The Great Rotation: Myth or Reality?

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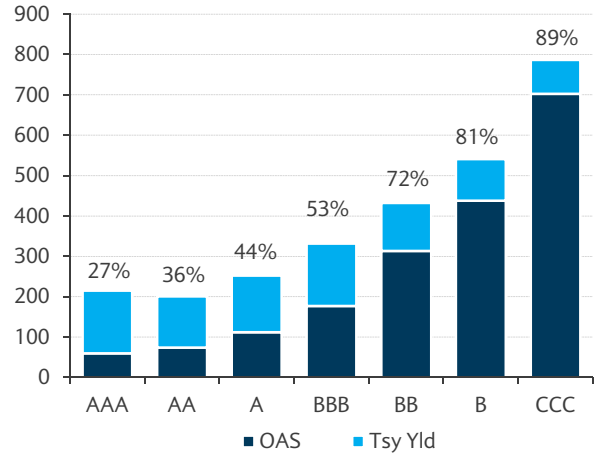
Both the recent increase in interest rates and renewed questions about the duration of QE3, sparked by the release of the December FOMC minutes, have raised concerns about the implications of higher Treasury yields for credit spreads. These concerns have been most pronounced for investment grade credit, given the relatively small percentage of its yield that is made up of spread (Figure 1). The story goes something like this: negative total returns in fixed income and increasing equity prices will drive investors to sell the fixed income assets they have accumulated over the past several years and buy stocks. This "Great Rotation" will force investment grade corporate spreads wider.

We do not believe this represents a significant threat to investment grade credit spreads, in part because we find no historical evidence of such a rotation, based on nearly 100 years of data on rates, spreads, and equities. Sharp increases in interest rates have happened many times, including several instances post-crisis. In almost all of these periods, credit spreads tightened, as the moves were driven by improving macroeconomic fundamentals. The few times that higher rates were accompanied by wider spreads happened in the 1970s and early 1980s, when inflation was accelerating. In each of these periods, equity prices fell sharply. In other words, the combination of higher rates, wider spreads, and higher equities has never happened.

Risky assets are generally correlated, and when interest rates increase, this is usually because of an improving fundamental backdrop that drives risky asset prices higher. Moreover, mutual fund flows into credit have been extremely robust. The only outflows associated with higher rates have been small, short-lived, and offset by buying from other large holders, such as insurance companies, which receive stronger inflows when rates are high as their product pricing improves. During most periods of rate increases, Treasury funds bore the brunt of fixed-income outflows. However, we acknowledge that total returns for the asset class are likely to be negative if interest rates increase sharply, given that that credit yields are currently near all-time lows.

FIGURE 1

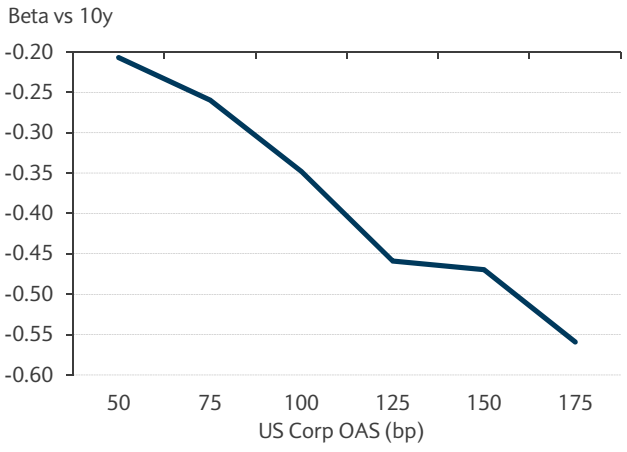
OAS as Percentage of Yield to Worst for U.S. Corporate and U.S. High Yield Indices



Source: Barclays Research

FIGURE 2

Beta of Changes in OAS of the U.S. Corporate Index versus Changes in 10y Treasury Yields: 1990-2012



Note: Based on monthly observations. Source: Barclays Research

Our conclusion is not that such a "Great Rotation" is impossible, given the differences between the current environment and the historical period. With the Fed and buy-and-hold investors owning the majority of Treasuries, corporate bonds may be more vulnerable to outflows during a rate increase. In addition, yields are as low as they have ever been, making total returns particularly vulnerable to moves in interest rates. Despite these differences, we believe that such a rotation is extremely unlikely. As long as the Fed continues QE3, the net supply of high quality fixed income alternatives to credit will be very limited. Even when QE3 ends, we see little reason to believe that flows into the asset class will suddenly change course and retreat dramatically, with potential small mutual fund outflows cushioned by increased buying by insurance companies at higher rates. In fact, as Treasury yields increased approximately 60bp in the past six months, credit and equities rallied, and inflows to credit have been extremely strong.

The Negative Relationship between Spreads and Rates in the Current Environment

We first examine the relationship between rates and spreads between 1990 and 2012 – the longest period for which granular Barclays index spread data are available. Over this time, the beta of Barclays Corporate Index spreads to interest rates has been approximately -0.20x, meaning that spreads have moved in the opposite direction of and offset about 20% of the move in interest rates. This suggests that traditional measures of duration overstate the negative effect of interest rate increases on corporate bond returns.

The strength of the relationship between rates and spreads is correlated with overall spread levels (Figure 2). At wider spread levels, spread compression tends to offset more of the increase in Treasury yields. The relationship is stronger for lower-rated bonds than for higher-rated bonds, since lower quality credit tends to be more leveraged to economic growth, which in turn is correlated with changes in Treasury yields. Furthermore, lower-rated bonds are typically higher beta and thus tend to outperform higher rated bonds in a rally.

The negative beta of spreads to rates has been particularly high post-crisis because of the macro-driven nature of market moves during that time. Risk flare-ups have led to broad-based sell-offs across risky assets and rallies in Treasuries as investors flocked to safe haven assets. The opposite has happened during risk-on periods.

FIGURE 3

U.S. Corporate Index Excess and Total Returns during Periods of Pre-Crisis Rate Increases (bp)

Period of Rate Increase	10y Tsy Chg	U.S. Corp Ex Ret	U.S. Corp Tot Ret
9/30/93-11/30/94	250	92	-463
1/31/96-6/28/96	113	65	-267
10/5/98-1/21/00	264	187	-411
11/07/01-4/1/02	123	167	-278
6/13/03-9/2/03	151	52	-607
3/22/04-6/14/04	115	10	-527
6/27/05-6/27/06	134	13	-292

Source: Barclays Research

FIGURE 4

U.S. Corporate Index Excess and Total Returns during Periods of Recent Rate Increases (bp)

Period of Rate Increase	10y Tsy Chg	U.S. Corp Ex Ret	U.S. Corp Tot Ret
3/17/08-6/13/08	95	389	-126
12/30/08-6/10/09	184	1251	467
11/30/09-4/5/10	79	355	78
10/8/10-2/8/11	134	229	-336
9/22/11-10/27/11	68	221	-108
1/31/12-3/19/12	58	214	-93
7/24/12-9/14/12	47	202	-54

Source: Barclays Research

Spreads Have Tightened during Periods of Sharply Rising Rates

While spreads have generally moved in the opposite direction of rates since 1990, what investors are particularly concerned about is spread moves during periods of sharp interest rate increases. Since 1990, there have been several such periods, but in none of them were credit excess returns negative. In Figures 3 and 4, we look at Corporate Index excess and total returns since 1990. Figure 3 shows the results for pre-crisis periods when 10y Treasury yields increased by more than 1% (from trough to peak), while Figure 4 shows the crisis and post-crisis periods with the largest increases in 10y Treasury yields.

In every period in the two samples, excess returns for credit have been positive, cushioning some of the adverse effects of higher interest rates on credit total returns. We believe that spreads tighten when rates increase for two main reasons: 1) interest rates typically increase during times of economic improvement and strong financial market performance (as investors reallocate from Treasuries into risk assets), and 2) buying of credit by yield-sensitive buyers increases at higher interest rates.

Longer-Term Historical Analysis: More of the Same

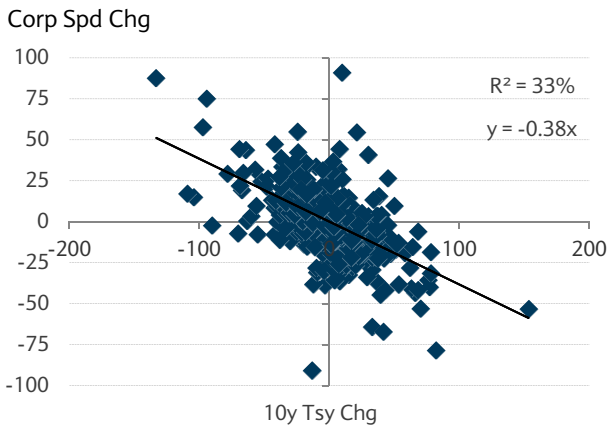
There are several limitations to using the 1990-2012 period. First, it is fairly short and does not cover a full range of possible macroeconomic and monetary policy environments. Second, interest rates were on a downward trend during this timeframe, with 10y Treasury yield dropping from 7.8% in August 1989 to 2% currently. Therefore, this period does not provide us with an example of a protracted upward regime change in interest rates, of the kind that many investors are concerned about. As a result, we turn to a longer time series using Moody's long-end corporate spread data, which allow us to go back to 1919.

The generic conclusions using the longer timeframe are the same as in the previous analysis; spreads were negatively correlated with rates (Figure 5), and lower-rated credit absorbed more of the move in rates than higher-rated credit (Figure 6).

The negative relationship between spreads and interest rates has existed in large part because interest rates have generally risen because of improving economic conditions. However, there are some scenarios in which interest rate increases can occur in less benign environments – for example, in an inflationary environment or if the creditworthiness of the

FIGURE 5

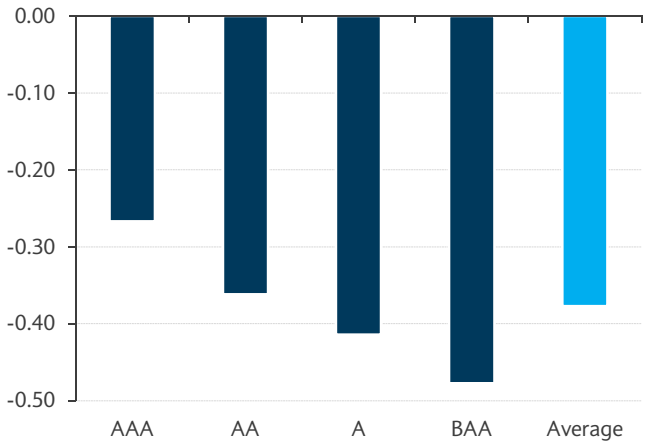
Long-End Industrial Spreads versus 10y Treasury Yields: 1919-2012 (bp)



Note: Regression based on monthly yield and spread changes.
Source: Moody's, Barclays Research

FIGURE 6

Beta by Rating of Long-End Industrial Spreads versus 10y Treasury Yields: 1919-2012



Note: Regression based on monthly yield and spread changes.
Source: Moody's, Barclays Research

U.S. is at risk. To see whether investors have allocated away from credit and into equities during such scenarios, we examine more closely the 1970s-early 1980s period of high inflation and recessionary economic conditions.

1970s-Early 1980s

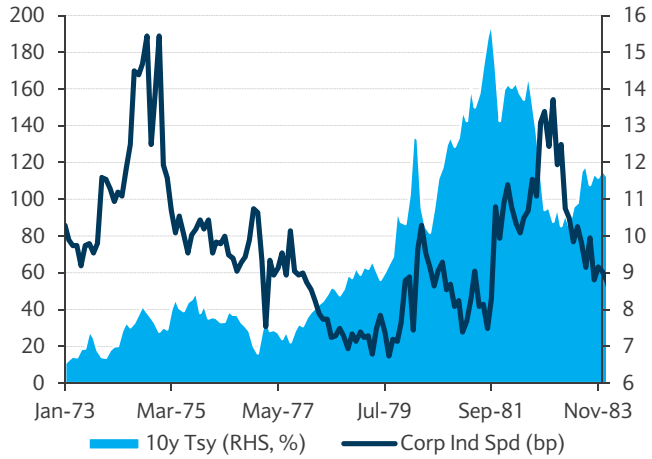
The 1970s-early 1980s was the only period in the past 90 years when credit spreads widened during interest rate increases. During that time, the U.S. economy went through several recessions, and inflation was at record highs, peaking at 11% in 1974 and then again at 13.5% in 1980. Credit spreads spiked during the 1974-75 recession and the 1980-82 recessions, periods that corresponded with sharp increases in interest rates (Figure 7). More specifically, as Figure 8 shows, spreads widened during three periods of rate increases; December 1973-September 1974 (+63bp), January 1981-September 1981 (+4bp) and December 1981–July 1982 (+15bp). However, during each of those periods, equities sold off and underperformed credit dramatically, indicating that the credit sell-offs were reflective of generic risk-off sentiment and not a result of a rotation into equities and out of credit. An analysis of historical flows into different asset classes – to which we turn next – helps explain why the rotation into equities has not occurred.

Flows into Credit Held Steady When Interest Rates Increased

While concerns about large-scale flows out of credit as a consequence of interest rate increases are often raised, an analysis of historical flows provides no evidence to substantiate these concerns. Mutual fund flows – a key source of marginal demand for credit – into investment grade funds have been consistently positive from 1992 to the present, with only a few short periods of relatively small outflows. Figure 9 plots weekly flows into the asset class as a percentage of total assets versus the 10y Treasury yield. As the figure demonstrates, several periods of outflows have coincided with sharp spikes in interest rates. However, those outflows were very short lived and were small relative to the size of the market, with the largest stretch of outflows during the entire timeframe totaling only $20bn, or 4% of total investment grade mutual fund assets at the time (in 4Q08). In fact, the regression

FIGURE 7

10y Treasury Yields and Barclays Industrial Spreads



Note: Industrial spreads are estimated as Barclays Industrial Index YTW minus 10y Treasury yield. Source: Barclays Research

FIGURE 8

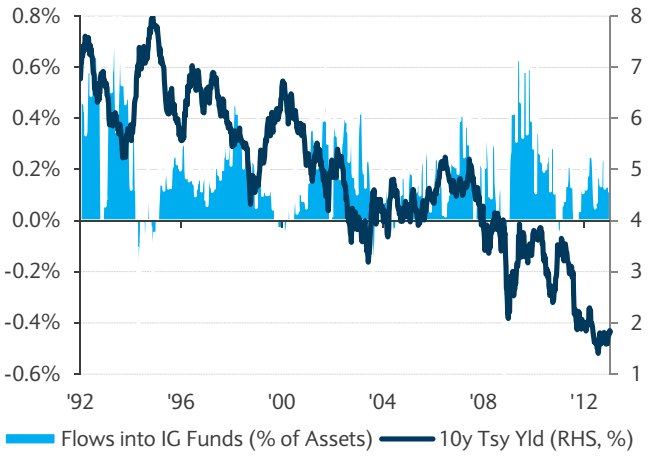
U.S. Industrial Spread Changes and S&P 500 Returns during Periods of Interest Rate Increases in the 1970s and 1980s

Period of Rate Increase	10y Tsy Chg	U.S. Ind Spd	S&P 500
11/30/73-8/30/74	142bp	63bp	-25%
2/28/75-9/30/75	102bp	-28bp	3%
12/31/76-2/28/77	99bp	-62bp	-7%
8/31/77-4/30/79	224bp	-67bp	5%
6/29/79-2/29/80	391bp	-8bp	10%
6/30/80-11/28/80	263bp	-9bp	23%
12/31/80-9/30/81	341bp	4bp	-14%
11/30/81-6/30/82	131bp	15bp	-13%

Source: Barclays Research

FIGURE 9

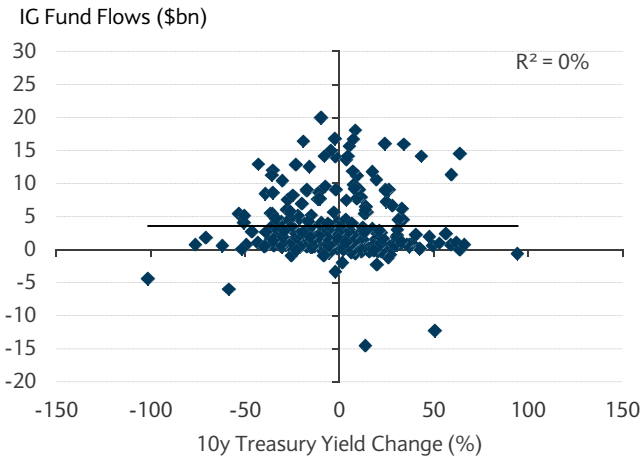
Mutual Fund Flows into Investment Grade Bonds Funds versus 10y Treasury Yields



Source: Lipper/Thomson Reuters, Barclays Research

FIGURE 10

Monthly Mutual Fund Flows into Investment Grade Bonds Funds versus 10y Treasury Yield Changes



Note: Based on monthly data for 1992-2012.
Source: Lipper/Thomson Reuters, Barclays Research

of monthly mutual fund flows into investment grade credit versus interest rates shows that there has been no relationship between the two variables (Figure 10).

Figures 11 and 12 zero in on flows during rate increases, using the periods from our earlier analysis on returns. Flows into investment grade funds have been very resilient; they were negative during only one of the 14 periods in our sample – the summer of 2003. The outflows during this period were modest – totaling approximately 0.2% of total investment grade bond fund assets. In fact, in more than half these periods of rate increases, inflows to the asset class totaled more than 2% of assets, which is consistent with the strength of credit's performance during these periods.

While rising rates appear to have little effect on fund flows into credit, their influence on flows into Treasury funds has been more significant. Treasury fund flows were negative or flat during six of the periods in Figures 11 and 12. In the 1993-94 rate hike period, Treasury outflows totaled as much as 13% of total Treasury fund assets. We expect Treasury funds to continue bearing the brunt of fixed income outflows during periods of rate increases – a trend that has already occurred since rates began going up in July 2012.

FIGURE 11

Mutual Fund Flows into Credit and Treasuries during Periods of Rate Increases: Pre-Crisis

Period of Rate Increase	10y Tsy Chg	IG Mut Fund Flow	Tsy Mut Fund Flow
9/30/93-11/30/94	2.5%	7.4%	-12.9%
1/31/96-6/28/96	1.13%	4.6%	7.1%
10/5/98-1/21/00	2.64%	9.2%	-4.0%
11/07/01-4/1/02	1.23%	6.7%	-0.7%
6/13/03-9/2/03	1.51%	-0.2%	0.9%
3/22/04-6/14/04	1.15%	0.4%	7.8%
6/27/05-6/27/06	1.34%	9.8%	11.4%

Note: Flows are expressed as a percentage of total mutual fund assets for that category. Source: Lipper/Thomson Reuters, Barclays Research

FIGURE 12

Mutual Fund Flows into Credit and Treasuries during Periods of Rate Increases: 2008-Current

Period of Rate Increase	10y Tsy Chg	IG Mut Fund Flow	Tsy Mut Fund Flow
3/17/08-6/13/08	0.95%	3.2%	6.8%
12/30/08-6/10/09	1.84%	12.4%	6.1%
11/30/09-4/5/10	0.79%	7.7%	10.1%
10/8/10-2/8/11	1.34%	1.3%	0.0%
9/22/11-10/27/11	0.68%	0.5%	0.6%
1/31/12-3/19/12	0.58%	1.8%	0.0%
7/24/12-9/14/12	0.47%	1.7%	-0.1%

Note: Flows are expressed as a percentage of total mutual fund assets for that category. Source: Lipper/Thomson Reuters, Barclays Research

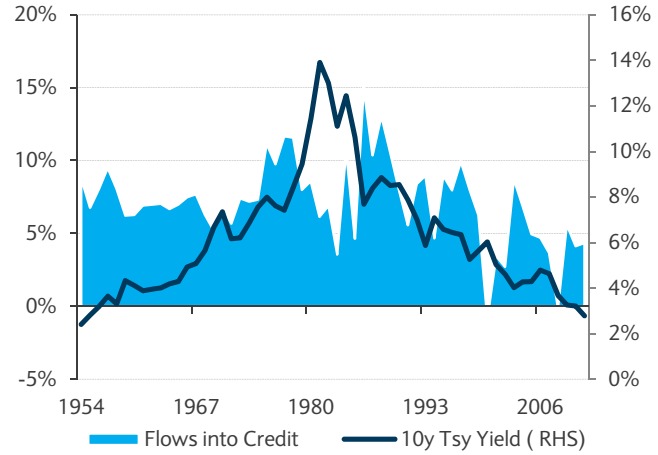
In addition to mutual fund outflows being small and short lived, they have been more than offset by buying from other large holders of credit – insurance companies and pension funds. During the 3Q03 outflow period, insurance companies and pension funds bought $242bn of credit – the third highest quarterly amount of inflows to credit from these buyers. This is likely a result of two factors: the increasing attractiveness of credit at higher yield levels and investors' shift from mark-to-market assets, such as mutual funds, to non-mark-to-market assets, such as GICs and annuities from insurance companies, during times of negative total returns.

The above results suggest that flows within fixed income dominate flows between fixed income and other asset classes – a trend that we expect to continue. As Figure 13 shows, overall flows into credit from insurance companies and pension funds – the other major buyers of credit – have been very consistent, even from the 1950s to the 1980s, when interest rates increased by more than 10%. The regression of annual flows into credit from insurance companies and pension funds versus changes in interest rates shows that there has been no meaningful relationship between changes in interest rates and insurance/pension fund flows into credit (Figure 14). In fact, in the past 60 years, flows into credit from these buyers were negative in only two years: 2000 and 2008. Both of these were periods of decreasing interest rates, when systemic factors – the bursting of the tech bubble in 2000 and the financial crisis in 2008 – led to a dramatic sell-off across risky assets. Therefore, outflows in those years stemmed from systemic concerns and overall market weakness rather than concerns about rising rates.

We believe that insurance companies and pension funds are likely to remain supportive of the asset class even if interest rates increase. There is a positive relationship between life insurance flows into credit and Treasury yields levels (as opposed to changes), suggesting that insurance company inflows increase at higher interest rates because of more attractive product pricing (Figure 15). Furthermore, as we discussed on page 10 of the *Global Credit Outlook 2013*, the amount of available high quality spread product that can serve as an alternative investment to corporate bonds has shrunk meaningfully over the past five years. Finally, pension funds have been reallocating away from equities and into corporate bonds over the past seven years. In fact, since 2005, more than $900bn of private and pension

FIGURE 13

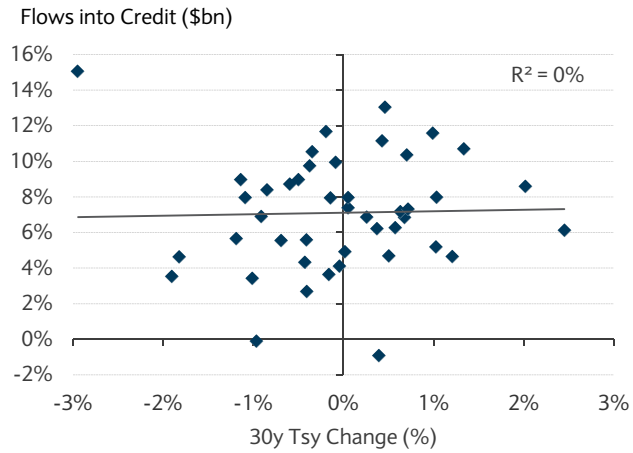
Insurance and Pension Fund Flows into Corporate Bonds as Percentage of Assets versus Changes in 10y Treasury Yields



Note: Based on annual observations since 1955. Flows are the sum of P&C insurance, life insurance, private pension fund, and state and local pension fund categories. Source: Federal Reserve Flow of Funds, Barclays Research

FIGURE 14

Insurance and Pension Fund Flows into Corporate Bonds as Percentage of Assets versus Changes in 10y Treasury Yields



Note: Based on annual observations since 1955. Flows are the sum of P&C insurance, life insurance, private pension fund, and state and local pension fund categories. Source: Federal Reserve Flow of Funds, Barclays Research

fund money flowed out of equities. This trend, along with a general slowdown of flows into equities following recent stock market crashes, has led to a significant divergence between flows into equities and flows into credit (Figure 16).

What Is Different in the Current Environment?

The historical analysis provides no example of a large-scale reallocation away from credit during periods of rising rates. However, there are some reasons to believe that the current environment is different enough to make such a shift possible. Some investors argue that the Fed and other buy-and-hold investors now own the vast majority of outstanding Treasuries and mortgages and that when interest rates rise investors will be forced to sell other fixed income products, such as corporates.

Another key difference is that with yields at all-time lows and duration at an all-time high (because of low coupons and more longer-dated issuance), total return breakevens are now close to their lowest levels, making credit total returns especially vulnerable to interest rate increases (Figure 17). This asymmetric total return profile is perceived as a potential reason for large-scale outflows from credit.

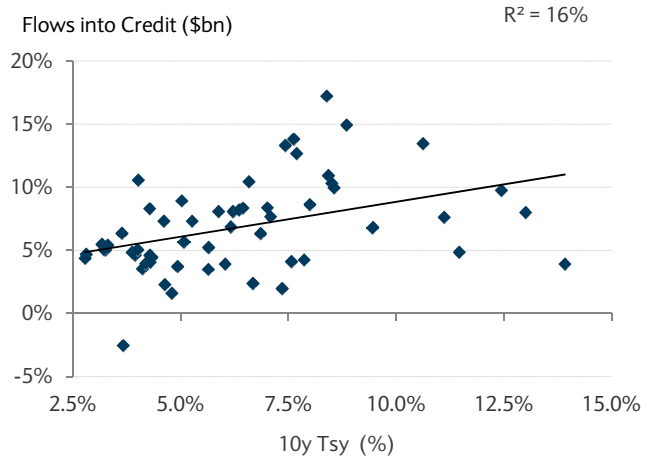
However, these factors do not change our overall view. While the Fed continues to be the main buyer of Treasuries and mortgages, this leaves corporate bonds as one of the only sizeable fixed income assets that is available to buy. Furthermore, foreign central banks have been a large buyer of Treasuries and are likely to increase their purchases of Treasuries as the global economic backdrop improves.

Moreover, while investment grade total returns will likely be negative if interest rates rise sharply, at higher rates, corporate bonds become a more attractive long-term investment. As a result, we see no reason to believe that the historical pattern of insurance companies buying more credit during periods of higher rates will not play out this time around.

The 60bp increase in 10y Treasury yields since last July provides real-time evidence of the views above. During this time, credit has tightened 50bp and total returns have actually been a positive 1.09%, as spread tightening more than offset the rise in interest rates. Flows

FIGURE 15

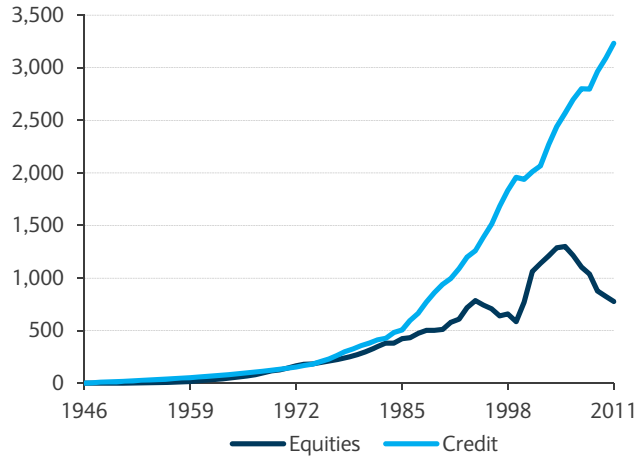
Life Insurance Flows into Credit versus 10y Treasury Yield



Note: Flows into credit are based on the "corporate and foreign bonds" category in the Federal Reserve Flows of Funds data. Source: Federal Reserve Flow of Funds, Barclays Research

FIGURE 16

Cumulative Insurance and Pension Fund Flows into Credit ($bn)



Note: Flows into credit are based on the "corporate and foreign bonds" category in the Federal Reserve Flows of Funds data. Source: Federal Reserve Flow of Funds, Barclays Research

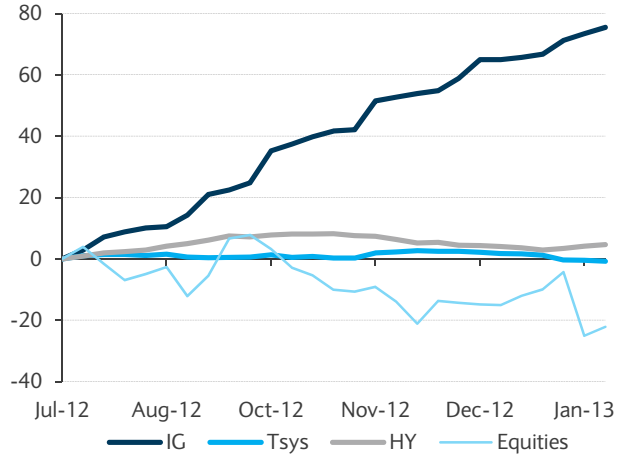
FIGURE 17

U.S. Corporate Index Total Return Breakevens (bp)

Note: Total return breakeven defined as OAS divided by duration.
Source: Barclays Research

FIGURE 18

Cumulative Mutual Fund Flows since 10y Treasury Bottomed in July 2012 ($bn)



Note: The mutual fund asset base of high yield funds is significantly smaller than that of investment grade funds.
Source: Lipper/Thomson Reuters, Barclays Research

into investment grade funds have been extremely strong during these six months, totaling more than $75bn. At the same time, flows into the other major asset classes – high yield, Treasuries, and equities – have been more mixed, with negative total flows into equity and Treasury funds (Figure 18).

Analyst Certification

We, Alex Gennis and Jeffrey Meli, hereby certify (1) that the views expressed in this research report accurately reflect our personal views about any or all of the subject securities or issuers referred to in this research report and (2) no part of our compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

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