional, affordable, single family homes has suffered in lieu of multi-family construction. Meanwhile, household formations are enjoying a cyclical rebound. Accordingly, the housing market and underlying home prices may actually have a "long runway" before they approach late-cycle excess supply and excessive valuations. In contrast, high-end apartment and condominium units, particularly in certain large cities, may already be experiencing late-cycle attributes. Non-residential commercial construction markets have also been somewhat slow to recover, as companies have been reticent to commit to long-term capital projects.

Industrials

There is also a mixed picture among non-financial, industrial corporations. Large, non-commodity industrial companies that have access to the global credit markets have exuberantly issued records amount of debt to fund everything from strategic acquisitions, stock repurchases, and dividends, to putting cash on their balance sheet for general corporate purposes. Such activities are typically characterized as “event risk.”

Clearly, these types of companies have advanced through the middle innings into the later innings of the credit cycle. By most measures, gross financial leverage (debt to cash flow) is at or near record highs among this group of companies. Interestingly, only a small percentage of the incremental debt incurrence has been used to fund traditional capital expenditures.

Also noteworthy is the likelihood that the nuances of this cycle may allow the later innings of the game to run on longer than a typical cycle, or even extend into extra innings:[3]

- Even though gross leverage is high, *net* leverage (subtracting cash from gross debt) is more modest and interest coverage (cash flow to interest expense) remains manageable due to inexpensive funding costs (i.e. low coupons).
- A lot of incremental debt has been issued by high-quality companies in the technology and pharmaceutical industries that have huge cash hordes overseas. These companies have been reticent to repatriate their cash due to the U.S. tax penalty. In these cases, much of the debt issuance has been offset by their cash balances, leaving net leverage at much lower levels.
- The recent, higher levels of leverage also reflect the large decline in the cash flow of commodity companies due to the collapse in commodity prices, not necessarily the incurrence of additional debt.

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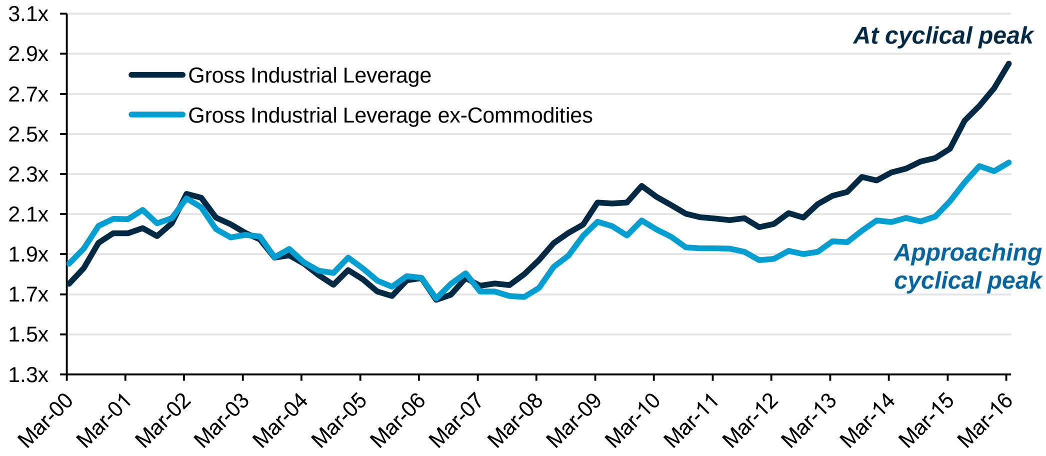
[3] *There is no time limit in baseball.*

U.S. INDUSTRIAL LEVERAGE -- EVEN EXCLUDING COMMODITIES -- CONTINUES TO RISE

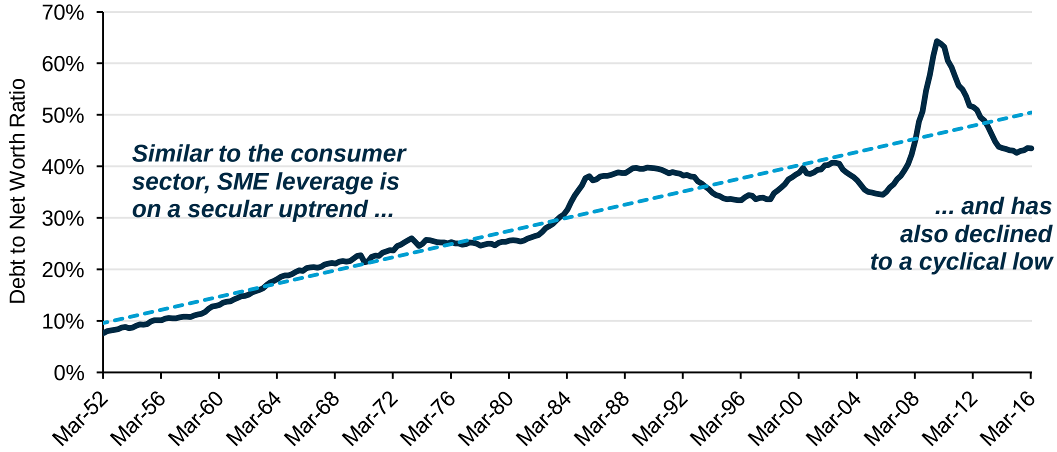


Source: JP Morgan as of March 31, 2016.

Small and Medium-Sized Enterprises

This seemingly imprudent increase in leverage by large industrial companies contrasts with the small and medium-sized enterprise (SME) category. These companies generally do not have the same ready access to the financial markets that large companies do and, instead, rely on banks for financing. They are subject to the same tight lending standards that have prevented consumers from borrowing, resulting in a sharp decline in their leverage ratio in recent years.

SMEs ARE ALSO IN THE MIDDLE INNINGS OF THE CREDIT CYCLE

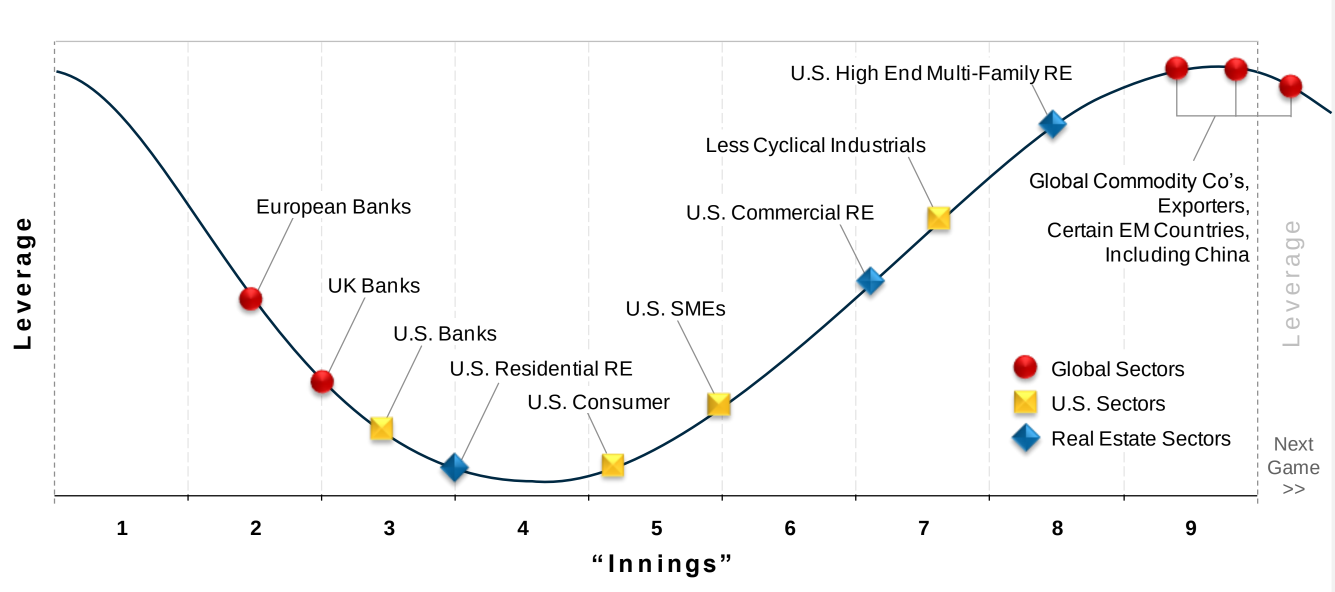


Source: PGIM Fixed Income and Federal Reserve as of March 31, 2016.

The End of the Game?

Finally, the global commodity, materials, and heavy industrial sectors, some export-focused companies, and even certain emerging market countries, are near or at the end of their cycle. They are already in full repair/survival mode. Most of these companies are scrambling to cut costs, reduce capital spending, slash dividends, sell assets, and even raise equity or merge to fend off credit rating downgrades and/or default. Many metals and mining companies appear to be at an even more advanced stage of this repair phase than energy companies. By the above definition of the credit cycle, these companies may actually be in the first inning of the *next game.*

Most Industries and Economic Sectors Are in Different Innings of the Credit Cycle



Source: PGIM Fixed Income as of June 30, 2016.

What Are the Investment Implications?

The asynchronous nature of the current credit cycle actually provides investors with vast opportunities to add value through asset allocation, sector rotation, and industry selection. The global cross currents described above also provide ample opportunities for fundamentally-based, relative value security selection across all asset classes.

The general investment themes that we are incorporating across our fixed income portfolios emphasize opportunities in sectors and companies that are in the earlier innings of the cycle. Investments in late-inning categories are highly selective. For example, participating in bond offerings that are funding merger and acquisition activities often fully price-in the additional credit risk and can provide an attractive entry point, particularly if the company is committed to a deleveraging path following the transaction. Finally, the sectors that have already moved into the next game and are *reducing* debt can provide attractive, albeit volatile, opportunities.

Specifically, we see opportunities in:

- ***High-quality structured products or asset-backed securities*** that have exposure to residential/ commercial real estate loans and consumer loans. At least partly as a result of regulators—and investors—"fighting the last war," there has been a lasting stigma associated with many of these acronymic securities—ABS, RMBS, CMBS, CLOs, for example—that have allowed them to remain attractively valued, in our opinion. In particular, the upper tiers of the capital structures have significantly more structural credit enhancement (subordination) and offer much more spread than similar structures prior to the financial crisis. Moreover, the underlying collateral is generally fundamentally sounder due to a combination of price appreciation over time and better underwriting.

- ***U.S. money center banks and select global banks*** that have or are in the process of recapitalizing their balance sheets (through debt reduction and equity retention) and have de-risked their business models via curtailment of proprietary trading and riskier investments. Of course, the banks' behavior is not altruistic; practically all of the bondholder-friendly activities these entities are exhibiting are mandated by regulations. Still, as bondholders, this is one way of getting the regulators to work *for us*.

- ***U.S. consumer-oriented sectors*** that are benefitting from resilient, if not spectacular, consumer spending. Still, this is not an area where a rising tide lifts all boats. In fact, the tide is barely rising. In a world of very low nominal economic growth, consumer spending patterns represent a nearly zero sum game, particularly as we shift from the traditional tendencies of the baby boomers to the seemingly new spending/saving behavior of the millenials. The global consumer sectors are ripe with relative value investment opportunities from which fundamental research analysts should be able to discern between the winners and losers.

- ***Select industrial companies across the ratings spectrum*** from AA to CCC that are bucking the releveraging trend and are idiosyncratically gaining market share, improving cash flow, delevering, or experiencing other fundamental credit improvements.

- ***Opportunistic investment in global commodity companies and emerging market countries*** that have right-sized their financial metrics or are at least on a path toward credit stabilization. In quite a few cases, these deeply cyclical companies have taken dramatic steps to cut costs, capital spending, and dividends and have even raised equity to preserve free cash flow and improve liquidity. The recent rebound in certain commodities has further strengthened credit outlooks.

Conclusion

The current credit cycle has similarities, but even more differences, to many other past cycles. The robust regulatory reaction to the 2008/2009 Great Recession has been an important driver, among other factors, of this cycle's nuances. The result has been an asynchronous cycle in which different sectors and industries are moving through the cycle at varying paces. While some countries and industries, such as global commodity producers, are facing the end of their cycle, other sectors seem to be in the early innings of their cycles. This incongruity has disoriented investors and, in turn, has created investment opportunities.

In fact, we believe the current wide level of credit spreads is already pricing in late cycle expectations and a higher level of expected defaults than we believe is likely to occur. Given valuations in the marketplace, we recommend that investors focus on sectors, industries, and companies that are generally in the earlier stages of the cycle and be selective and opportunistic with those in the later stages.

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Source(s) of data (unless otherwise noted): PGIM Fixed Income as of 30 June 2016.

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