Invesco Fixed Income

Global Fixed Income Strategy

Oct. 31, 2017

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Global macro strategy

Change creates opportunity in US prime institutional money market funds

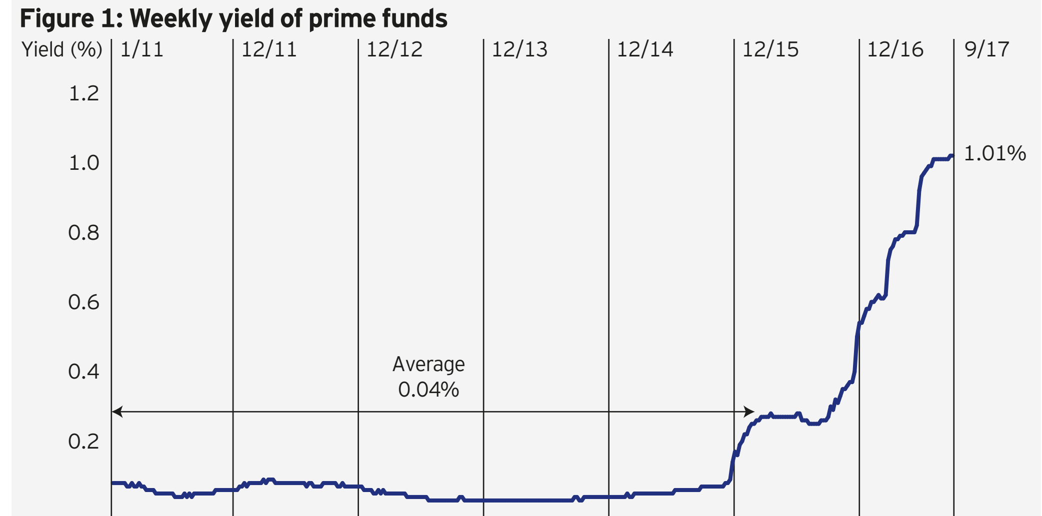
We believe disruption and change in the US money market fund industry has led to a renewed relative value opportunity in US prime institutional money market funds ("prime funds"). In the post-financial crisis era from 2009 to 2016, a seemingly unrelenting barrage of challenges bombarded the US money market fund industry: zero interest rate policy (ZIRP), industry consolidation, reform in 2010, reform in 2016 and a massive shift in assets out of prime into government money market funds. However, past is prologue, and two recent trends have led to attractive valuations in prime funds.

1. The US Federal Reserve's (Fed) removal of monetary policy accommodation has led to sharply higher yields on prime funds.
2. A shift of more than USD1 trillion in assets into US government money market funds ("government funds") and a resulting supply/demand imbalance in money market securities has led to attractive relative valuations of prime funds.

Fed rate hikes have driven US money market fund yields higher

Absolute levels of US prime money market yields have improved markedly on the heels of four Fed rate hikes since late 2015. These tightening moves have helped push up average prime fund yields to around 1%, after averaging only 0.04% under the Fed's zero interest rate policy from 2011 to 2015 (Figure 1). We believe yields on US money market funds could continue to increase in the months and years ahead if the Fed stays on its current path of removing monetary policy accommodation, based on a strong correlation between monetary policy rates and US money market fund yields.

Figure 1: Weekly yield of prime funds

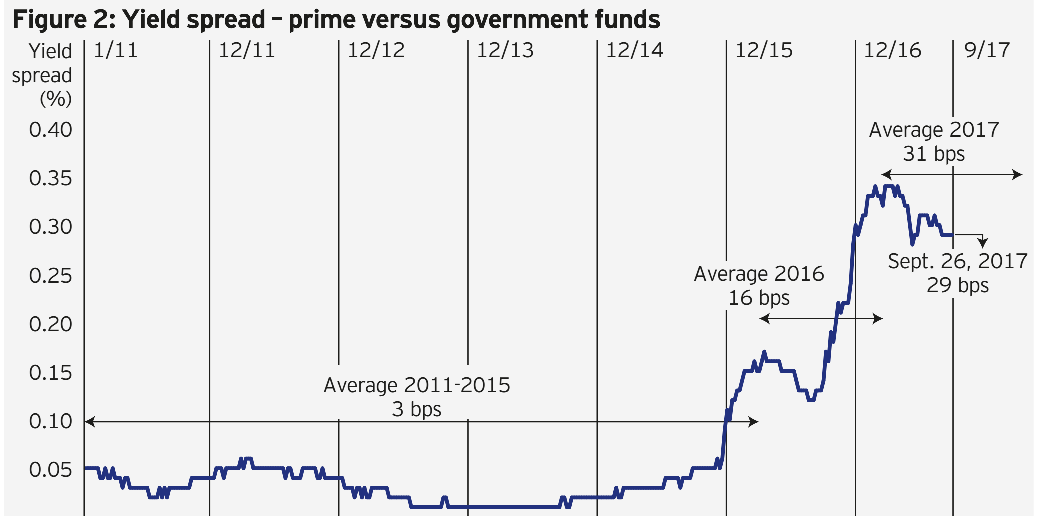


Source: iMoneyNet, Inc. Weekly data from Jan. 4, 2011 to Sept. 26, 2017 for the iMoneyNet First Tier Institutional Category. Yield is the category average 7-day simple yield. Past performance is not a guarantee of future results.

Asset shift has driven attractive relative value of prime funds

The average yield advantage of prime funds over government institutional money market funds has spiked in recent months, averaging a post-crisis high of 31 basis points so far in 2017 (Figure 2). The primary driver of this relative value boost has been a change in investor preference in favor of government money market funds after the implementation of US money market fund reform in October 2016. Prime funds suffered significant outflows in 2016, largely due to investor concerns over new liquidity fees and redemption gate rules and, for the first time, transacting at a fluctuating net asset value (FNAV). The resulting supply/demand imbalance – excess demand for government money market securities and reduced demand for prime money market securities like commercial paper and certificates of deposit - resulted in higher relative yields on prime money market funds.

Figure 2: Yield spread – prime versus government funds



Source: iMoneyNet, Inc. Weekly data from Jan. 4, 2011 to Sept. 26, 2017 for the iMoneyNet First Tier Institutional and Gov't Institutional Categories. Yield is the category average 7-day simple yield. Past performance is not a guarantee of future results.

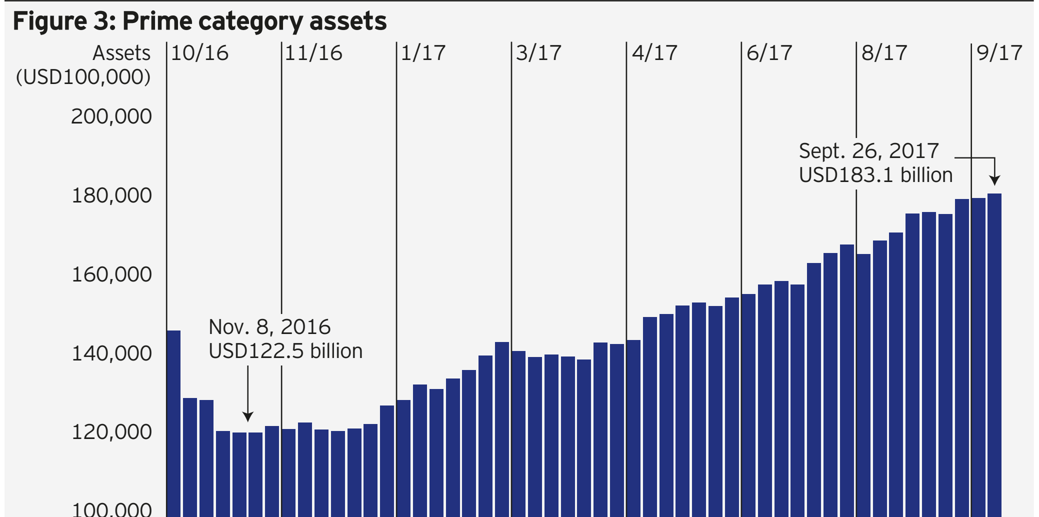
However, since reform was implemented, fears over fees and gates have been largely unrealized and fluctuations of NAVs on prime funds have been minimal, in our opinion.

Moreover, we believe higher relative yield levels on prime funds versus government funds can potentially compensate institutional investors for the risk of transacting at a floating net asset value. Wider spread levels of prime funds can reduce the breakeven holding period required to offset each $0.0001 decline in net asset value.

Investors slowly return to prime funds

It seems investors have taken notice of these developments and have gradually returned to prime funds. Total assets in these funds jumped by 49% to USD183 billion as of Sept. 26, 2017, after falling to an almost 20-year low of USD123 billion on Nov. 8, 2016 immediately following US money market fund reform (Figure 3).

Figure 3: Prime category assets



Source: iMoneyNet, Inc.; Weekly data from Oct. 11, 2016 to Sept. 26, 2017 for the iMoneyNet First Tier Institutional Category. Past performance is not a guarantee of future results.

Outlook
Looking ahead, we believe yields on prime funds could continue to increase in the months and years ahead if the Fed stays on its current path of removing of monetary policy accommodation.

The relative value advantage of prime funds could also remain elevated if investor preference for government funds remains strong and supply/demand imbalances in the market for money market securities persist. Over the longer term, the relative spread could gradually adjust downward as investors take advantage of this renewed opportunity, but we expect it to remain relatively attractive in the near term

Rob Corner, Senior Client Portfolio Manager

Interest rate outlook

US: Inflation continues to firm, although we do not see potential for a significant upside inflation surprise and believe near-term inflation will be sufficient to keep the Fed on track to raise interest rates in December. That said, we continue to expect ambiguity in the data to be caused by Hurricanes Irma and Harvey. Although US monetary policy is tightening, we expect uncertainty over inflation to keep a ceiling on US Treasury yields.

Europe: We remain constructive on European growth which, although not fully recovered, continues to benefit from synchronized global growth momentum and reduced political risks. Some monetary policy normalization looks warranted at this stage and we were not surprised that the European Central Bank (ECB) announced its plan this month to taper bond purchases to EUR30 billion per month beginning in Jan. 2018 and ending Sept. 2018. This announcement could help anchor interest rate expectations and should give more time for European governments to work on much needed structural reforms and plans for closer European Union (EU) integration.

China: The onshore government bond yield curve bear steepened in the first half of October as better than expected economic activity and core inflation shifted market sentiment. This was despite stable funding costs and loose liquidity conditions in the interbank market. President Xi's speech at the 19th Party Congress pointed to a quality-focused growth strategy and potentially further emphasis on strengthening financial regulation. In our view, this suggests slower credit growth and a lower economic growth target.

Japan: The Japanese economy continues to perform well, aided by a rise in consumption and exports. We expect this momentum to continue as wages edge higher, foreign demand remains robust and companies invest in their infrastructure. Prime Minister Abe's recent election victory should pave the way for more economic reforms that could further boost the potential growth rate of Japan's economy. With Bank of Japan (BoJ) Governor Kuroda's term due to end in April 2018, Prime Minister Abe must decide whether to ask Kuroda to stay on for another term or to replace him. Either way, we expect Japanese monetary policy to remain loose in the near term. We expect 10-year Japanese government bond yields to range between 0-0.1% through year-end.

UK: The Bank of England (BoE) is likely to increase interest rates by 25 basis points at its November meeting, however, this should be viewed as a removal of emergency stimulus (introduced after the EU referendum) rather than a reaction to an overheating economy. The UK's growth rate has declined meaningfully since the EU referendum, the pound has declined and inflation has moved considerably above the central bank's 2% inflation target. The labor market is very tight and, while there are no immediate concerns over wage pressures, these could emerge swiftly. The BoE will likely continue to weigh these risks against downside risks emanating from Brexit talks. There is an additional 25 basis point hike priced into the bond market for the duration of 2018. We believe this appears reasonable, so we maintain a neutral bias on UK rates for now.

Canada: After raising the target overnight rate 25 basis points at each of the previous two meetings, the Bank of Canada (BoC) kept the rate unchanged at its meeting on October 25, 2017. While growth has remained strong, it has slowed from the second quarter and the BoC appears ready to give its two previous rate hikes time to filter through the economy before taking further action. Additional uncertainty around the breakdown in North American Free Trade Agreement trade negotiations leaves the BoC cautious regarding future hikes. The Canadian 10-year yield appears to have peaked for the moment and yields have several reasons to fall from current levels, in our view.

Australia: The Reserve Bank of Australia (RBA) appears satisfied to leave interest rates steady. Labor data continue to improve but the unemployment rate, even as it begins to decline, remains stubbornly high. High consumer debt levels and slow wage growth will likely continue to constrain consumer spending. Low levels of inflation and a continued robust housing market should keep the RBA on hold in the near term. We remain neutral on Australian interest rates.

Rob Waldner, Chief Strategist, James Ong, Senior Macro Strategist, Noelle Corum, Associate Portfolio Manager, Sean Connery, Portfolio Manager, Brian Schneider, Head of US Rates Portfolio Management, Scott Case, Portfolio Manager, Reine Bitar, Macro Analyst, Ken Hu, CIO Asia Pacific, Yi Hu, Senior Analyst, Alex Schwiersch, Portfolio Manager

Currency outlook

USD: We expect our global policy convergence story to continue to play out as central banks react to strong global growth. The Fed continues to tighten, but at a pace gradual enough for the markets to absorb. We do not expect inflation to force the Fed into a more aggressive stance. This backdrop means that foreign central banks will likely remain the main driver of the US dollar going forward, in our view. As global central banks remove stimulus, we expect the US dollar to depreciate over the longer term.

EUR: We maintain our forecast for further euro appreciation. Global growth momentum is positive while inflation remains subdued, which will continue to support the weak US dollar trend and higher euro valuations. We continue to view pullbacks in the euro as consolidation within a secular trend higher.

RMB: We expect the USD/RMB exchange rate to trade in a range of 6.5-6.7 in a stable US dollar environment and a range of 6.80-6.99 if the US dollar strengthens sharply from here. The People's Bank of China indicated in the 19th Party Congress that currency stability remains a near-term policy priority. We, therefore, expect the spot level of the renminbi to move in tandem with the US dollar, but with lower volatility compared to other major currencies. Capital flows have become increasingly two-way, compared to previous periods of net outflows, and we expect this to continue in the near term.

JPY: The yen has been on a generally weakening trend against the US dollar since early September. The move coincides with, what appears to be, a global move higher in economic data suggesting continued growth in the months ahead. Although expectations of central bank tightening have increased in many countries, the (BoJ) appears satisfied to keep policy unchanged, for now, particularly amid low inflation. We expect the yen to remain range-bound between ¥110-115 through year-end.

GBP: Brexit discussions between the EU27 and the UK appear to have reached a stalemate. With the clock ticking down to the March 2019 departure date, UK officials will likely be keen to make a breakthrough soon so that talks can progress to discussing the trade relationship between the parties. We expect progress on talks to be slow and believe that that the probability of a "hard Brexit" could increase over the coming months. This would likely be detrimental to the currency.

CAD: The Canadian dollar appears to have peaked for the moment as the BoC has become concerned about the impact of a stronger Canadian dollar on the economy. Recent growth has slowed from the breakneck pace of the second quarter allowing the BoC to wait for further information on the impact of its two recent rate hikes before considering its next move. The currency could remain soft until economic data begin to show signs of renewed strength.

AUD: The RBA appears to be satisfied keeping interest rates steady. There continue to be only minor changes to meeting statements, which remain somewhat cautious. Despite signs of a steadily improving labor market, inflation and wage growth remain stubbornly low. Low inflation along with a housing market that remains robust should keep the RBA on hold. Despite a recent modest correction, we believe the Australian dollar is still expensive. Our expectation for continued positive global growth keeps us neutral on the currency.

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

1 Source: Bloomberg, data from Aug. 1, 2017 to Sept. 20, 2017.
2 Source: Bank of Canada, Sept. 6, 2017.

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

Global investment themes

Global credit themes

Geographical themes

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

Rationale

Despite the Fed's announcement that it will begin "Quantitative Tightening," the pace of tightening will likely be very slow and will be more than offset initially by continued easy monetary policy from the ECB and BOJ. As a result, IG credit should see strong global investor demand at least through the end of 2017 driven by continued strength in cross-border flows. Fundamentals are now broadly improving across most geographies and sectors, driven by a pickup in the global growth outlook. Leverage has come down from cycle highs in 2016, and with little pressure from shareholders to increase leverage, we expect balance sheet improvement to continue. The outlook for US tax policy is uncertain, but any changes that may occur should lead to improving profitability and less bond issuance going forward. On the other hand, regulatory changes seem more likely and should reduce expenses and enable opportunities for revenue growth. European credit markets are generally earlier in the credit cycle and less levered, although Brexit and political uncertainties remain. Although credit spreads in many asset classes are at or near cycle tights, the fundamental backdrop should remain supportive and there is historical precedent for returns to remain positive despite tight index spreads.

IFI strategy

We remain modestly overweight IG credit, favoring US and Europe over the UK and Asia. Key drivers to monitor include: 1) changes in monetary policy from the Fed, ECB, BoJ and BoE, viewed on an aggregate basis for their impact on global credit flows 2) changes in shareholder sentiment that could pressure firms to start increasing leverage 3) development of fiscal and regulatory policy changes 4) "hard" economic data to confirm the increase in "soft," sentiment-based leading economic indicators.

Emerging markets (EM): Reversal of reflation trade, favorable financial conditions, growth outlook supportive

Rationale

The positive view on global growth, aggregate global monetary policy and benign inflation pressures support our constructive view on EM credit, despite tight valuations. These forces have helped leverage come down from cycle highs, and we expect this trend to continue at a measured pace. Global inflation pressures remain conspicuously absent.

IFI strategy

We prefer high yield bonds due to our positive view on global growth, benign inflation outlook and continued easy financial conditions. We prefer to take credit over interest rate risk. We favor Latin America over Europe and Asia and are underweight Central and Eastern Europe. We are focused on sovereigns that have underperformed without a meaningful catalyst: Lebanon, Kazakhstan, quasi sovereigns, Oman. We actively use new issue market as a source of alpha and to build exposure in favored names and regions.

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

Rationale

Negative retail news has dominated headlines. However, we are generally not advocates of selling stronger US CMBS credits since they are often hard to replace. Issuance is increasing after a slow H1 2017. US property price growth continues, but there are signs of tighter financial conditions from the Fed's senior loan officer survey. Fortunately, this survey has not always been a good predictor of commercial real estate loan losses and the non-bank sector has proven willing and able to provide credit while banks have taken a step back.

IFI strategy

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

US residential mortgage backed securities (US RMBS): Favorable fundamentals, valuations fair, Credit Risk Transfer (CRT) securities 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 factor in US RMBS. Valuations appeared stretched relative to other asset classes following outperformance during H1 2017 in legacy US RMBS and below-IG CRT, but a slight widening in spreads during 3Q 2017, driven by an active hurricane season, has brought valuations back to fair value relative to other similarly rated credit asset classes.

IFI strategy

Favor 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 going forward, such uncertainty should be supportive of a more stable, shorter-duration US ABS market.

IFI strategy

Favor 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 supply concerns creating energy volatility, prefer pipelines

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 issuers where shorter-term maturities are well covered by liquid assets and positive corporate actions support financial profiles. Also favor pipeline credits with favorable parental relationships that provide downside protection at attractive yields.

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. 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" and mall-based retailers that lack differentiated products. Favor EM consumer sectors on a selective basis. Incrementally more cautious on automotive original equipment manufacturer (OEM) sector given excess inventory.

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, still soft organic revenue 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 getting full

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

Favor 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

Harvey, Irma and Maria's impact on the municipal bond market: long-term outlook depends on initial conditions

The financial impact of 2017's three devastating hurricanes has varied greatly depending on the region affected. The most important takeaway, from a credit standpoint, is that each region's ability to withstand the financial impact of the storms depends on its credit quality ahead of the storm. This does not bode well for Puerto Rico and the US Virgin Islands, which have been struggling with deteriorating fiscal conditions for some time. On the other hand, Houston and Florida are beginning the rebuilding process from a much stronger economic and financial position. Below we examine the storms' impact on each affected region.

Houston

We believe Houston's strong credit position will enable it to absorb the economic impact of Hurricane Harvey, especially factoring in the ability and apparent willingness of the state of Texas (AAA/stable) to support hurricane relief efforts. There has been some concern regarding population erosion and the resulting decline in real estate prices and property tax receipts. However, Houston is the most populous city in Texas and the fourth most populous city in the US[1]. Its economy is well-diversified, including energy, manufacturing, aeronautics, and transportation, and, with federal help, we do not expect a mass exodus of residents from the city. We believe Houston is likely to recover from the hurricane with its strong credit quality intact.

Florida

Florida General Obligation (GO) bonds are rated AAA, meaning they are rated the highest credit quality. The major rating agencies have highlighted Florida's strong employment and population growth, robust general revenues, structural budgetary balance, strong reserves, well-funded pension liabilities, and moderate debt burden. Standard & Poor's (S&P) has said Florida is "well-positioned, to the extent possible, to confront the potential demands of a catastrophic storm, given the state's governing framework and infrastructure." The state's economic performance is among the strongest in the nation, and it has ample reserves, which, together with trust fund balances, amount to nearly USD5.2 billion[2]. That said, it is possible the state could experience a short-term drop in tourism, which accounts for nearly 13% of general revenue sales taxes[3].

Puerto Rico and the US Virgin Islands

The Commonwealth of Puerto Rico (Caa3, negative) and the US Virgin Islands (rum tax bonds[4], senior lien, Caa1 negative) suffered profound devastation due to Hurricanes Irma and Maria, leading to tragic loss of life and damaged homes, businesses and infrastructure. While the full extent of the human toll and physical destruction remains to be measured, the storms clearly pose a credit challenge to both territories.

Both Puerto Rico and the US Virgin Islands were impacted at a time when they are already suffering financial distress. Puerto Rico is currently undergoing a debt restructuring under US federal oversight and the US Virgin Islands is facing extremely weak levels of liquidity. We believe that both entities will be heavily reliant on relief from the US federal government.

In Puerto Rico, an important impact of the hurricane has been to lengthen the timing of the fiscal turnaround needed to help restore the island's credit standing. Previously, economists had estimated that GDP growth would turn positive in the Commonwealth by 2021/2022, after 11 years of recession. This has now likely been delayed by a year. On top of the social concerns caused by the hurricanes, Puerto Rico is also facing the additional pressure of debt negotiations, which are also now likely to be delayed.

The Puerto Rico Electric Power Authority (PREPA, Ca negative), which is restructuring its debt in a judicial proceeding, faces severe damage to its electrical grid and power is out throughout much of the island. While it will receive funds from the Federal Emergency Management Agency (FEMA) and insurance over time, the utility faces numerous challenges, including the age and condition of its current infrastructure and its current financial condition. These factors weaken Puerto Rico's credit quality and limit its ability to secure financing that would serve as a bridge to permanent FEMA or insurance funding. This lack of financing will inevitably delay needed repairs to its infrastructure and hinder growth. Other public providers of transportation and telecommunications infrastructure also face challenges securing credit.

In the US Virgin Islands, there seems to be some marginally positive market news: early reports indicate that rum distilleries on St. Croix did not sustain damage from Hurricane Maria but the damage assessments are ongoing. Even if production were disrupted at these facilities, the flow of revenues backing the rum tax bonds are not projected to be affected for two years.

On the other hand, the combined damage from Hurricane's Maria and Irma are expected to worsen the government of the Virgin Islands' extremely weak liquidity position, increasing the risk that the government interferes with the flow of pledged revenues to honor its obligations or that the rum tax bonds could be included in an attempt to restructure its debt.

FEMA

Federal reimbursements through FEMA help soften the credit impact from natural disasters. However, it is important to stress that a significant portion of disaster relief funds are in the form of reimbursements, and, therefore, affected areas must first make expenditures to repair damage. It is also important to note that FEMA reimbursements can take time.

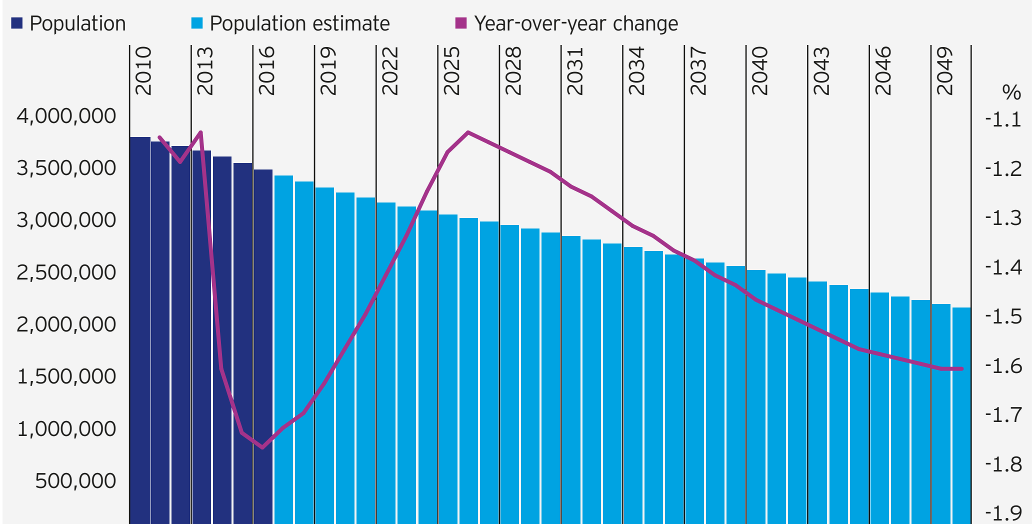
That is why a municipal government's recovery from a natural disaster is largely dependent on its credit strength pre-disaster, and a key element of this is the affected issuer's access to the debt market and cash reserves. In the short term, liquidity and reserve levels are important to cover cleanup costs, uncertainty of the timing of FEMA reimbursements and upcoming debt service payments. Access to financing for cash flow purposes is also important.

Figure 1: Time horizon-based credit impacts from natural disasters

Short-term	Medium-term	Long-term
Liquidity in light of timelines of FEMA reimbursements and adequacy of reserves	FEMA reimbursement for major infrastructure repair	Economic and revenue stimulus from rebuilding spending
Cleanup costs	Timing of FEMA aid	Potential for population loss and decline in taxable value
Upcoming debt service payments		Impact on real estate values

Source: Moody's investors service.

In Puerto Rico, FEMA is not expected to enable an economic turnaround partly due to demographic issues. The US Census Bureau recently updated its population estimates for Puerto Rico in which they forecast that Puerto Rico's population will fall 1.7% in 2017, and around 11% by 2025 – some 370,000 people (Figure 2). By 2050, the Census Bureau believes the population will decline to 2.1 million, a 38% decline from the 2017 estimated population of 3.4 million (Figure 2). Sharp declines in population mean a sharp decline in aggregate wealth and the commonwealth's tax base, which could further the vicious cycle of declining credit quality that has been in progress for some time.



Source: US Census Bureau; BofA Merrill Lynch Global Research. Data from Dec. 31, 2010 to Dec. 31, 2016, estimates thereafter.

Conclusion

While economic losses related to the recent hurricanes have been staggering, municipals have not been affected homogeneously. Rather, the impact of the storms on credit quality and market performance has instead been idiosyncratic, with the economic starting point before the storms being the most important factor. Looking back at Hurricane Katrina in 2005 and its impact on New Orleans as a guide, spreads widened significantly following the storm and the city's credit rating was downgraded four notches from BBB+ to BB in 2005. It did not return to BBB+ until 2013. On the other hand, higher-rated New York metropolitan area credits were largely unaffected in terms of ratings and spreads by Hurricane Sandy in 2012.

In short, higher-rated credits have historically recovered relatively quickly from natural disasters. Lower-rated credits, in contrast, have experienced a slower and weaker recovery. We expect this pattern to repeat itself in the aftermath of this year's terrible storms.

Stephanie Larosiliere, Senior Client Portfolio Manager

1 Source: US Census Bureau, May 25, 2017.
2 Source: Moody's, Oct. 16, 2017.
3 Source: State of Florida, Long-Range Financial Outlook, Fall 2017 Report.
4 Much of the US Virgin Island's debt is backed by taxes levied on rum sales. Because many of the US Virgin Island GO bonds are illiquid, rum tax bonds are viewed as representative of the island's debt.

Market monitors

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)	2.69	1.50	0.00	41	0	23	156	0.91	0.96	2.69	0.28
U.S. Aggregate	3.06	2.42	0.00	42	0	32	258	0.90	1.23	3.64	0.49
U.S. Mortgage-backed	3.53	2.70	0.00	30	0	-16	181	0.73	0.78	2.55	0.80
Global Inv Grade Corporate (USD hedged)	3.55	2.40	0.00	109	0	55	515	0.80	1.55	4.73	2.32
U.S. Investment Grade Corporate	4.00	3.07	0.00	110	0	76	618	0.78	1.82	5.37	2.13
Emerging Market USD Sovereign	n/a	5.20	0.06	287	-13	157	906	0.01	2.63	8.99	4.61
Emerging Market Corporate	n/a	4.43	0.01	232	-19	120	1,032	0.35	2.11	7.23	5.82
Global High Yield Corporate (USD hedged)	6.14	4.95	0.00	359	0	231	1,845	0.16	1.45	6.35	8.78
U.S. High Yield Corporate	6.44	5.61	0.00	378	0	233	1,971	-0.04	1.20	6.05	8.63
Bank Loans	4.94	5.09	-0.02	n/a	n/a	n/a	n/a	0.41	1.06	3.04	5.36
Municipal Bond	4.74	2.08	0.00	n/a	n/a	n/a	n/a	0.76	1.21	5.20	0.88
High Yield Municipal Bond	5.24	5.26	0.00	n/a	n/a	n/a	n/a	1.38	1.82	8.30	2.25

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	2.10	1.77	0.00	1.08	1.09	3.15	-0.95
Canada	2.22	1.62	0.00	1.35	-1.98	0.47	-3.39
United Kingdom	3.54	1.04	0.00	2.06	0.24	2.54	-3.45
Germany	1.98	-0.07	0.00	1.32	0.09	-0.64	-2.83
Italy	3.38	1.28	0.00	0.35	1.10	0.02	-3.50
Japan	1.05	0.10	0.00	0.54	0.26	0.19	-1.44
China	3.46	3.71	0.00	-0.37	0.43	-1.63	-3.22
EM Local Currency Governments	n/a	n/a	n/a	0.76	2.21	8.02	6.51

FX market monitor[1]

	Current	10 year range min	10 year range max	Returns: 1 mth (%)	3 mth (%)	YTD (%)	12 mth (%)
EURUSD	1.17	1.05	1.60	-1.07	3.25	12.22	4.66
USDJPY	112.77	75.82	124.77	-2.23	0.54	4.26	-9.86
GBPUSD	1.33	1.22	2.11	2.51	2.60	8.13	3.38
USDCNY	6.66	6.04	8.28	-1.55	1.85	4.40	0.09
USDCHF	0.97	0.75	1.39	-1.01	-1.15	5.03	-0.12
AUDUSD	0.78	0.60	1.10	-1.86	2.17	8.95	1.98
CADUSD	0.80	0.72	1.09	-0.90	3.98	7.46	4.88
EURJPY[2]	132.31	94.31	169.49	-1.17	-2.62	-7.10	-13.87
EURGBP[2]	0.88	0.70	0.89	3.61	-0.66	-3.65	-1.22

Sources: Bloomberg Barclays, J.P. Morgan, as of September 30, 2017. Credit Suisse Leveraged Loan data as of September 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. **Global Liquidity: A long-term approach to short-term investing,** October 2017, Invesco Global Liquidity
2. **Q&A: Strategies for investing in a low yield world,** October 2017, Rob Waldner, Chief Strategist, Head of Multi-Sector
3. **The US debt ceiling saga resumes,** August 2017, Justin Mandeville, Portfolio Manager
4. **IFI Global Investors' Summit,** June 2017, Rob Waldner, Chief Strategist, Head of Multi-Sector, Tony Wong, Global Head of Credit Research, Liquidity and Municipals
5. **Quality currencies can potentially diversify against growth risk,** June 2017, Ray Uy, Head of Macro Research and Currency Portfolio Management, James Ong, Senior Macro Strategist
6. **When US rates rise, it may be time to consider adding emerging market bonds,** May 2017, Julie Salsbery, Senior Client Portfolio Manager
7. **Asian US dollar bond market: China's new "local" market,** May 2017, Ken Hu, CIO, Asia Pacific

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 311.3 billion in assets under management

Experienced team

- 171 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	20
Global research	96	9	17
Total investment professionals	171	10	18
Business professionals	56	12	19
Total fixed income employees	227	11	19

Source: Invesco.

As of Sept. 30, 2017. Subject to change without notice.
Investment specific experience for investment professionals.

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