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Introduction

A focus of financial markets at present is the fact that swap spreads continue to narrow. Led by swap spreads moving into negative territory in the US, many other markets are moving in sympathy. This impacts most fixed income investors as both fixed and floating rate funds are likely to be exposed to swap spreads whether directly through active trading of swap spreads in the portfolio, or indirectly through assets that are priced against the swap curve.

This paper provides an insight into this phenomenon covering:

1. An overview of interest rate swaps and swap spreads
2. Primary drivers for the recent moves
3. Outlook and implications

About the author

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Matthew co-manages Macquarie’s Australian fixed interest portfolios. His primary responsibility is managing the duration positioning as well as portfolio construction. Matthew’s experience contributes to the investment strategies across all the cash and fixed income solutions globally.

Matthew has over 18 years industry experience, and has a Bachelor of Business (Accounting and Finance) from the University of Technology Sydney and is a CPA.
Swaps and swap spreads

An interest rate swap is in essence an agreement between two counterparties to swap one stream of future interest payments (usually floating payments) for another (usually fixed payments) based on a specified principal amount. The sum of the forward floating legs at the time the swap is dealt should be equal to the fixed rate. As such, the yield on the swap should reflect movements in perceptions around the future path of floating rates.

In Australia, the market standard for the floating rate payment is the Bank Bill Swap Rate (BBSW) which is essentially the rate at which prime banks will lend to each other via bank bills for various maturities. For swaps with a maturity of less than 4 years, this floating leg is the 3 month bank bill rate (BBSW3M). This rate is set daily and is the rate at which banks can borrow in the institutional market. It is important to note that this is unsecured lending between banks and hence carries some credit risk.

Given BBSW has inherent bank credit risk, it makes fundamental sense for this rate to trade above the Reserve Bank of Australia (RBA) controlled risk-free cash rate. It is also important to note that given the BBSW3M is a forward rate, it captures any forecast expected RBA cash rate changes. The market forecast 3 month forward RBA cash rate is known as the 3 month overnight index swap (3M OIS). The swap spread is the difference between the BBSW3M and the 3M OIS and captures the inherent bank credit risk.

Chart 1 below shows the history of these rates and spreads and the BBSW3M unsecured risky rate can be observed as generally trading at a swap spread of 10 to 30 basis points over the risk-free forward cash rate.

When looking at term swap spreads, the same principle applies, although the risk-free rate in this case is usually assumed to be the government bond rate. A 3 year interest rate swap is comprised of the 12 floating rate payments to make the fixed rate (4 quarterly BBSW sets per year for 3 years). Therefore, a 3 year swap spread is the difference between the 3 year government bond and the 3 year fixed swap rate as illustrated in chart 2.
As highlighted in the chart, the 3 year swap spread has collapsed recently from the mid 20’s in October to almost 6 basis points in November 2015.

This has been a global phenomenon and is best demonstrated in the 10 year swap spread in Australia and the US in chart 3 below. As illustrated in the US, the 10 year swap rate now trades at a yield 10 basis points below the equivalent government bond and in Australia this has collapsed from 30 to a record low of 5 basis points. Given that swap spreads are effectively a summation of the unsecured bank funding rate over a specific term, how can swap rates be below the supposed risk-free government bond rates?

Source: Bloomberg, November 2015
Reasons for recent tightening in global swap spreads

Government bond and swap yields are influenced by a multitude of factors including supply technicals, changes in perceived credit risk and liquidity reasons. Below is an overview of the most relevant key drivers, many of which are intertwined with each other.

1. Glut of government bonds

The continued supply of government bonds (as shown in chart 4), developed central banks’ quantitative easing (QE) policies and recent European sovereign concerns has caused many investors to question if government bonds really represent the risk free rate. Rating downgrades, including the United States, and effective “defaults” (Greece) have cemented these concerns. Indeed already some are warning that the AAA rating of the Australian sovereign is at risk given the deteriorating budget position. These factors have caused government bond yields to widen as many investors are also factoring credit risk into these securities once viewed as risk free.

Chart 4: Australian Commonwealth Government Bonds (ACGBs) vs. Australian 10 year swap spreads

Source: Bloomberg, November 2015

2. Emerging market (EM) FX reserve managers selling government bonds

EM central banks were the marginal buyer of government bonds as their FX reserves were increasing. However more recently their FX reserves have been falling (chart 5) as EM countries seek to defend their currencies against outflows. To facilitate this they have to sell government bonds from their reserves. This reversal (from buyer to seller) has contributed to higher yields in government bonds and tighter swap spreads.

Chart 5: China’s FX reserves vs. US 10 year swap spreads

Source: Bloomberg, November 2015
US Federal Reserve (Fed) policy actions

With the Fed expected to imminently increase rates, many investors are wary of the potential negative impact to US Treasuries which is contributing to higher government yields. All things equal, an increase in the federal funds rate should have a similar effect on the swap yield given the fixed rate should factor in the increase in the series of floating rates. However, as the supply and regulatory factors affecting the bond market intertwine, the impact on the Treasury market to date has been outsized relative to the move in swaps.

Repo rates

Banks incur a capital charge to hold government bonds on their balance sheet. As such, many banks instead finance these holdings off-balance sheet through the repo market. (The repo market is one in which two participants agree that one will sell securities to another and make a commitment to repurchase equivalent securities on a future specified date, at a specified price. In effect, it is a way of borrowing or lending government bonds for cash, with the bonds serving as collateral). This increased demand for repo financing is causing the rate to steadily move higher. As the repo rate moves higher, the cost of holding government bonds on the balance sheet for unfunded (i.e. leveraged) buyers increases which narrows the spread to the unsecured bank financing rate (BBSW or Libor). As this is an assumed structural change it has impacted longer term swap spreads.

Chart 6: Repo rates vs. US 10 year swap spreads

[Chart showing Libor - Repo rate and US 10 year swap spread over time]

Source: Bloomberg, November 2015

Global regulatory changes

To make banks safer since the Global Financial Crisis a number of regulatory changes such as Basel III and the Volcker rule have been implemented. These changes are aimed at curbing banks’ trading activities and improving balance sheet strength. These changes have made the banks less risky, narrowing the swap spread but have had the unintended consequence of also reducing the ability and willingness of banks to warehouse risk (hold government bonds on their balance sheet) and provide liquidity to the bond and swap markets.
Corporate issuance

A significant increase in corporate issuance has been observed (chart 7) and has driven swap rates lower as many of these corporates swap their fixed payments to floating so that liabilities match assets. In short, a corporate issues a fixed rate bond, and then receives the fixed leg on a swap, paying the floating leg, which sends swap rates lower. At the same time, the issuance adds fixed income supply to the market driving US Treasury yields higher as buyers hedge their rate risk or free up cash to participate in the new issue. Both sides, drive swap spreads lower.

Chart 7: US corporate issuance

Source: SIMFA, October 2015

Clearinghouses

Another reason being put forward is that a large majority of swap trades are now cleared through clearinghouses such as CME and LCH. The argument is that by using a clearinghouse there is now less counterparty credit risk associated with the majority of swaps as everyone faces a clearer and not an individual bank. Although this would make sense if all swaps before this change were uncollateralized, however since the GFC most swaps were collateralized, and therefore this might not be such an important factor.

Chart 8: Swaps cleared

Source: LCH Clearnet, November 2015

Natural payers of (fixed) swaps not as prevalent

The onset of a tightening cycle, as we appear set to embark on in the United States, would typically result in the paying of fixed rates to hedge against higher rates. This may be from corporates looking to lock in lower rates, or mortgage hedgers given the prevalence of long term fixed rate mortgages in the US, particularly from the Government Sponsored Enterprises (GSE’s) such as Fannie Mae and Freddie Mac. This time around, there appears to be a lack of natural pay side interest. Partly because the GSE’s have reduced their holdings, but more significantly due to the fact that the Fed are major holders of mortgage products through their QE policy, and do not hedge the interest rate and pre-payment risk of the mortgages.
Summary and take outs

The recent decline in swap spreads can be attributed to increased supply of bonds, less EM central bank buying due to FX reserves falling and investors worried about higher rates and the credit risk of owning these bonds. This has been coupled with regulatory changes on banks, which means they have less ability and interest to soak up the excess supply and a focus on off balance sheet instruments (swaps) rather than funded assets (bonds).

Also increased corporate issuance with less liquidity and less natural payers of swaps have also played a role. A lot of these changes seem more permanent rather than cyclical and whilst it does not make fundamental sense for government bond yields to trade near or over swap yields, it does appear likely that this phenomenon will continue.

The impact of this fall in swap spreads will impact fixed income investors differently depending on the structure of their portfolio, however there are some key take outs for all investors:

- **A regulated world**: In an environment that is heavily regulated, often unintended consequences emerge, such as negative swap spreads. It is therefore important to think about all potential impacts from regulation and that, sometimes, in addressing one perceived problem, another one can emerge as a consequence. Given regulation can drive abnormal outcomes, it is likely that regulation will continue to evolve and persist to address these unintended consequences.

- **Impact from more stringent bank capital requirements**: For banks, holding assets on their balance sheet is becoming a difficult exercise given new capital requirements. This regulation impacts on the ability for banks to trade financial assets and provide liquidity. On the other hand investment managers have access to cash and do not incur capital charges. As such going forward will there be less reliance on the repo market and more peer-to-peer transactions? Will asset managers become an even bigger provider of liquidity?

- **Definition of the risk free rate**: When the swap yield trades through government bonds, the definition of the risk free rate comes into question. This is especially relevant in the context of the risk free rate being the base for the pricing of financial assets. In addition the market is now discounting credit risk from large financial institutions (negative swap spreads), is this another unintended consequence?

- **Valuation of spread products**: Given the proliferation of buyers in asset swap terms, most spread securities tend to trade at a reference to swap spread. As a result, when valuing fixed rate securities, there will likely be a benefit versus commonwealth government bonds as the tightening of swap spread will also impact the spread to bond.

- **Investment management skills**: This paper also highlights that basic concepts can rapidly become quite complex. As such, it is essential to work in partnership with investment professionals who keep abreast of the fast changing and ever-evolving world of financial instruments.

- **Focus on hedging strategies**: The change in the swap spread may have an impact on how asset managers hedge their duration risk going forward. With swap spreads at these levels, it could be a better outcome to use interest rate swaps over bond futures.
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