Invesco Fixed Income

Global Fixed Income Strategy

May 24, 2017

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Global macro strategy

EZ does it after the French elections

Now, after the French presidential election, is a good time to take stock of eurozone (EZ) prospects, as markets move beyond politics to the economy, European Central Bank (ECB) policy and reform. The EZ economy is in a "Goldilocks" phase of good growth and low core inflation, despite recent upward pressure on headline inflation. We expect substantial slack to keep weighing on core inflation, enabling several more quarters of at- or above-trend growth before the output gap closes.

Even then, inflation may well remain low because structural reforms are needed to boost productivity and potential growth, particularly in France and Italy. Such reforms would initially boost unemployment, curbing wages and inflation. Absent reform, however, corporate capital expenditure and hiring are likely to be restrained and delayed, limiting demand-side inflation. Furthermore, real wage growth is already decelerating, which should limit consumption growth and inflation pressures.

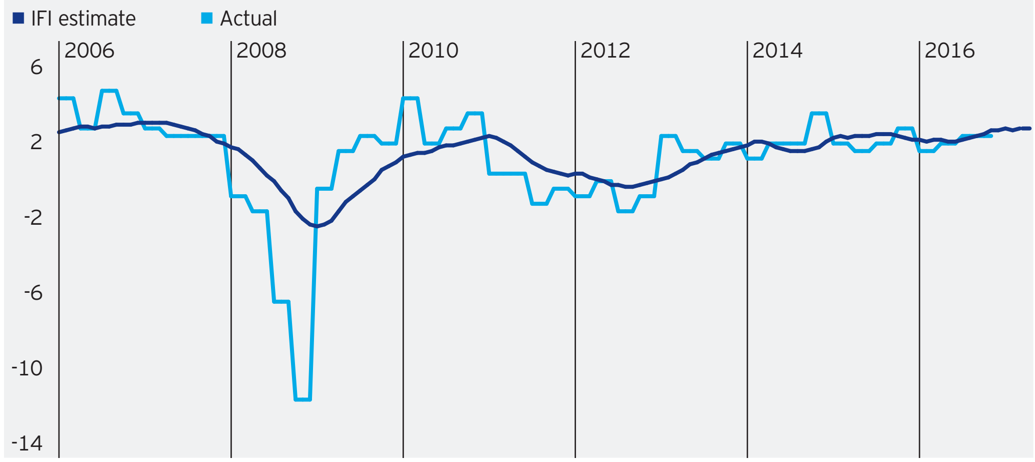
As such, the ECB may start to gradually "normalize" monetary policy in the coming months – say with a modest deposit rate hike and/or a very gradual tapering of quantitative easing (QE) – but only to a limited extent, given the sizeable output gap and structural headwinds to self-sustaining growth and above-target inflation.

We therefore expect the euro and bond yields to rise only moderately in coming months, and expect EZ credit spreads to remain well supported. We also expect continued decent EZ growth, but low inflation combined with limited monetary policy normalization, to support global financial conditions.

The EZ economic cycle: robust growth but subdued core inflation
The cyclical EZ growth outlook remains robust, with the overall economy seeming to fire on all cylinders. Most of the components of our EZ "NowCast" growth model are pointing upward, and indeed, the balance of risks to the growth outlook is skewed toward upside surprises.[1]

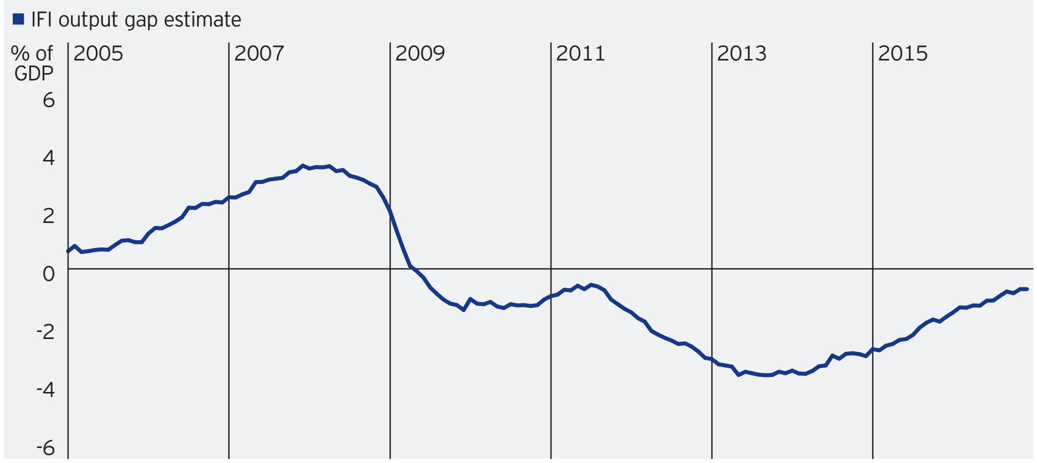
Figure 1: Growth forecast

QoQ seasonally adjusted annualized rate



Source: Bloomberg L.P., Macrobond, Invesco. Data from Dec. 1, 1999 - April 30, 2017. The growth trend indicator (IFI estimate) is used to measure the expected path of real growth over the next 6 - 12 month horizon. It is designed to be less sensitive to QoQ changes in GDP and to capture either a recessionary or non-recessionary trend compared to actual GDP.

Figure 2: Output gap



Source: Bloomberg L.P., Macrobond, Invesco. Calculations based on data from Dec. 1, 1999 - April 30, 2017.

Even so, we expect only very gradual and limited ECB monetary policy normalization, for several reasons. Core inflation is likely to remain subdued once commodity price shifts wash through headline inflation and the output gap will likely require several quarters of trend growth to close at the current pace (Figure 2).

EZ unemployment overall continues to decline, which is no doubt helping to support household consumption. However, labor market performance remains uneven across national economies and segments of the labor market. The EZ core continues to see robust demand for labor and low unemployment rates. But unemployment remains high in the periphery and among younger, less skilled workers. As in other developed markets, labor mobility, technology and offshoring are probably combining to hold back wage growth as a source of inflation pressure.

The long-term EZ political-economy outlook
Event risk has been substantially mitigated by the market-friendly, pro-European Union (EU)/pro-globalization outcome of the French presidential election – for now there is virtually zero risk of "Frexit" – the danger of a euro-exit referendum that National Front candidate Marine le Pen had threatened. France's new president, Emmanuel Macron, is a committed pro-European and globalist, which should improve the optics and survivability of the existing European and global order of openness to trade and investment.

However, eliminating a negative event risk does not automatically confer upside. Political resistance is likely to dilute economic reform at the national level as well as EZ-wide political and fiscal integration, both essential to boost potential growth and deepen Europe's still-incomplete economic and monetary union. Hurdles include domestic resistance to labor-market and other structural reforms required to reinvigorate employment and overall growth in France and Italy in particular. Such reforms would almost certainly require larger fiscal spending to cushion the blow.

Moreover, concerns about EU or EZ survival may well resurface when Italy gears up for its own general elections, due by May 2018; an anti-EU stance is shared by much of the Italian political spectrum and popular Italian support for the euro itself is ambivalent. That said, neither Italian politics nor Brexit, for that matter, are likely to destabilize global financial markets in the near term given their long-horizon nature, but these factors are likely to remain a barrier to significant increases in corporate capital expenditure, which are highly sensitive to the cohesion of the EU as a whole.

Brexit will itself take up a considerable amount of both British and EU-level bureaucratic capacity in the months following the June 8, 2017 UK general election. Talks on the UK-EU post-Brexit financial and legal relationship can start in principle, now that Article 50 has been triggered, but actual progress may well be limited by electioneering in both the UK and Germany, which holds federal parliamentary elections in October 2017. Brexit talks about the real issues – the future UK-EU trade and investment relationship – are only likely to begin in earnest after the German elections in Q4 or even early 2018, leaving little time to work out a new trade deal by the time the two-year Article 50 exit time.

As such, we do not expect the alleviation of political concerns because of the French election to result in a major lift in animal spirits in the EZ real economy or financial markets.

Gareth Isaac, CIO EMEA, Arnab Das, Head of EMEA and Emerging Markets Macro Research, Reine Bitar, Macro Analyst

1 Invesco Fixed Income NowCast models use high-frequency survey and activity indicators across the G20 economies as a way to gauge growth and inflation trends in the world as a whole and in the major developed and emerging economies.

Interest rate outlook

US: Stronger global growth is likely to be supportive of higher US yields and normalization of global central bank policy. Market anticipation of the end of global quantitative easing (QE) programs should drive US yields higher. We expect the US Federal Reserve (Fed) to hike rates two more times this year as well as announce a reduction in the reinvestment of principal payments from its securities holdings.

Europe: The risks around the French elections are now behind us and we likely do not face a far right insurgency in the next electoral test: Germany. In the background, European data continue to be solid and resilient to political risks. Given the French election's market-friendly outcome, we expect a renewed focus on fundamentals and European Central Bank (ECB) watching going forward. As post-election short covering winds down, we would expect European core yields to resume their upward trend and peripheral spreads versus German bunds to widen again. The periphery could come under more pressure in the unlikely event that early elections are held in Italy.

China: The onshore Chinese government bond (CGB) yield curve bear flattened (short-term rates rose faster than long-term rates) in the first half of May. This was mainly due to selling pressure from (1) bond funds faced with rising redemptions from banks and (2) banks' own trading and investment books. Banks were forced to reduce their fund investments after China's bank regulator mandated reduced banking sector, and especially interbank (including non-bank financial institution), leverage. Together with tightened macro-prudential rules, we believe this move will likely slow broader credit growth in the second and third quarters, which should negatively impact economic growth momentum in the second half of this year. Therefore, we remain cautious on CGBs in the near term, but bullish in the medium term.

Japan: The Bank of Japan (BoJ) has been quietly tapering its QE purchases recently without drawing much attention to its efforts. This comes amid a weak inflation backdrop and likely continued disappointment as indicated by the Citi inflation surprise index. We would expect the central bank to continue with such an approach over the near term and to retain its 10-year JGB yield target of "around zero." Such an approach will keep the BoJ on the same path as other major central banks (i.e. tightening policy) while providing the greatest level of flexibility to reverse course should incoming data warrant it. We believe BoJ Governor Kuroda remains very much in control.

UK: We could well see a step up in Brexit rhetoric (from both sides) in the run-up to the UK general election on June 8. Now that Article 50 has been triggered, the Europeans will be seeking to set the tone for the talks that lie ahead. Some of the preliminary tactics adopted have not been well received in the UK. A continuation of such tactics is also unlikely to be well received by the UK Prime Minister, Theresa May, particularly as she travels the country seeking votes over the next month. She may come across as overly harsh, in her stance, during this time. While we expect the UK economy to weaken as the year progresses, we believe that the market consensus is overly pessimistic. We expect gilts to underperform both US Treasuries and bunds in the short-to-medium term.

Interest rate outlook

Canada: During the recent rate rally, the Canadian 10-year government bond yield held at 1.45% and has bounced slightly from there, but still remains at the lower end of its recent range.[1] Economic data has tapered off from the strong rebound seen in the first quarter and the Bank of Canada continues to keep monetary policy on hold. The US's recently imposed tariffs on Canadian softwood exports raised concerns about broader trade implications. In addition, a Canadian subprime mortgage lender has experienced a liquidity drain, drawing attention to an area of the mortgage market that is not typically in the news. We would expect Canadian yields to remain supported in any sell-off.

Australia: The Reserve Bank of Australia (RBA) held rates steady at 1.50% at its May 2 meeting as expected.[2] The statement noted upbeat global economic conditions and labor growth, but cautioned about the recent decline in commodity prices and the likelihood of low wage growth going forward. The RBA remains concerned about the housing market, stubbornly high unemployment and lower than desired inflation. With all these concerns and current conditions, the RBA is likely to remain on hold for the foreseeable future. We remain neutral on Australian interest rates.

Rob Waldner, Chief Strategist, James Ong, Senior Macro Strategist, Noelle Corum, Macro Analyst, Sean Connery, Portfolio Manager, Brian Schneider, Head of North American Rates, Scott Case, Portfolio Manager, Josef Portelli, Portfolio Manager, Ken Hu, CIO Asia Pacific, Yi Hu, Senior Credit Analyst, Alex Schwiersch, Portfolio Manager

1 Source: Bloomberg L.P., May 11, 2017.
2 Source: Reserve Bank of Australia, May 2, 2017.

Currency outlook

USD: Our strong global growth view indicates a mixed environment for the US dollar. We expect the Fed to hike interest rates two more times in 2017. However, we believe other major central banks have more significant moves to make in terms of normalizing their policies. Global policy normalization should favor currencies of countries whose central banks are scaling back their QE programs, for example the euro versus the US dollar.

EUR: We continue to be constructive on the prospects for further euro appreciation. The European fundamental backdrop continues to be supportive of a stronger euro. In general, we believe that QE in Europe has approached its conclusion and that policy adjustments going forward are likely to be skewed toward supporting longer-term euro strength.

RMB: We expect the CNY and CNH currencies to trade on the weaker side of the 6.80-6.99 range in the weeks ahead. Softening in the US dollar is expected to continue to support the renminbi, however, the recent tightening in financial regulation, liquidity conditions and the sell-off in the onshore bond, equity and commodity markets are likely to attract short positions in the RMB, especially the CNH. We think Chinese banks will be on the other side of the trade to support the currency if necessary, but we expect the bout to add downward pressure on the currency compared to the last few weeks and months.

JPY: The Japanese yen weakened markedly following the first round of French presidential elections in April (due to the removal of flight to quality hedges). With uncertainty regarding the French parliamentary elections on the horizon, the BoJ's quiet tapering of asset purchases, the US government's vigilance around currency manipulation and lingering concerns over North Korea, there is no obvious catalyst to suggest a continuation of this recent trend. We believe the risk-reward calculus favors being overweight the yen in the near term.

GBP: We continue to favor an overweight position in sterling based on valuations, positioning and a more optimistic outlook for Brexit discussions. Prime Minister Theresa May is likely to have a larger majority in the UK parliament after June 9, with many of the new parliamentarians sharing her vision for Brexit (i.e. a softer outcome). As this vision becomes clearer, sterling is likely to appreciate against its G10 counterparts. We could see some weakness in the shorter term, however, if it is perceived that EU politicians are trying to influence the outcome of the UK election by talking down the chances of a favorable outcome for the UK.

CAD: The Canadian dollar has weakened significantly recently, breaking out of its one-year range. A combination of factors has contributed to the weakness. Higher US oil production and lower oil prices have put pressure on the Canadian currency. The recent announcement of US tariffs on Canadian softwood exports has also been a factor. Third, the recent liquidity problems of a Canadian subprime mortgage lender have played a role. We believe the weakness in the Canadian dollar is likely to continue.

AUD: The RBA held interest rates constant at 1.50% at it last meeting.[1] The bank's statement was balanced overall. The latest inflation report improved slightly, but remained below expectations. Given the RBA's concern regarding the housing market, lower than desired inflation and stubbornly high unemployment, we believe the RBA will likely keep its target rate at 1.50% for some time. We remain neutral on the Australian dollar.

Ray Uy, Head of Macro Research and Currency Portfolio Management, James Ong, Senior Macro Strategist, Noelle Corum, Macro Analyst, Brian Schneider, Head of North American Rates, Scott Case, Portfolio Manager, Sean Connery, Portfolio Manager, Ken Hu, CIO Asia Pacific, Yi Hu, Senior Credit Analyst, Alex Schwiersch, Portfolio Manager

1 Source: Reserve Bank of Australia, May 2, 2017.

This section highlights the key themes driving Invesco Fixed Income's global macro and credit research process and views. Themes are updated based on evolving trends and expectations.

Global credit themes

Geographical themes

Investment grade (IG): Global central bank forces, global growth impulse, fiscal policy changes

Rationale

US, Europe and Asia IG have seen strong investor demand due to easy global monetary policy. Fundamentals are stable to improving due to positive global growth outlook and expected fiscal policy stimulus, which should support spreads in 2017. Leverage remains at cycle highs but is stabilizing. US tax policy changes could lead to less issuance going forward. European credit markets are generally earlier in the cycle and less levered, while Brexit and political uncertainties remain.

IFI strategy

Favor gaining exposure to selected higher quality issuers in energy and pipelines, senior financials, industrials, consumer cyclical, and technology, media and telecommunications (TMT). Remain cognizant of selective tight valuations.

Emerging markets (EM): Macro fundamental momentum supportive, China policy tightening

Rationale

Global growth conditions are improving; however US/Global growth expectations appear elevated - a development in which to be wary. We aim to keep powder dry as pullbacks provide opportunity to add exposure to EM currency and sovereign credit.

IFI strategy

We see the greatest relative value in longer dated sovereign bonds and IG sovereign credit. New issues provide risk-adjusted returns with tight market valuations. We favor credit default swaps on commodity-related issuers.

US commercial mortgage backed securities (US CMBS): Notable decline in primary market issuance, watching retail industry fundamentals

Rationale

Negative retail news has recently dominated the headlines. However, we are generally not advocates of selling stronger US CMBS credits given they are often difficult to replace. Further, we think the space should continue to benefit from limited supply as property price growth continues.

IFI strategy

We think AAA-rated US CMBS look less attractive. Given the significant move in spread tightening we prefer seasoned US CMBS as cycle progresses. Credit-differentiation is accelerating, placing a premium on selection. Rich valuations and poor hedge-adjusted carry weigh on front end high quality paper.

US residential mortgage backed securities (US RMBS): Favorable fundamentals, valuations fair, CRT market depth improving

Rationale

Mortgage underwriting quality remains high, the home price outlook remains supported by limited housing supply, and long-term negative net issuance remains the dominant force in US RMBS. But following outperformance in recent months in legacy US RMBS and below-IG CRT, valuations appear stretched relative to other asset classes.

IFI strategy

Prefer higher quality legacy prime, alt-A, and seasoned BBB-rated CRT. Avoiding sub-prime, coastal concentrations, and option adjustable rate mortgages.

US asset backed securities (US ABS): Value in floaters, fundamentals normalizing, favorable technicals

Rationale

Normalization of credit underwriting and forecast for a healthier economy should support consumer credit performance in 2017. Recent widening in swap spreads and LIBOR rates provide an opportunity to add at fairly attractive levels. As the overall market continues to weigh the longer-term impact of a Trump administration and additional rate hikes this year, such uncertainty should be supportive of a more stable, shorter-duration US ABS market.

IFI strategy

Prefer adding exposure to floaters where collateral performance remains stable. Believe senior prime auto US ABS and esoteric issuers can provide opportunities. Avoiding deep subprime auto US ABS.

Sector themes

Commodities: Global rebound favoring energy over metals but volatility remains

Rationale

Expect global IG credit risk premia to remain volatile as energy and metals credits reflect supply imbalances, offset by credit friendly financial engineering. Credit quality in focus due to still-modest economic growth and risk of volatility due to OPEC, US crude supply, fiscal policy implementation and Fed uncertainty.

IFI strategy

Favor gaining exposure to selected higher quality energy and pipeline issuers where shorter-term maturities are well covered by liquid assets and positive corporate actions support financial profiles.

Consumer story more nuanced globally, watching US fiscal policy influences

Rationale

Solid US labor market and consumer confidence are supportive, but consumers more value and delivery conscious, while international retail demand remains uneven, due partly to the strong US dollar and volatile capital markets. Watching European consumer for post-Brexit behavior shift.

IFI strategy

Favor selected US consumer sectors including leisure and housing-related sectors. Negative on "big box" retailers that lack differentiated products. Favor EM consumer sectors on a selective basis. Incrementally more cautious on automotive original equipment manufacturer (OEM) sector.

Post-merger and acquisitions (M&A) deleveraging plays

Rationale

M&A activity has moderated but remains a risk, driven by large overseas cash balances, low all-in financing cost, lack of organic growth, and need to reposition business portfolios.

IFI strategy

Preference to play post-transaction bond issuance typically characterized by size, liquidity, concessions and plans to deleverage. Believe a discriminating approach to this strategy is warranted due to lower, but still large, M&A-related pipeline.

Global technology – big data

Rationale

Expect global use of data to grow and transition to cloud-based platforms.

IFI strategy

Prefer to gain exposure to software and services, cell towers and select wireless issuers. Have avoided hardware original equipment manufacturers.

Yield curve themes

Credit curve positioning, long end valuations improving

Rationale

Global interest rate policy has forced cash investors and sovereign wealth funds into 3-5 year part of the credit yield curve, creating a steep 5-7 year part of the curve. Lately, sovereign wealth funds have targeted the 10-year part of the curve. We expect demand for 5-10 year paper to be resilient.

IFI strategy

Prefer 7-10 and select 30-year points on US IG and EM credit yield curve. New issuance has remained strong year-to-date, but is expected to decline as the pace of mergers returns to normal.

Rob Waldner, Chief Strategist, Ray Uy, Head of Macro Research and Currency Portfolio Management, Tony Wong, Head of Global Research, Joe Portera, CIO High Yield and Multi-Sector Credit, Michael Hyman, CIO Global Investment Grade and Emerging Markets.

This section highlights the views of Invesco Fixed Income's credit analysts across a broad range of fixed income assets managed by Invesco.

Global credit strategy

US auto sector takes a back seat, but US growth still solid

Invesco Fixed Income's (IFI) investment process does not focus on any one economic data point, but we are vigilant for signs of underlying weakness. That is why we wondered if declining US auto sales indicate a broader consumer pullback that could threaten overall US economic growth. We turned to our sector analysts to help answer this question.

US auto sector is late cycle – Ray Janssen, Senior Analyst, and Jacob Habibi, Senior Analyst

Core vehicle demand is typically driven by three factors: growth of the driving age population, vehicle replacement due to "scrappage", and vehicle density (number of vehicles owned per driver.) However, fluctuations in the cost and availability of vehicle financing can cause realized vehicle sales to outperform or underperform core demand. The US auto lending sector produced lower loss rates and recovered more quickly relative to mortgages and credit cards during the housing bust of the late 2000s, and as a result avoided the bulk of regulation that followed. Consequently, readily accessible and cheap financing for vehicle purchases helped pull the consumer out of recession. Lower interest rates, longer-term loans, rolling over of negative equity from trade-in's into new loans, and the growth of auto leases sustained the recovery, despite increases in vehicle prices that outpaced consumer income.

All three core demand drivers are now signaling slower auto sales growth ahead. Vehicle density has returned to its historical peak, last achieved in 2006-7, as shown in Figure 1, and industry trends suggest that vehicle ownership should be in decline (shared economy, urban living, etc). Scrappage rates have slowed since 2012, as the backlog of replacement demand built up in the recession has been worked down and vehicle durability continues to improve. Lastly, demographics are no longer a tailwind as immigration has slowed.

In addition to waning demand factors, auto lending standards are tightening and financing is becoming more expensive, particularly for "deep subprime" borrowers (credit score less than 580). Fortunately, most US banks and credit unions have focused their auto lending programs on prime borrowers, while captive auto finance companies (those owned by car manufacturers) have focused on "near prime" (credit score: 660 to 620) and "barely subprime" (credit score: 620 to 580) borrowers. But smaller, relatively new specialty finance lenders aggressively pursued the deep subprime cohort in 2015 and 2016, as evidenced in Figure 2. Unfortunately this is also the type of borrower that is more likely to carry over a negative equity balance from a prior loan, which leads to higher loss rates when those loans go into default.

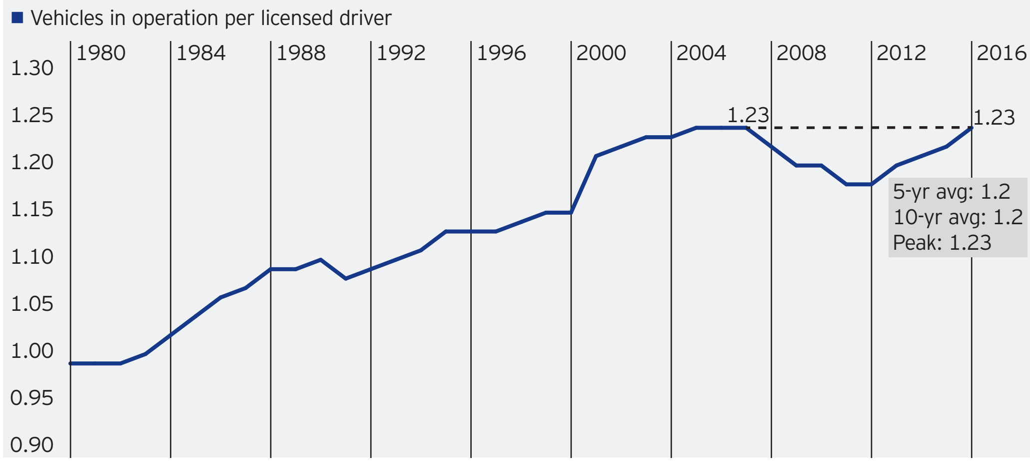
As the pools of those loans progress in age, it makes sense that their delinquencies and charge-off rates would ramp higher as well. While higher delinquency and loss rates were largely expected and baked into forecasts based on the riskiness of these new "deep subprime" loans, there has been an additional, less anticipated negative factor unique to the auto industry - the fall of used vehicle "residual values," as shown in Figure 3. Sharp declines in the re-sale values of cars have resulted in higher lease rates and/or higher lease down payments to make-up for lower car resale values at the end of a lease. Lower residual values have resulted from a rising supply of used vehicles coming off-lease.

Why now? The percentage of consumers who chose leases as a way to attain new vehicles skyrocketed between 2011 and 2016, rising from 19% to 30%.[1] This jump in lease demand, combined with the tightening of underwriting standards in auto loans, has caused auto sales to slow, especially among the "subprime" credit quality consumer category." Consumers with stronger credit continue to purchase higher priced vehicles, but the overall pace has declined due to a slight uptick in financing costs, and greater supply of attractive values available in the used car market.

Nevertheless, vehicles sold in recent years have tended to skew toward more "fully loaded" vehicles and/or more expensive sport utility vehicles (SUVs) and pick-up trucks, which continue to take share from cars. We believe these sales trends indicate that consumers who do buy are still financially healthy.

Recent increases in the US federal funds target rate have had a modest impact on borrowing costs for all borrowers, and will likely continue to provide a modest headwind as the Fed continues to increase its target rate in the coming quarters. However, for consumers with credit scores greater than 620, auto financing is still generally affordable and widely available from a broad range of lenders (banks, credit unions, captive finance companies and specialty non-bank lenders).

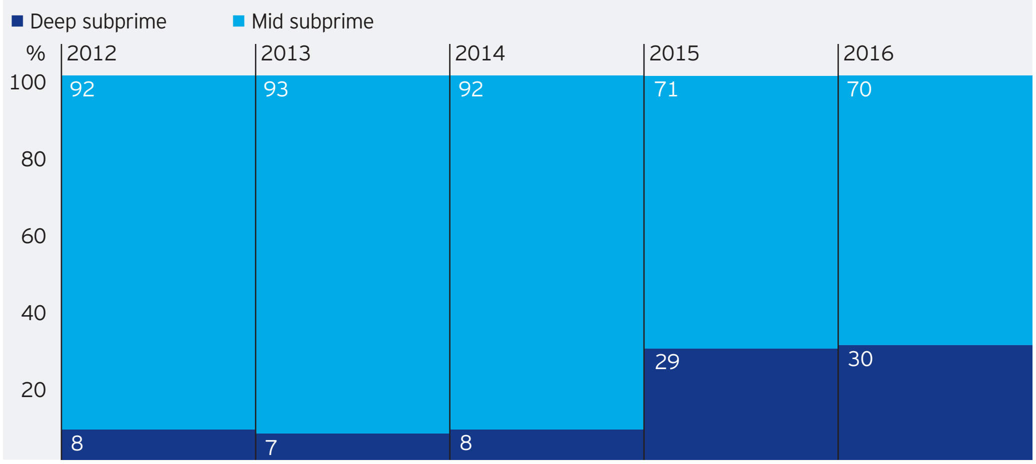
Figure 1: US vehicle density peaking?



Source: Deutsche Bank, Wards, RL Polk, US Census. Data from Dec. 31, 1980 to Dec. 31, 2016.

Figure 2: Auto loans to "deep subprime" borrowers surged in 2015-16

(Percentage of subprime auto loan ABS issuance by borrower type - as % of collateral balance)



Note: Mid subprime represents collateral pools with a weighted average original credit score of 550-620.
Source: Remittance reports, Barclays Research.
Data from Dec. 31, 2012 to Dec. 31, 2016.

Figure 3: US used vehicle prices on the decline

NADA used car guide used vehicle price index; vehicles up to eight years in age, seasonally adjusted

Source: National Automobile Dealers Association (NADA) Used Car Guide. Data from Jan. 31, 1995 to Feb. 28, 2017.

As a result, we believe much of the softness we are seeing in the US auto sector is idiosyncratic and not indicative of a broader consumer slowdown. Abundant auto financing and pent-up demand post-the global financial crisis fueled a vehicle sales upturn that now appears to be reaching late-cycle and showing signs of leveling off. A pullback in vehicle lending fueled by imbalances in the used car market has reinforced this dynamic.

These trends are auto sector-specific, in our view, and do not indicate a reversal in overall US consumption. Lending standards in credit cards, and especially mortgages, have eased at a much slower rate relative to the auto lending market, and as a result we are not seeing a meaningful pullback in credit availability in these categories. Beyond autos and retailers vulnerable to online shopping, we believe the signals from the US consumer remain solid. Healthy levels of consumer confidence, housing demand, and spending in many categories, including travel and healthcare, are encouraging signs that the consumer will likely continue to contribute to economic growth going forward.

European auto sector supports European growth – Michael Booth, Analyst

In contrast to the US auto market, the performance of the European auto market in 2017 to-date remains supportive of a moderate improvement in euro area economic growth. Automotive sales grew by 4.7%, year-over-year, in Europe in the four months to April 2017, and consumer demand continues to track ahead of manufacturers' expectations (consensus is for low single-digit sales growth in Europe over the full year).[2] While auto demand is above its previous cycle peak in a number of countries (namely the UK and Germany), the overall European market ended 2016 around 6% below 2007 levels in terms of auto sales, dragged down especially by Italy and Spain, whose sales remained around 30% below 2007 levels.[3] This supports our view that Europe remains behind the US in terms of the auto demand cycle.

Macro outlook remains solid – Noelle Corum, Macro Analyst

We see no evidence of bleed-through of US auto sector weakness to the broader economy and remain constructive on US growth. While we expect idiosyncratic auto sector weakness to detract from US growth, we believe other areas of the economy will likely compensate. First quarter jobs data have been generally strong and capital expenditure surveys and consumer confidence remain elevated. Housing market and construction data also point to higher levels of activity. Overall, our US macro model continues to show a solid pick-up in 2017 growth. We expect this favorable growth backdrop to be supportive of US credit, as corporate fundamentals remain solid.

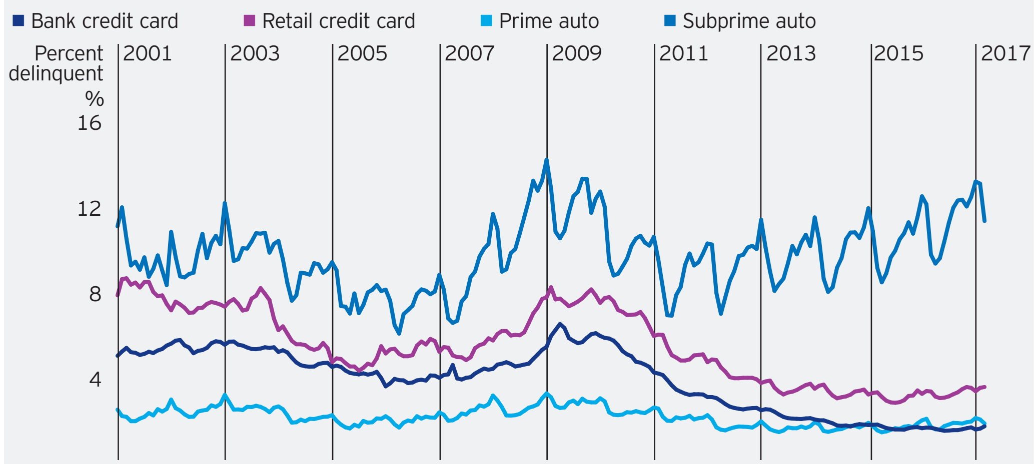
Auto sector implications for US asset backed securities (US ABS) – Glenn Bowling, Head of ABS Credit

Declining used car valuations and weakened subprime auto lending characteristics will likely continue to impact collateral performance of US auto asset-backed securitizations (US ABS) in 2017. Increasing supply from rising auto lease maturities will likely further pressure used car prices and negatively impact recovery rates on repossessed vehicles and leases across US ABS pools. Nevertheless, we expect moderate increases in collateral losses to be easily absorbed by ample levels of credit enhancement across most auto US ABS structures. Both Fitch and Standard & Poor's maintain a stable rating outlook across most auto-related US ABS for 2017, despite near-term concerns for this sector.

We have seen weaker collateral performance in the subprime auto US ABS market in particular, but we believe this has been driven by a change in lending practices and is not reflective of current economic trends. While other consumer credit has largely normalized from abnormally strong underwriting and performance trends post-crisis, subprime auto loan underwriting has weakened considerably and delinquencies have increased above pre-crisis levels to near recession highs.[4]

We believe higher subprime auto delinquencies reflect the expansion of newer market entrants who are focused on weaker quality obligors. As a result, the subprime auto US ABS market has become bifurcated between the larger "captive auto finance" companies, those owned by car manufacturers, who have been more selective in extending credit, and smaller specialty finance lenders, who continue to compete for the deeper-subprime borrower. We expect collateral performance of both prime auto and captive subprime auto US ABS to gradually deteriorate over the near-term, as deeper-subprime auto US ABS continue to experience greater deterioration.

Figure 4: Auto loan and credit card US ABS delinquency trends



Source: Intex, JPM, Invesco, data from Nov. 30, 2001 to March 31, 2017.

Some banks and financial companies are proactively tightening credit standards in response to rising auto loan delinquencies and defaults, which should be supportive of some stabilization in credit performance moving into 2018. Through the first quarter, however, from a relative value perspective, the US ABS market has not meaningfully distinguished between captive auto subprime shelves and deep-subprime auto shelves. With spreads near post-crisis tights, we think continued negative headlines will likely lead to greater spread widening between these shelves, as well as greater spread volatility, particularly in the lower-rated classes on the deeper-subprime shelves. As a result, we remain highly selective in adding subprime auto loan US ABS by continuing to focus on the larger captive auto finance companies.

Other auto-related collateral continues to perform in line with our expectations, including auto lease, dealer inventory financing and rental car US ABS. While we expect losses to increase across auto lease US ABS pools, structures are very robust, in our view, and are likely able to withstand multiples of the worse-performing losses experienced during the recession. To limit exposure to rising losses, we only purchase shorter-duration senior class bonds. We expect dealer inventory financing US ABS performance to remain stable across all captive auto finance platforms and rental car US ABS is well structured, to withstand weak auto market conditions, in our view, including volatility in used car valuations.

1 Source: Experian, Dec. 31, 2011 to Dec. 31, 2016.
2 Source: ACEA passenger car monthly data release for March 2017, April 19, 2017.
3 Source: Barclays, "Where are we in the cycle?" April, 5, 2017.
4 Source: Intex Solutions, Inc., J.P. Morgan, "Credit Card ABS Monthly, "April 17, 2017.

Jay Raol
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The bottom line

Factor investing in the fixed income space

Investors are probably familiar with factor investing in the equity space. Characteristics such as value, momentum and low volatility are widely recognized as factors that can explain equity risk and returns. But less is known about the use of factors in the fixed income space. We speak with Invesco Fixed Income's (IFI) Jay Raol, Shawn Pope, Matt Haler and Amritpal Sidhu about why investors should think about factors in the fixed income space. They explain why IFI believes that key macro and credit factors can help explain fixed income risk and returns and how factors can aid in fixed income asset allocation.

Q: What are "factors"?
Jay: Factors allow investors to attribute assets' risks and returns to quantifiable investment themes. There are three schools of thought that explain how factors influence asset returns. First, factors can be viewed as risk-return trade-offs, or "risk premia." Second, factors can model the behavior of investors. And third, factors can describe differences in market structures. Often, factors are attributed to one or more of these drivers. Common factors include quality, value and momentum. For example, value factors represent assets that trade cheap to their intrinsic price. This could be a stock with a low price-to-book ratio, for example, or a corporate bond with a high yield. Value can be defined as both a risk premia and a behavior factor. From a risk premia perspective, value assets have higher Sharpe ratios because they pose greater tail risk. From a behavior perspective, market participants may be over-extrapolating recent negative news.

Q: How can factors benefit investors?
Shawn: Factors can help investors in many ways. They can be a source of excess returns, different from traditional asset class returns. Second, because factor correlations tend to be more stable than asset class or sector correlations, they can help investors to better control risk in their portfolios. Finally, factors can be used in conjunction with traditional security selection to construct portfolios.

Q: How have factors traditionally been used?
Matt: Factors have a long history in equity investing. The concept espoused by Benjamin Graham in "The Intelligent Investor," first published in 1949, can be thought of as the first value factor. Traditional equity managers have used such factors as screens for investment ideas. Later, the value and size factor were used to categorize equity managers into "value versus growth" and "large versus small-cap" managers to better attribute alpha generated by factor performance. Lately, factors themselves have been used to create quantitatively driven investment portfolios. Recently this has often been in the form of "smart beta" exchange traded funds (ETFs).

Q: Why should factors be used in fixed income?
Amritpal: IFI believes that factors are non-asset class specific – in other words, factors can translate investor behavior into investment risk and returns in any asset class. Drawing on factors' extremely long history of back testing and recognized track record within the equity space, IFI has translated equity factor ideas into investment ideas for currencies, government bonds and corporate bonds.

Q: What are macro factors and how are they applied in fixed income?
Jay: Macro factors are based on broad macroeconomic concepts. At IFI, we believe that growth, inflation and financial conditions are the primary macro factors driving fixed income markets. While many equity investors have considered value, momentum and quality as the basis for their factors, fixed income investors are much more versed on the impact of macroeconomic developments on asset prices. In fact, we believe that macro factors are more useful in asset allocation and are more important in determining the relationships between asset classes. For example, when growth expectations are revised up by market participants, it is likely that government bond prices will fall while equities, commodity prices and emerging market currencies will rise. If market participants revise up their inflation expectations, bond and equity prices will likely fall, while commodity prices will likely rise. Finally, when financial conditions tighten, equity and commodity prices will likely fall, while government bonds and the dollar will likely rise.

Q: What are style factors?
Jay: Unlike macro factors, style factors have less to say about how an asset class is likely to perform and more about how securities within an asset will likely perform. For example, if credit is likely to perform well, then the credit value factor is likely to do even better. When credit is performing poorly, the more defensive quality factor is likely to outperform. By looking at style factors in this way, they can be used as the building blocks of smart beta strategies and the initial screens for portfolio managers' investment ideas.

Q: What is IFI's factor philosophy?
Jay: First, we use only those factors that have a strong fundamental rationale. Second, we look for factors that get less attention by academia and competitors by focusing on factors that help in beta replication and hedging. Third, we employ a robust, quantitative backtest to identify how factors are dependent on different economic conditions. Finally, we have defined factors so that they are complimentary to fundamental investment management. This allows us to bring together quantitative and qualitative active management.

Q: What research is IFI doing in credit factors?
Shawn: We have focused on constructing liquidity, quality, value and momentum credit factors. Each of these has risk-return characteristics that make us confident they can be used on either a standalone basis or within a portfolio construction process to build a better starting point for investors. Currently, we have back tested these factors in US investment grade, US high yield and UK investment grade. We plan to extend testing to European credit assets in the near future. Over the next year, we plan on working with our credit analysts to incorporate fundamental data such as balance sheet and income statement items to further extend our factor definitions.

Q: What research is IFI doing in interest rate and currency factors?
Amritpal: Our focus has been trying to create fundamentally sound definitions for value and quality factors in interest rates and currencies. Unlike equities or corporates, there is not a consistent valuation metric as a guide in more macro-oriented assets. We have looked at many different definitions over the past year. Ultimately, we believe that structural growth, or productivity, and structural inflation can be used to derive strong valuation metrics in both interest rates and currencies. Over the next year, we plan to concentrate more on interest rates and currency volatility factors.

Q: How does IFI create factor portfolios?
Matt: While factor backtesting is an important part of understanding how factors will likely contribute to portfolio risk and return, our starting point for portfolio construction is the client's constraints and risk preferences. We then use portfolio construction, risk and scenario analysis tools to build a portfolio most suitable for these preferences. Some client risk and return objectives do not fall into either a fully passive or fully active managed product. For those clients, we seek to customize factor strategies. Over the past year, we have created portfolio construction machinery to help size security allocation to achieve factor tilts according to portfolio constraints. We have evolved these processes to monitor how the factor strategy is performing and how successfully it is being translated into the client's portfolio. In the coming year, we plan to build on this work to create a portfolio management system that can scale in additional mandates with different constraints.

Q: How is IFI using these factors in strategies?
Jay: IFI seeks to employ factors in multiple ways to best suit the needs of our clients. Factors allow us to work more closely with clients to better understand their existing portfolios.
We also believe that these factor strategies can be a solid foundation for our active product offerings on which we can build further active investment ideas.

Fixed income market monitor

	Coupon (%)	Yield to worst (%)	1 month change in YTW	Option-adjusted spread current	1 month change in spread	10 year range min	10 year range max	Returns 1 mth (%)	3 mth (%)	YTD (%)	12 mth (%)
Global Aggregate (USD hedged)	2.71	1.57	-0.06	44	-2	23	156	0.68	1.49	1.12	1.60
U.S. Aggregate	3.06	2.53	-0.08	43	-1	32	258	0.77	1.40	1.59	0.83
U.S. Mortgage-backed	3.52	2.81	-0.09	27	0	-16	181	0.65	1.16	1.13	0.66
Global Inv Grade Corporate (USD hedged)	3.63	2.57	-0.09	117	-3	55	515	0.93	2.02	2.15	3.89
U.S. Investment Grade Corporate	4.04	3.24	-0.09	116	-2	76	618	1.07	1.99	2.30	3.00
Emerging Market USD Sovereign	n/a	5.31	-0.16	303	-7	157	906	1.49	3.91	5.41	8.62
Emerging Market Corporate	n/a	4.56	-0.17	253	-8	120	1,032	1.12	2.86	4.13	8.04
Global High Yield Corporate (USD hedged)	6.21	5.09	-0.24	363	-16	231	1,845	1.19	2.52	3.94	12.59
U.S. High Yield Corporate	6.48	5.63	-0.21	371	-12	233	1,971	1.15	2.40	3.89	13.30
Bank Loans	4.88	5.02	0.02	n/a	n/a	n/a	n/a	0.44	1.10	1.64	8.16
Municipal Bond	4.76	2.36	-0.09	n/a	n/a	n/a	n/a	0.73	1.65	2.32	0.14
High Yield Municipal Bond	5.12	6.15	-0.10	n/a	n/a	n/a	n/a	0.68	3.31	4.76	4.38

Treasury market monitor

	Coupon (%)	Yield to worst (%)	1 month change in YTW	Returns in local currency 1 mth (%)	3 mth (%)	YTD (%)	12 mth (%)
United States	2.08	1.85	-0.06	0.69	1.15	1.37	-0.65
Canada	2.28	1.20	-0.11	1.09	1.95	1.70	1.04
United Kingdom	3.53	1.03	-0.03	0.27	3.77	1.80	8.56
Germany	2.11	-0.08	0.00	0.08	0.62	-0.67	0.41
Italy	3.47	1.42	-0.04	0.20	0.81	-1.75	-2.11
Japan	1.07	0.08	-0.03	0.49	0.69	0.10	-1.84
China	3.44	3.42	0.19	-0.79	-0.87	-0.98	-0.36
EM Local Currency Governments	n/a	n/a	n/a	0.95	3.07	4.21	7.05

FX market monitor[1]

	Current	10 year range min	10 year range max	Returns 1 mth (%)	3 mth (%)	YTD (%)	12 mth (%)
EURUSD	1.09	1.05	1.60	2.15	1.21	1.21	-5.51
USDJPY	111.84	75.82	124.77	-0.84	1.26	1.26	-4.86
GBPUSD	1.29	1.22	2.11	3.20	1.79	1.79	-12.18
USDCNY	6.90	6.04	8.28	-0.25	-0.43	-0.43	-6.14
USDCHF	1.00	0.75	1.39	0.52	-0.34	-0.34	-4.21
AUDUSD	0.75	0.60	1.10	-1.04	-0.79	-0.79	-1.84
CADUSD	0.73	0.72	1.09	-2.19	-4.62	-4.62	-8.42
EURJPY[2]	121.92	94.31	169.49	-2.96	0.03	0.03	0.67
EURGBP[2]	0.85	0.70	0.86	1.03	0.59	0.59	-7.07

Sources: Bloomberg L.P., J.P. Morgan, as of April 30, 2017. Credit Suisse Leveraged Loan data as of April 30, 2017. Within the Treasury monitor, United States is represented by Bloomberg Barclays US Treasury Index; Canada is represented by Bloomberg Barclays Global Treasury Canada Index; United Kingdom is represented by Bloomberg Barclays Sterling Gilts Index; Germany is represented by Bloomberg Barclays Global Treasury Germany Index; Italy is represented by Bloomberg Barclays Global Treasury Italy Index; Japan is represented by Bloomberg Barclays Global Treasury Japan Index; China is represented by Bloomberg Barclays China Aggregate Treasuries Index; EM Local Currency Governments is represented by J.P. Morgan GBI_EM Broad Diversified Index. In the Fixed Income Monitor, Global Aggregate is represented by Bloomberg Barclays Global Aggregate (US$ Hedged) Index; US Aggregate is represented by Bloomberg Barclays US Aggregate Index; US Mortgage-backed is represented by Bloomberg Barclays US Mortgaged-backed Index; Global Investment Grade Corporate is represented by Bloomberg Barclays Global Aggregate Corporate (US$ hedged) Index; U.S. Investment Grade Corporate is represented by Bloomberg Barclays Aggregate Corporate Index; Emerging Market USD Sovereign is represented by the J.P. Morgan EMBI Global Diversified Index; Emerging Market Corporate is represented by J.P. Morgan CEMBI Broad Diversified Index; Global High Yield Corporate is represented by the Bloomberg Barclays Global High Yield Corporate (US$ hedged) Index; U.S. High yield Corporate is represented by Bloomberg Barclays U.S. Corporate High Yield Index; Bank Loans is represented by the Credit Suisse Leveraged Loan Index; Municipal Bond is represented by Bloomberg Barclays Municipal Bond Index; High Yield Municipal Bond is represented by Bloomberg Barclays Municipal Bond High Yield Index. Yield to Worst (YTW) is the lowest expected yield calculation given maturity and call features. Option Adjusted Spread (OAS) is the yield difference relative to similar maturity Treasuries that incorporates call, put, sinking fund or paydown features of a bond. Past performance cannot guarantee future results. An investment cannot be made directly in an index. Returns less than one year are cumulative.

1 Positive number represents the currency appreciated against USD, negative number represents currency depreciated against USD.
2 Positive number represents the currency appreciated against EUR, negative number represents currency depreciated against EUR.

Invesco Fixed Income

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Recent IFI publications

1. **When US rates rise, it may be time to consider adding emerging market bonds,** May 2017, Julie Salsbery, Senior Client Portfolio Manager
2. **Getting familiar with global portfolio hedging,** April 2017, James Ong, Senior Macro Strategist, Nicole Corum, Macro Analyst
3. **Currency management: a simple roadmap,** April 2017, Ray Uy, Head of Invesco Fixed Income Macro Research
4. **Sizing up Europe's corporate pension gap,** March 2017, Michael Booth, Credit Analyst, Fabrice Pellous, Senior Credit Analyst, David Todd, Head of Global Investment Grade and Emerging Markets Research
5. **Municipal bond market watch Q&A**, March 2017, Stephanie Larosiliere, Senior Client Portfolio Manager
6. **Prime institutional funds may offer renewed value in a post-ZIRP, post-reform world**, Jan. 2017, Robert Corner, Senior Client Portfolio Manager
7. **Countdown to the US debt celing debate**, Dec. 2016, Justin Mandeville, Portfolio Manager
8. **IFI November 2016 Summit Outlook**, Dec. 2016, Greg McGreevey, Chief Executive Officer, Rob Waldner, Head of Multi-Sector
9. **Investor double take: US Agency MBS, Allocating to US Agency MBS during a Fed tightening cycle**, Dec. 2016, John Anzalone, Head of Structured Securities Portfolio Management
10. **Utility bonds and the impact of renewable energy adoption in the US**, Oct. 2016, Bixby Stewart, Analyst, Jay Sammons, Analyst

Invesco Fixed Income

Global perspective and deep local market knowledge

Global presence

- Regional hubs in Atlanta, London and Hong Kong
- IFI is in ten locations with additional Invesco colleagues in two
- USD 280.6 billion in assets under management

Experienced team

- 165 investment professionals
- Averaging 18 years of industry experience
- Deep macro and credit research
- Focused and accountable portfolio management

Global locations

Source: Invesco. For illustrative purposes only.

Invesco Fixed Income teams

	Team members	Average years with Invesco	Average years in industry
Portfolio management and trading	75	12	21
Global research	90	9	16
Total investment professionals	165	10	18
Business professionals	64	13	18
Total fixed income employees	229	11	18

Source: Invesco.

As of March 31, 2017. Subject to change without notice.
Investment specific experience for investment professionals.

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