How close are we to the end of the credit cycle?

SIGMA Credit Risk
Premium Group
October 2014

Executive summary

Investors in fixed income should bear in mind an observation from the veteran investor Howard Marks: “Rule number one: Most things will prove to be cyclical. Rule number two: Some of the greatest opportunities for gain and loss come when other people forget rule number one.”

Over the last couple of years, global credit spreads have compressed significantly making credit less attractive. Looking ahead, a strategic allocation to the credit risk premium is likely to generate little more than carry – that is, the coupon return obtained from simply holding the individual bonds.

If the spread between yields on corporate bonds and government bonds continues to grind tighter, credit is likely to offer an opportunity for flexible investors to benefit from this overvaluation. Our attention has, therefore, turned to the difficult task of assessing how close we are to the end of the current credit cycle and to answer the question: “Should we go short?”

To answer this question we need to understand the credit cycle and its current evolution. The greatest opportunities may come to those who can apply Howard Marks’ insight to credit markets by realising that they are indeed cyclical.

We analysed US credit cycles from the early 1980s onwards and found that previous credit cycles lasted an average of nine years. To gain greater insight, we separated the credit cycle into three phases: downturn, repair/recovery and expansion. We can track these phases using credit spreads and other measures of economic and corporate health. If the past serves as a guide, then there could be another two years or more before the current cycle comes to its natural end.

Our qualitative and quantitative assessments show that the current credit cycle is in an expansion phase, where the economy is on a firmer footing and monetary policy is biased towards tightening. While there is no doubt that volatility is currently extremely low across financial markets, this is not unusual within credit for this phase of the cycle. Generally, stable credit spreads make this environment appear ideal for harvesting carry – but for how long will this be the case?

The interest rate cycle plays a pivotal role in the rotation between phases of the credit cycle. Based on the current pricing of interest rate markets, monetary policy is expected to begin to normalise from 2015. History suggests that credit markets remain in the expansionary phase for several years before policy tightening feeds through to a deterioration in credit spreads. However, this cycle could be different from past cycles, as we have had a prolonged period of low interest rates and an unprecedented amount of monetary stimulus by central banks, creating a market dynamic that has not previously been observed.

With this in mind, we think it is prudent to focus on those catalysts that could derail credit markets before the natural end of the current credit cycle. One such risk is that the Federal Reserve under-reacts to changes in the economy and is forced to act aggressively to regain control or the appearance of control.

Introduction

Credit spreads have long been used as inputs to economic and sentiment trading models for other markets, because credit tends to be a leading indicator among asset classes. There is a large volume of literature that examines the degree to which credit spreads serve as an accurate predictor of future economic activity. Their positive findings serve to emphasise how difficult it is to forecast the direction of credit markets themselves. Here we introduce a model of the credit cycle, defining and characterising each of the phases from the movement in corporate spreads, in order to understand where we are in the cycle and how close we are to its end. In particular, we compare the evolution of the current credit cycle with past experiences to gather insight into the maturity of this cycle. In the final section, we explore the important linkage of credit cycle with the interest rate cycle.

Credit cycle: A theoretical perspective

Most readers will be familiar with the characteristics of the business cycle, where an economy tends to experience different stages of activity fluctuating around a long-term trend growth rate. In contrast, the credit cycle is less well known, but it plays an integral part in driving the business cycle. The credit cycle tracks the expansion and contraction of access to credit over time, which has a direct impact on the behaviour of firms, their ability to invest, and in turn the well-being of the economy.

The key measure by which we can identify the conditions and cost of accessing credit by firms is credit spreads, the extra compensation that an investor receives from holding a corporate bond with default risk relative to a Treasury bond of similar maturity. Although there are also non-default risk factors, such as market, liquidity and firm-specific factors, we see that a large part of the yield differential between risky corporate bonds and government sovereigns captures default risk.

An increase in default risk could be triggered by a worsening in the economic outlook, a banking crisis, or a geopolitical shock to the financial system. Against this backdrop, banks tighten their credit standards and the cost of credit rises, which leads to a deterioration in corporate fundamentals. In turn, companies de-lever their balance sheets and the central bank implements accommodative monetary policy, which prepares the way for the next phase of the credit cycle. Hence, gauging where we stand in the credit cycle gives a better understanding of the typical profile of corporate spreads and the implications for credit markets.

Figure 1: Simplified diagram of the credit cycle

Credit cycle defined by identifying the trend in corporate spread movements

Figure 1 illustrates our simplified version of the credit cycle, which we divide into three parts. We further refine the definition of the credit cycle by identifying the trend in spread movements in each of these phases (Figure 2). Whilst this does not directly help us forecast moves in spreads, it does aid us in understanding how long cycles have historically lasted. We have qualitatively grouped spreads into three phases, based on the characteristics of each stage.
Figure 2: Phases of the credit cycle

<table>
<thead>
<tr>
<th>Phase</th>
<th>Credit spread behaviour</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Downturn</td>
<td>Spread widening</td>
<td>- The worst phase for corporates, as the recession in the economy hits economic activity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Banks reduce their lending and tighten credit standards, and companies start to de-leverage their balance sheets in the face of declining cash flows and rising corporate default rates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Central banks are easing monetary policy or cutting rates, as the economy is experiencing a slowdown or is in recession</td>
</tr>
<tr>
<td>2: Repair/recovery</td>
<td>Spread tightening</td>
<td>- This repair of balance sheets and regeneration in cash flows are prominent features in the repair phase, which is aided by more accommodative monetary policy as central banks reflate the economy given anaemic growth</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The economy tends to be moving out of recession and into recovery mode</td>
</tr>
<tr>
<td>3: Expansion</td>
<td>Spread stability</td>
<td>- As the economy recovers and there is improved business and consumer confidence, banks start to increase lending and corporate cash flow improves</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- This creates the expansion part of the cycle when the economy is on a stronger footing, with increased confidence and lending once again spurring higher leverage and central banks eventually tightening policy to rein in signs of overheating in the economy</td>
</tr>
</tbody>
</table>

Source: Schroders, as of June 2014.

Qualitative and quantitative assessments of the credit cycle

We can apply this construct to an historical assessment of the credit cycle. From the mid-1980s through 2007, we find two full cycles during which we see that the higher-quality investment-grade market (Figure 3) returns to equilibrium faster than the lower-quality high-yield market in the first episode (Figure 4). In the second of these cycles and in the current cycle, high yield was more sensitive to the significant deterioration in the environment for credit, compared to the investment-grade market, since high yield transitioned more rapidly from phase 3 to phase 1 than did investment grade. Whilst credit markets appear to be currently in phase 3, the European sovereign debt crisis of 2011 reminds us that this cycle can be reset to phase 1 if there is a significant external shock to the global economy.

Figure 3: Phases of the US investment-grade credit cycle

Sources: Thomson Reuters Datastream and Schroders, as of June 2014. Note: Merrill Lynch US investment-grade (IG) corporate spreads are based on an all maturities; US IG bond compared with a US 7-year Treasury bond (to match duration). Credit cycle phases identified qualitatively.
Both the US investment-grade and high-yield credit cycles appear to be in spread stability phase...

**Figure 4: Phases of the US high-yield credit cycle**

Sources: Thomson Reuters Datastream and Schroders, as of June 2014. Note: Merrill Lynch US high-yield (HY) corporate spreads are based on all maturities; US HY bond compared with a US 5-year Treasury bond (to match duration). Credit cycle phases identified qualitatively.

The classification scheme in Figure 3 and Figure 4 relies on qualitative judgment. This is a useful tool for building understanding, but it is difficult to use as an indicator in real time. Alternatively, we can use a quantitative approach, such as the Markov regime model, to partition the data without having to rely on qualitative judgment. In Figures 5 and 6, we use this model to analyse the same data set for US investment grade and high yield\(^2\). As expected, the regime classifications are a little less stable; however, the broad picture stays the same. Both indicators suggest that we are in phase 3 of the credit cycle; that is, spread stability.

...which is also reinforced by the classification using a Markov regime model

**Figure 5: US investment-grade credit cycle phases using Markov process**

Sources: Thomson Reuters Datastream and Schroders, as of June 2014. Note: Merrill Lynch US investment-grade (IG) corporate spreads are based on all maturities; US IG bond compared with a US 7-year Treasury bond (to match duration). Credit cycle phases identified quantitatively using a Markov model.

---

\(^2\) The Markov switching model, also known as the regime switching model, is one of the most popular nonlinear time series models. This model involves multiple structures (equations) that can characterise the time series behaviours in different regimes. Sourced from “Lecture on the Markov Switching Model,” Chung-Ming Kuan, Institute of Economics Academia Sinica, 19 April 2002.
Figure 6: US high-yield credit cycle phases using Markov process

Sources: Thomson Reuters Datastream and Schroders, as of June 2014. Note: Merrill Lynch US high-yield (HY) corporate spreads are based on an all maturities; US HY bond compared with a US 5-year Treasury bond (to match duration). Credit cycle phases identified quantitatively using a Markov model.

Previous credit cycles compared with the present cycle

The average length of historical credit cycles gives us some insight into the maturity of the current cycle, bearing in mind that this is under the significant assumption that the economy is closed to external macro or geopolitical shocks. As highlighted in the previous section, since the mid-1980s, there have been two completed credit cycles in which spreads have moved from phase 1 to 3 based on qualitative judgment. For the US high-yield credit market, these two cycles lasted, on average, nine years. In comparison the current cycle has so far lasted for seven years, or approximately 75% of the average cycle.

Whilst the last cycle for the US investment-grade market lasted nearly nine years, the average over the two cycles since the 1980s was longer than that of the high-yield market at 11.5 years. This was prompted by an extended period in phase 3 (i.e., spread stability) during the late 1980s to the 1990s. In contrast to high-yield corporates, investment-grade spreads did not significantly widen during the US recession in the early 1990s, which coincided with the height of the Savings and Loan Crisis of 1989. Hence, if we take a more conservative view and discount one of the investment-grade credit cycles, then the typical cycle length is nine years which is the same as high yield.

If history serves as a guide, then there could be another two years or more to go before the end of the current credit cycle. This is perhaps easier to appreciate from a visual perspective (Figure 7). In this cycle, high-yield corporate spreads are trading close to levels experienced in previous cycles. While there appears to be room for further compression, the ultra-low spread levels experienced prior to the last crisis were facilitated by credit conditions that are unlikely to be repeated. Moreover, as highlighted in the previous section, our qualitative and quantitative assessment suggests that the current cycle is in phase 3, which is characterised by spread stability.
If history is a guide, there could be two years or more before the current credit cycle ends

**Figure 7: Previous credit cycles, US high-yield market**

Fundamental backdrop in this cycle appears benign, with the corporate default rate at historical low

In terms of the fundamental backdrop for credit markets, conditions for corporates appear benign, according to several useful credit barometers. The close link between the corporate default rate and credit spreads is well known for most readers, as is the fact that default rates tend to lag. Currently, high-yield default rates are at historical lows and below levels experienced nearly three months after the peak in spreads of previous cycles (see the orange line in Figure 8). In addition, leverage and interest cover ratios for high-yield US corporate bonds are within historical norms, although leverage has been rising, as corporates take advantage of the low-rate environment.

**US unemployment rate still above trend levels in this cycle**

**Figure 8: Peak in US high-yield default rate in previous cycles**
On the macro front, we focus on the US unemployment rate, given that it is a measure of slack in the economy and has been used by the Fed as the hurdle rate for leaving interest rates unchanged. In this cycle, the unemployment rate has been falling but continues to be elevated, compared with past periods (Figure 9). Moreover, the unemployment rate is still higher than trend levels (i.e., NAIRU, or non-accelerating inflation rate of unemployment) experienced towards the end of previous cycles. This has been one of the measures justifying the ultra-accommodative stance of the Fed and will have an important bearing on the future course of the interest cycle, which is discussed in detail in the next section.

**Figure 9: US unemployment rate cycles**

![Unemployment rate cycles](chart)

Sources: Thomson Reuters Datastream and Schroders, as of June 2014.

**Credit cycle and the interest rate cycle**

Important to the credit cycle is the interest rate cycle, which plays a pivotal role in the rotation between phases. In the past, US corporate spreads have stayed relatively stable during episodes when the Fed increased interest rates, such as the 2004 to 2006 period (see the shaded in grey in Figure 10). However, tighter monetary policy eventually results in higher refinancing rates and interest costs for firms, which has a detrimental impact on their balance sheets. This sets the scene for a move into the next phase of the cycle, which is characterised by deteriorating credit and economic recession; for example, the financial crisis in 2007 (phase 1).
Interest rate cycle plays a pivotal role in the rotation between phases

Figure 10: US Fed funds rate and high-yield credit spreads

Credit spreads have generally been well behaved during previous rate hiking cycles...

Based on current market pricing, the first rate rise is expected in the first half of 2015. Generally, credit spreads have been well behaved during previous rate hiking cycles, with the peak in spreads coming some time after policy rates have stabilised. Since the late 1980s, the first rate hike and the subsequent peak in credit spreads have averaged around three years, respectively (Figure 11). Combining this with the analysis of the credit cycle suggests that there could be another two to three years before we move into the next stage of the cycle; that is, the recession phase.

...but it could be different this time, given the unprecedented monetary stimulus and low interest rates

Figure 11: Time from first rate hike to peak in US high-yield spreads (number of months)

<table>
<thead>
<tr>
<th>First interest rate hike</th>
<th>End of interest rate hiking cycle</th>
<th>Peak in US HY spreads</th>
<th>First rate hike to peak in spreads (Months)</th>
<th>End of rate hiking to peak in spreads (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 1999</td>
<td>May 2000</td>
<td>October 2002</td>
<td>40</td>
<td>29</td>
</tr>
<tr>
<td>June 2004</td>
<td>June 2006</td>
<td>November 2008</td>
<td>41</td>
<td>29</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td></td>
<td><strong>38</strong></td>
<td><strong>26</strong></td>
</tr>
</tbody>
</table>

However, we must be cognisant of the unprecedented monetary stimulus and prolonged period of low interest rates that have characterised this cycle. We have no guide from history on how markets will react to the eventual unwind of this policy. However, the reaction of the market in May and June of 2013 to suggestions that it would begin to taper QE suggest that markets might find it difficult to give up QE and that this cycle could therefore be different from the past. Hence, the tightening in monetary policy will be the key variable to monitor in gauging the end of the credit current cycle.

Conclusions

We have introduced a model for the credit cycle based on both qualitative and quantitative assessments. Under this model, the current credit cycle is in the expansion phase, during which corporate spreads are generally stable, the economy is on a firmer footing and monetary policy is biased towards tightening. If the past serves as a guide, then in the aftermath of the financial crisis there could be another two years or more to go before this cycle comes to its natural end.
The interest rate cycle plays a pivotal role in the rotation between phases of the credit cycle. Based on the current pricing of interest rates, the market consensus expects the Fed to unwind QE by the end of 2014, with the first rate rise assumed in the first half of 2015. Generally, credit spreads have been well behaved during the rate hiking cycle, with the peak in spreads coming some time after policy rates have stabilised.

While past cycles suggest that there is another two years or more to go, this cycle could be different, as we have experienced an extended period of ultra-loose policy by the central banks, which has created a backdrop not previously observed. Hence, the future course of the Fed is one key catalyst to watch that can de-rail credit markets before the natural end of the cycle.

Important Information:

For professional investors only. Not suitable for retail clients.

The views and opinions contained herein are those of Multi-Asset Investment & Portfolio Solutions Team, and may not necessarily represent views expressed or reflected in other Schroders communications, strategies or funds.

Past performance is not a guide to future performance and may not be repeated. The value of investments and the income from them can go down as well as up and investors may not get back the amount originally invested.

This document is intended to be for information purposes only and it is not intended as promotional material in any respect. The material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The material is not intended to provide, and should not be relied on for, accounting, legal or tax advice, or investment recommendations. Information herein is believed to be reliable but Schroder Investment Management Ltd (Schroders) does not warrant its completeness or accuracy. No responsibility can be accepted for errors of fact or opinion. This does not exclude or restrict any duty or liability that Schroders has to its customers under the Financial Services and Markets Act 2000 (as amended from time to time) or any other regulatory system. Schroders has expressed its own views and opinions in this document and these may change. Reliance should not be placed on the views and information in the document when taking individual investment and/or strategic decisions.

Issued by Schroder Investment Management Limited, 31 Gresham Street, London EC2V 7QA, which is authorised and regulated by the Financial Conduct Authority. For your security, communications may be taped or monitored.