
Bond Compass

Q1 2019

STATE STREET GLOBAL
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A Leader in Fixed Income
Index Investing

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- State Street Global Advisors' global scale enables our portfolio managers, traders and investment strategists to be sector specialists and based in their geographic markets
- Our dedicated Capital Markets teams provide 24-hour coverage across global markets, offering enhanced liquidity and cost-efficient* trading strategies
- Entrusted with \$378 billion in fixed income assets, managing 30+ currencies across 40 different countries**

\$378 billion

in indexed fixed income assets

Proven Track Record

- 23 years of bond index investing — our first fixed income index fund launched in 1996
- Manage more than 100 fixed income index strategies, providing choice for investors
- More than 100 fixed income professionals dedicated to conducting research, managing risks and costs, and supporting our clients

23 Years

of bond index investing

Innovative Solutions for Bond Investors

- Comprehensive range of cost-effective* ETFs
- Offering access to government and corporate bonds across the yield curve, using a consistent index methodology

100+

fixed income index strategies

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* Frequent trading of ETFs could significantly increase commissions and other costs such that they may offset any savings from low fees or costs.

** Source: State Street Global Advisors, as of 30 September 2018.

Navigating the Fixed Income Market

Welcome to the second edition of the *Bond Compass*. This global, quarterly report leverages analysis from State Street Global Markets showing bond flows and holdings indicators from Q4 2018, taken from a data set that represents \$10 trillion* of assets.

This data shows that institutional investors, far from rushing to safety in the midst of the turbulent end to 2018, are selling Treasuries and, in December at least, began to dip a tentative toe back into Italian and emerging market debt. This was a surprisingly upbeat set of readings to begin 2019.

The PriceStats® information in Section (B) provides timely inflation analysis for the US, eurozone and emerging markets. The analysis showed that the pace of inflation in these regions is already slowing in response to lower energy prices. This change will help the Federal Reserve (Fed) and emerging market central banks to justify a pause in interest rate hikes — but it will also potentially complicate the European Central Bank's (ECB) hopes to normalise policy.

Section (C) features an interview with Abhishek Kumar, who discusses the opportunities and challenges for the exposure, as well as the impact of investing in hard versus local currency.

For investors looking to gain further insight into the data and the insights that the *Bond Compass* provides, SPDR ETFs is hosting a series of client-facing webinars and events across the globe. Please contact your local sales team for further information.



Michael Metcalfe
Global Head of Macro Strategy,
State Street Global Markets



Antoine Lesné
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* Source: State Street Form 10-K, as of 31 December 2018. The fixed income flows and holdings indicators produced by State Street Global Markets, the investment, research and trading division of State Street Corporation, are based on aggregated and anonymised custody data provided to it by State Street, in its role as custodian. State Street Global Advisors does not have access to the underlying custody data used to produce the indicators.

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(D) Q1 Investment Outlook

State Street Global Advisors has identified the key considerations for investors in the coming quarter, and how these markets can be navigated.

* The fixed income flows and holdings indicators produced by State Street Global Markets, the investment, research and trading division of State Street Corporation, are based on aggregated and anonymized custody data provided to it by State Street, in its role as custodian. State Street Global Advisors does not have access to the underlying custody data used to produce the indicators.

(A) Investor Sentiment — Flows and Holdings

(A) Investor Sentiment

Fixed Income Flows

State Street Global Markets (SSGM) builds indicators of aggregated long-term investor behaviour in fixed income markets from a substantial subset of \$10 trillion worth of fixed income assets under custody and administration at State Street.†

This captures behavioural trends across tens of thousands of portfolios and is estimated to capture just over 10% of outstanding fixed income securities globally.

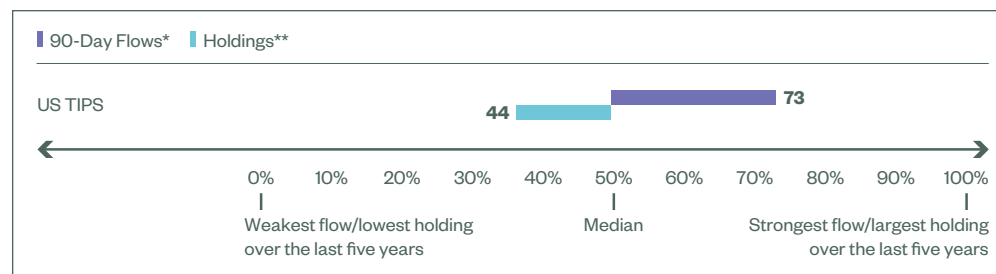
For more information, visit globalmarkets.statestreet.com

Flows and Holdings — Understanding the Chart

These metrics are generated from regression analysis based on aggregated and anonymous flow data in order to better capture investor preference and to ensure the safeguarding of client confidentiality.

The figures are shown as percentiles, expressing the flows and holdings over the last quarter, relative to the last five years. The benefit of this approach is that it provides perspective on the size of flows and holdings compared to their historical trends, whereas a single, dollar figure provides less context. For example, a \$3 billion outflow of emerging market debt would represent a substantial move in the market given its overall size and history of receiving inflows in the recent past. However, a \$3 billion outflow from US Treasuries is substantially less impactful as it is a much larger market.

Therefore, when presented as percentiles, a reading of ‘0’ represents the weakest flow or lowest holding over the last five years, 50th percentile represents the median flow, and 100th percentile is the strongest flow or largest holding seen in the last five years. Generally a figure below the 50th percentile represents an outflow or an underweight holding relative to the five-year average.



The information contained above is for illustrative purposes only. *Based on 90-days in total: 60 working days. **As at quarter end.

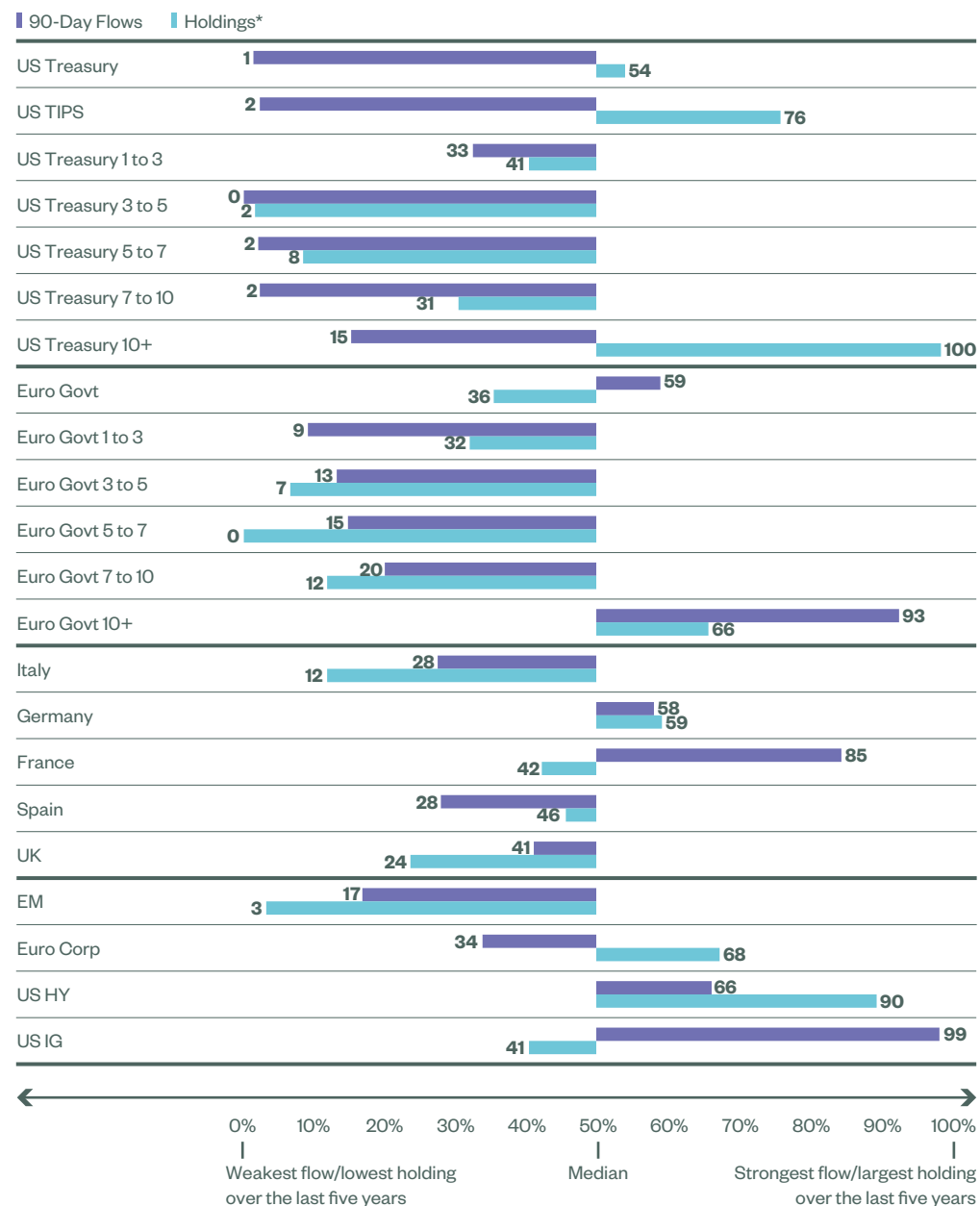
In the example above, the ‘90-day flows’ indicate that, relative to the last five years, the flows are in the 73rd percentile (i.e. higher than the median), which suggests slightly above average inflows. The ‘Holdings’ are in the 44th percentile, meaning that investors, at the quarter end, are holding a lower proportion of US TIPS relative to their five-year average. Together this would suggest that investors are attempting to move back toward their average level of holdings of TIPS*** over the quarter.

†Source: State Street Global Markets, as of 28 September 2018. ***Treasury Inflation-Protected Securities.

(A) Investor Sentiment Fixed Income Flows

This data is available on a daily basis from State Street Global Markets, along with more detailed research and interactive charts:

globalmarkets.statestreet.com
or email ir3@statestreet.com



Source: State Street Global Markets, as of 31 December 2018. *As at quarter end.

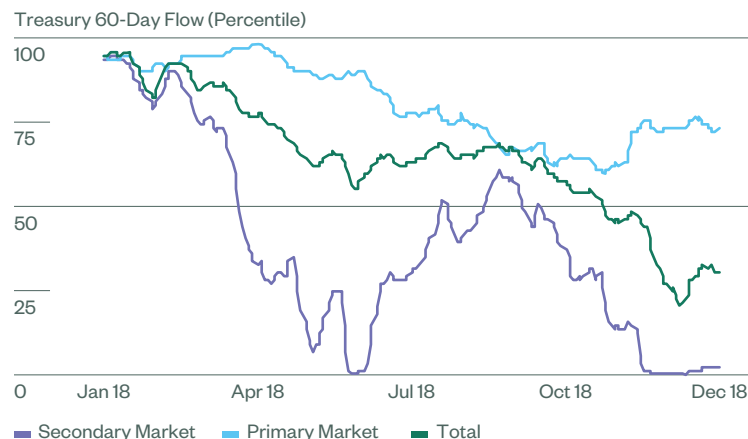
Analysis

Q4 turned out to be more difficult than expected for risky assets. However, long-term investor behaviour in fixed income markets indicated less panic than price and yield moves suggested.

1. Despite record issuance, Treasuries returned their best quarter in three years. While this boosted the value of investors' Treasury holdings, investors are actively fighting the move and still selling Treasuries across the curve. In contrast to the last big Treasury rally in Q1 2016, investors clearly do not expect Q4's gains to be repeated.
2. Demand for riskier sovereign bonds, in the form of Italian or local currency emerging market debt, remained weak in Q4. On a more constructive note, flows into both returned to median levels in December, suggesting risk appetite is getting less, not more, negative.
3. After dismal performance in Q4, high yield credit will be the one to keep an eye on. While flows held up surprisingly well across the quarter, demand for high yield in December finally began to show signs of investor capitulation and a stronger preference for investment grade.

(A) Investor Sentiment Fixed Income Flows

Breakdown of Investor Demand for Treasuries

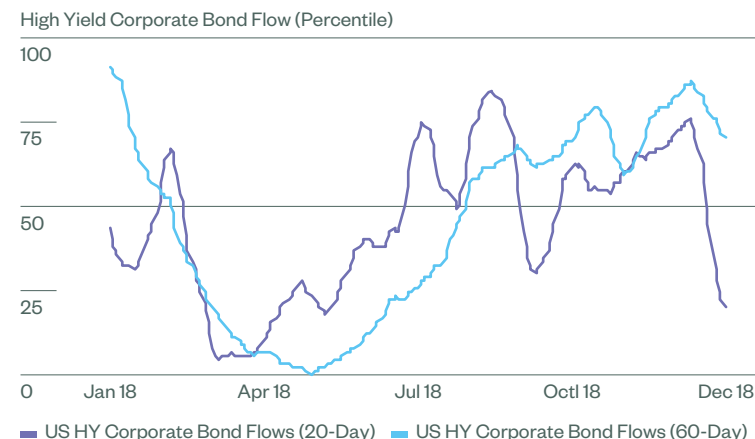


Source: State Street Global Markets, as of 31 December 2018.

Across Q4, risk aversion, softer US economic data and a change in Fed commentary combined to produce the best quarter of Treasury returns in three years. Surprisingly, while the outperformance of Treasuries relative to other markets lifted the value of investor holdings, investors responded by continuing to sell Treasuries across the curve. This effect was exacerbated in our metrics by heavy issuance in the quarter, which spurred robust primary demand for Treasuries, partly at the expense of the secondary market demand upon which our indicators are built. Even allowing for that, total demand for Treasuries was unusually weak.

There is a bearish interpretation of this, which is that investors are nervous about rising political risk in Treasuries, reflected in the ongoing government shutdown and rapid rise in issuance. However, we might expect to see much weaker primary demand from institutional investors if this were the main driver. A more optimistic interpretation would be that investors are concerned that the low in yields seen in December are unlikely to persist into 2019.

Quarterly and Monthly Demand for US HY Corporate Bonds



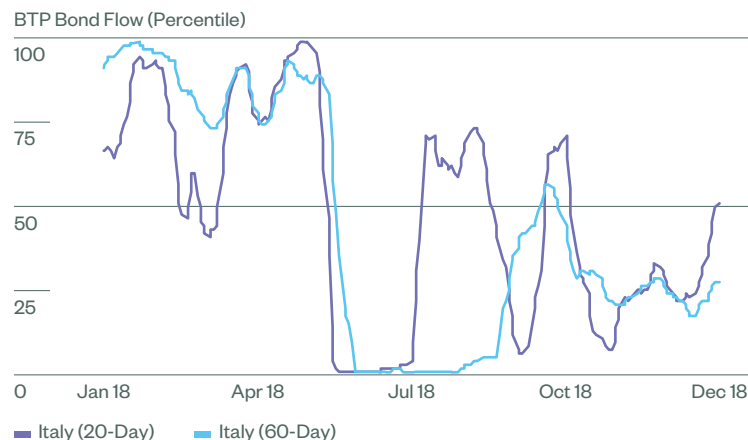
Source: State Street Global Markets, as of 31 December 2018.

That is not to say that long-term investors' views on US rate markets were unchanged in Q4. There has been a distinct change in demand for high yield credit, at least in the past month. While our slower-moving 60-day sum of flows into US high yield corporate bonds is still above average, 20-day flows fell rapidly in December and suggest a similar deterioration in sentiment to that seen back in February 2018.

The message is that while investors are uncomfortable chasing lower Treasury yields from here, they are showing more concern about credit. It will likely take another quarter's worth of data to see if this is primarily oil-related or reflects a deeper concern around slowing US growth and a potentially higher default rate.

(A) Investor Sentiment Fixed Income Flows

Long-Term Investors Return to Italy in December



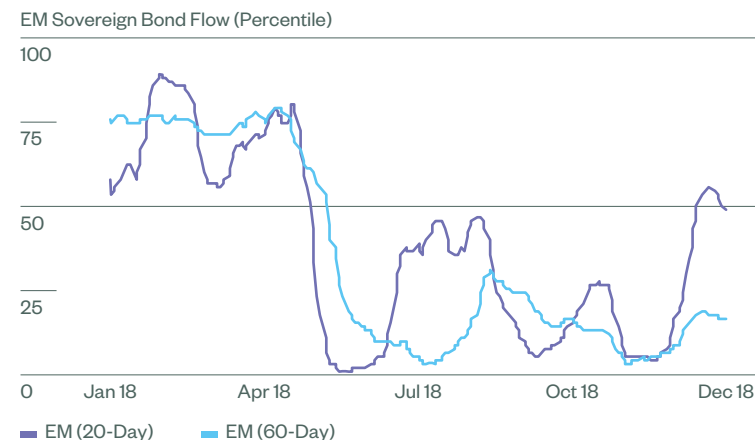
Source: State Street Global Markets, as of 31 December 2018.

Outside of the US, the main themes in Europe and emerging markets also involve something of a reversal in sentiment in December that is not fully captured in Q4 behaviour. Investor outflows from Italian sovereign bonds were modest, as investors had already established an underweight after dramatic selling in May. BTPs* had a bumpy ride as the budget dispute escalated, but one that ended on a more constructive note.

SSGM metrics of long-term investor flows, which lean towards international investors, showed a robust improvement for BTPs in December. The return of investor sentiment to BTPs was often fleeting during the last six months of 2018 but, for now, investors are no longer adding to a defensive BTP position.

This does not mean European populism is over as a market theme. Italy's budget could come back into focus if growth fails to rebound; demand for OATs** was shaken in late Q4 as the 'gilet jaunes' protests in France escalated. And if Europe's parliamentary elections in May deliver a populist slant, further fiscal clashes (or reform?) look inevitable.

A Tentative Toe Into the Water in Emerging Market Bonds



Source: State Street Global Markets, as of 31 December 2018.

Emerging markets (EM) have not been immune to populist pressures either and have also been hit by stagflation. However, long-term investor holdings of local currency EM debt were already at a five-year low and, in December, flows jumped above their five-year median for the first time in eight months. With the chances of a trade truce growing and the inflation trend easing quickly (see page 13), this may be one of the first risky flows to turn more positive once again.

It is important to stress that December's tentative recovery is not yet a blanket rush back into EM debt. Latin American markets, Brazil and Mexico in particular, which also experienced the largest currency recoveries in the past month, saw the sharpest rebound in flows in December. Currency appreciation did not, however, spur a recovery in demand for South African bonds, while selling of Turkish and Indonesian local currency bonds also continued. The emerging recovery remains selective for now.

*Buoni del Tesoro Poliannuali (BTPs) - Italian bonds. **Obligations assimilables du Trésor (OATs) - 7 to 50 year French bonds.

(A) Bond Market Review

Index Performance and Yields

These indicators show the broad performance evolution of major fixed income exposures, ranging from global bonds to regional sovereign and corporate indices.

The tables also include emerging markets and convertible bonds. Characteristics such as yield-to-worst levels and option-adjusted spreads (expressed over duration-adjusted treasuries) allow investors to assess what drove that performance over the various periods and help determine allocations based on trends.

Index Performance	3 mths	6 mths	YTD
Bloomberg Barclays U.S. Treasury Index	2.57	1.96	0.86
Bloomberg Barclays Euro Treasury Index	1.47	0.41	0.98
Bloomberg Barclays Sterling Gilts Index	2.13	0.29	0.50
Bloomberg Barclays U.S. Corporate Index	-0.18	0.79	-2.51
Bloomberg Barclays Euro Corporate Index	-0.62	-0.61	-1.25
Bloomberg Barclays Sterling Corporate Index	-0.07	-0.38	-2.24
Bloomberg Barclays U.S. High Yield 0-5 Year (ex 144a) Index	-3.27	-1.22	0.29
Bloomberg Barclays Liquidity Screened Euro High Yield Index	-3.85	-2.32	-3.89
ICE BofAML 0-5 Year EM USD Government Bond ex-144a Index	0.64	1.78	0.53
Bloomberg Barclays Emerging Markets Local Currency Liquid Government Index	2.11	1.06	-4.77
Thomson Reuters Qualified Global Convertible Bond Index	-6.77	-5.81	-4.64
Bloomberg Barclays Global Aggregate Index	1.20	0.26	-1.20

Index Yield	Yield in %	3 mths	6 mths	YTD
Bloomberg Barclays U.S. Treasury Index	2.61	-0.34	-0.10	0.42
Bloomberg Barclays Euro Treasury Index	0.75	-0.17	0.03	0.14
Bloomberg Barclays Sterling Gilts Index	1.35	-0.17	0.03	0.15
Bloomberg Barclays U.S. Corporate Index	4.20	0.13	0.18	0.95
Bloomberg Barclays Euro Corporate Index	1.30	0.22	0.29	0.55
Bloomberg Barclays Sterling Corporate Index	3.06	0.18	0.31	0.72
Bloomberg Barclays U.S. High Yield 0-5 Year (ex 144a) Index	7.56	1.95	1.70	2.52
Bloomberg Barclays Liquidity Screened Euro High Yield Index	5.02	1.21	1.03	1.89
ICE BofAML 0-5 Year EM USD Government Bond ex-144a Index	5.01	0.23	0.35	1.68
Bloomberg Barclays Emerging Markets Local Currency Liquid Government Index	5.81	-0.23	-0.11	0.50
Bloomberg Barclays Global Aggregate Index	2.03	-0.13	0.04	0.37
USD Inflation Swap Forward 5Y5Y	2.13	-0.31	-0.26	-0.20
EUR Inflation Swap Forward 5Y5Y	1.61	-0.09	-0.12	-0.12
GBP Inflation Swap Forward 5Y5Y	3.62	0.10	0.21	0.13

Source: State Street Global Advisors, Bloomberg Finance L.P., as of 31 December 2018. Past performance is no guarantee of future results. Index returns are unmanaged and do not reflect the deduction of any fees or expenses.

Treasury bonds rallied after various equity markets entered into correction territory amid waning economic momentum and a volatile geopolitical backdrop. The 10-year US Treasury yield closed the year at 2.67% after having flirted with 3.25% in October and November. US inflation remained positive — sufficient for the Fed to hike a fourth time in 2018.

Meanwhile, the ECB confirmed the end of asset purchases in December. The stand-off between Italy and the European Commission on the 2019 budget, along with weaker economic data, helped German bond yields fall to 0.24%. Gilts also rallied as a vote for a Brexit withdrawal bill was postponed.*

Credit suffered, led by high yield bonds. In this context, favouring higher quality offered the best relative trade. As equity markets tumbled (MSCI ACWI fell 12.75% in Q4, in USD terms), global convertible bonds also posted negative returns.

After a challenging spring and summer, emerging market local currency debt markets recovered, helped by investors seeing a valuation opportunity and a more stable dollar. This recovery highlights the potential decoupling of local currency sovereign debt risk, which could continue to positively surprise in 2019.

*The withdrawal bill was subsequently rejected, soundly, by Parliament on 15 January 2019.

(A) Bond Market Review

Index OAS

Option-adjusted spread (OAS) is the yield spread that has to be added to a risk-free rate in order to discount a security's payments to match its market price. It is the extra yield an investor demands in order to hold the security instead of the risk-free rate.

- For the USD credit indices, the spread is defined versus the US Treasury securities' yield of equivalent maturity (or an interpolated yield where required)
- For euro credit indices, the spread is defined versus the German euro treasury securities' yield of equivalent maturity (or an interpolated yield where required)
- For sterling credit indices, the spread is defined versus the UK gilt securities' yield of equivalent maturity (or an interpolated yield where required)

Index OAS	OAS in %	3 mths	6 mths	YTD
Bloomberg Barclays Euro Treasury Index	0.78	-0.01	0.07	0.28
Bloomberg Barclays U.S. Corporate Index	1.53	0.47	0.30	0.60
Bloomberg Barclays Euro Corporate Index	1.52	0.37	0.30	0.65
Bloomberg Barclays Sterling Corporate Index	1.77	0.33	0.30	0.58
Bloomberg Barclays U.S. High Yield 0-5 Year (ex 144a) Index	4.89	2.21	1.72	1.82
Bloomberg Barclays Liquidity Screened Euro High Yield Index	5.04	1.76	1.15	2.21
ICE BofAML 0-5 Year EM USD Government Bond ex-144a Index	2.52	0.54	0.42	1.15
Bloomberg Barclays Global Aggregate Index	0.55	0.10	0.08	0.19

Source: State Street Global Advisors, Bloomberg Finance L.P., as of 31 December 2018.

In a reversal from Q3, indices with credit risk exposures saw notable spread widening in Q4, bringing index levels above or close to their five-year averages. As the ECB confirmed the end of its purchase program, euro corporate spreads reached levels last seen prior to the Mario Draghi's CSPP* announcement in March 2016. Meanwhile, Italian sovereign bond spreads (versus German equivalents) rallied to end the year, and the populist-led coalition agreed on the 2019 budget at 2.04% versus the initially rejected 2.4%.

Euro high yield spreads widened, touching above 500 bps and pricing in more elevated default rates than agencies forecast for 2019. This change stemmed from the overall negative economic momentum witnessed in Europe and negative flows observed in euro high yield across funds and ETFs. While the potential for spread compression remains limited for now, the relative carry could start to look relatively attractive.

Nevertheless, the State Street Global Advisors view favours moving higher in the quality spectrum, especially if economic momentum slows further in Q1 2019.

*Corporate Sector Purchase Programme.

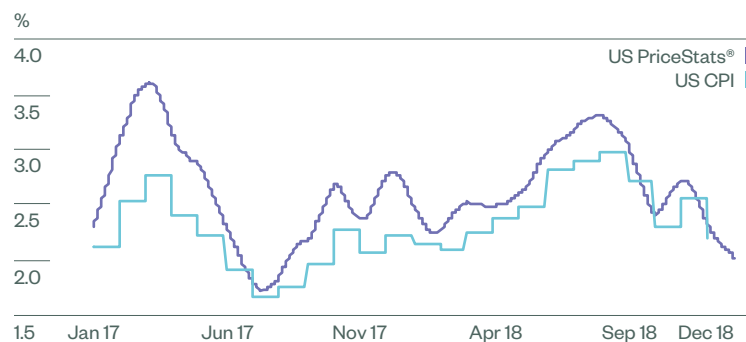
(B) PriceStats®

(B) PriceStats®

PriceStats® provides high-frequency measures of inflation and real exchange rates drawn from prices on millions of items sold by online retailers. This real-time pulse of global economic trends helps investors anticipate and evaluate the impact of inflation, including the impact on monetary policy and the degree of exchange rate misalignments.

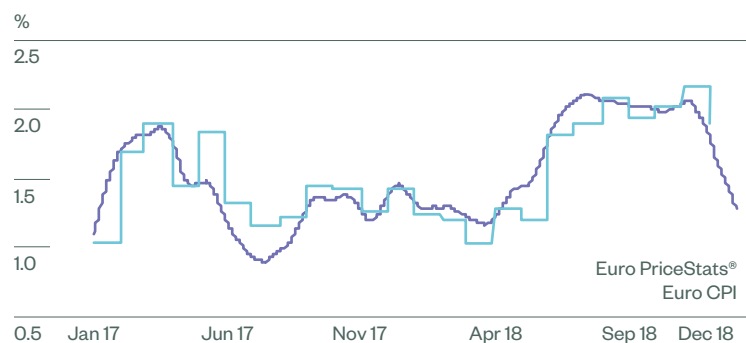
This information is available on a daily basis from State Street Global Markets. For more information, visit globalmarkets.statestreet.com

US PriceStats® Daily Country Inflation Index (% yoy)



Source: State Street Global Markets, as of 31 December 2018.

PriceStats® Daily Eurozone Inflation Index (% yoy)



Source: State Street Global Markets, as of 31 December 2018.

PriceStats® Daily EM Inflation Index (% yoy)



Source: State Street Global Markets, as of 31 December 2018.

US inflation headlines too flattering. The PriceStats® annual inflation rate fell below 2% for the first time in 15 months on 30 December 2018. The official annual inflation rate is likely to follow suit soon. We would caution, for the moment, in reading too much into this softer trend, which owes much to the collapse in gasoline prices. PriceStats® sector series show little evidence of a softer inflation trend outside of energy, which suggests that core inflation looks set to remain close to 2% for now.

Headline challenge for the ECB. Eurozone inflation was briefly at the ECB's 2% target, but this was largely an energy-fueled illusion. Core inflation remains close to 1%, and now that energy prices have reversed, online prices across the eurozone are quickly reverting to that level. If inflation expectations follow lower, this will complicate the ECB's hopes to start normalising interest rates.

Emerging turn. Last quarter we worried that still-high inflation would keep potential investors into EM sovereign debt on the sidelines. With currencies stabilising (just) and inflation now turning lower, these concerns could fade further in Q1 2019.

(C) Interview With a Portfolio Manager

(C) Interview With a Portfolio Manager



Abhishek Kumar

Sector Head, Emerging Markets,
Fixed Income Beta Team

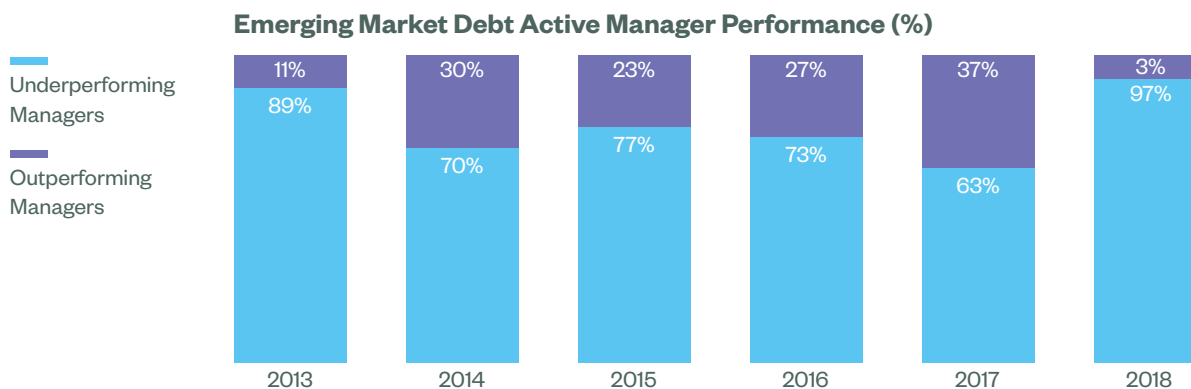
Why should investors consider using a passive exposure for emerging market debt (EMD)?

In the past, adopting an active management approach was perceived as the best way to invest in EMD, based on various assumptions. For example, many investors thought indexed EMD would be too expensive to implement, and that because EMD is an inefficient market, active managers would be able to extract value. Moreover, an index would hold 'weak' countries that drag on performance, which active managers could theoretically avoid.

The reality is very different. EMD now offers much greater liquidity and diversity, and the majority of active managers fail to outperform their benchmarks in the long run.

A study of the 30 largest active managers¹ tracking the JPMorgan GBI-EM Global Diversified Index highlights performance concerns (see chart below). While some active managers outperformed their benchmark, the majority have failed to do so over the longer term. In 2017, 37% of the funds in the universe did outperform the GBI-EM, but it was an exceptionally strong year for the asset class as a whole.

In 2018, 97% of the managers in the universe underperformed their benchmark. Based on five years of accumulated returns, only 17% of active managers outperformed. These results show us that underperformance is not the result of a single bad year or a one-off 'black swan' event but, rather, a consistent and persistent problem for active managers.



Source: Morningstar, 31 December 2018. The information contained above is for illustrative purposes only.

¹European Domiciled Funds in the Morningstar Database.

(C) Interview With a Portfolio Manager (cont.)



Abhishek Kumar

Sector Head, Emerging Markets,
Fixed Income Beta Team

Why do you track the Bloomberg Barclays index as opposed to the JPM benchmark?

We chose Barclays for its transparency, diversification, and historical risk-adjusted returns.

Index inclusion rules vary from one provider to another, and differences can affect performance. This was particularly evident last year when economic conditions weighed on EMD. During this period, our US and European ETF Bloomberg Barclays benchmarks outperformed their JPMorgan² peer partly due to better diversification of our index and also by including higher rated countries, such as South Korea.

Over time, our Bloomberg Barclays index has exhibited a better risk-adjusted return profile compared to the JPMorgan index. The investment universe of our index is broader, with a greater number of countries and constituents, thus providing a broader pool of securities in which to invest. This is an important consideration, especially for investors who may be concerned about fund sizes, market impact, and liquidity constraints.

How should an investor think about allocating across local and hard currency debt?

There is a place for both exposures in asset allocations. The characteristic profiles of EM local and EM hard currency contrast in certain areas. For example, some investors find the currency diversification benefits of holding EM local market debt attractive. This is a key difference to hard currency, where bonds tend to be issued in US dollar. Currency is a major driver of short-term EM local market debt performance, which differentiates it from hard currency.

Country exposures are another area where divergences can be seen. What you find is that hard currency has a higher allocation to so-called 'frontier markets', which can be more sensitive to external global stress. To compensate, investors tend to be rewarded with a higher yield.

For example, the yield to maturity of the JPMorgan EMBI Global Diversified Index is now ~6.9% with a duration of 6.3 years.³ In comparison, the Bloomberg Barclays US Corporate Bond Index has yield to maturity of 4.2% with a duration of 7.0 years.⁴ For some investors, the trade-off between credit quality and yield pick-up is attractive.

What is the outlook for EM in 2019?

The Fed hiking cycle will play a prominent role in 2019 EM performance. The current forecast is for 2-3 hikes in 2019, with the pace of normalisation dependent on signs of stress in the market and economic data. This could indicate that the US dollar may have peaked, as the Fed leads other central banks in hiking rates. A slower pace of Fed normalisation, combined with moderating growth and, therefore, a weaker US dollar outlook, could bring some respite for EM financial conditions and support growth.

EM central banks are also likely to hike rates in 2019, albeit at a slower pace versus the Fed, which would also benefit the asset class. Markets have largely priced in a China slowdown, although the Chinese government has employed various measures to stabilise growth, including delaying financial deleveraging coupled with monetary and fiscal stimulus. If China's growth surprises to the upside, we could see a positive spill-over effect into the broader EM, especially to the countries with close trade links with China and commodity exporters. With this economic backdrop, 2019 could prove to be a bullish year for EMD.

²JPMorgan Government Bond Index Emerging Markets Global 10% Cap 1% Floor Index. ³Source: JPMorgan, as of 31 December 2018. ⁴Source: Bloomberg Finance L.P., as of 31 December 2018.

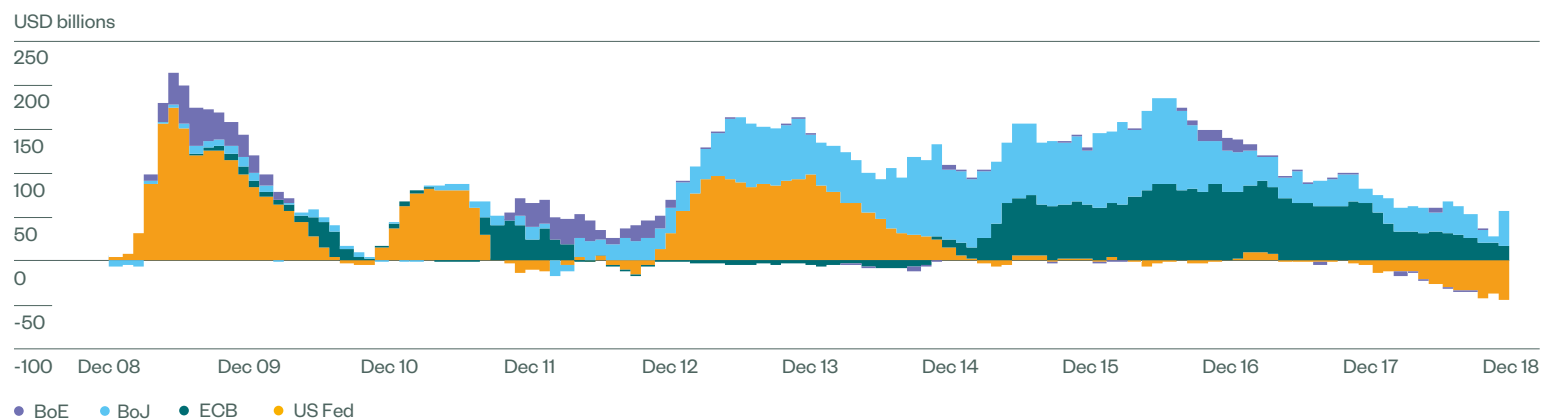
(D) Q1 Investment Outlook

(D) Q1 Investment Outlook

Investment Theme #1 — Navigating Interest Rate Risk by Focusing on Duration and Quality

Yields fell across developed markets in December as a tumultuous year came to a close. In 2019, support may not be as robust, as central banks either stop expanding their balance sheets (e.g. ECB, BoE) or reduce them (e.g. the Fed). Inflation may not spill over, but it is still alive and, thus, will keep pressure on yields. At the same time, economic growth looks like it could soften in 2019; although, the convergence of monetary policy is expected to accelerate in the first quarter. Given the stage at which developed markets currently stand, the US Treasury market looks relatively more attractive than its EUR or GBP counterparts.

Monthly Average of 3-Month Cumulative G4 Central Bank Purchases



Source: State Street Global Advisors, Bloomberg Finance L.P., as of 30 November 2018.

How can investors navigate this theme?

Overall, State Street Global Advisors continues to favour a shorter duration bias as normalisation progresses. The short end remains well anchored in Europe, while the long end could be more susceptible to market dynamics where asset purchases would have less of an impact. EUR investment grade spreads widened 65 bps to 1.52% in 2018, but that spread pales in comparison to the 221 bps widening of EUR high yield.¹ As a result, the outlook favours moving up in quality. In this period of potential yield increases across the EUR curve, short-dated EUR investment grade corporate (in EUR) also looks favourable.

As the political situation in Europe remains fluid, investors may also be tempted to look at US Treasury exposures. With a few more hikes still priced in, one strategy is to continue building 1–3 Year US Treasury exposure and wait for signs of further Fed softening before gradually moving back up in duration. This theme may play out around Q2/Q3 2019.

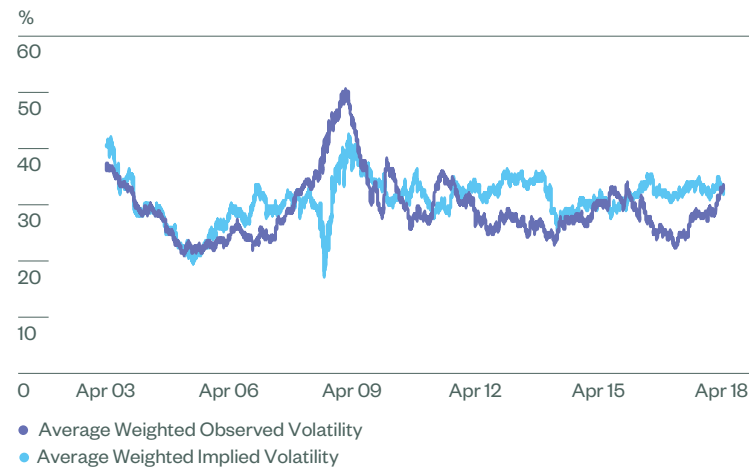
¹Source: Bloomberg Finance L.P., as of 31 December 2018.

(D) Q1 Investment Outlook

Investment Theme #2 — Seeking Returns in Volatile Markets Using Convertibles

In volatile markets, convertible bonds can provide investors a degree of downside buffer while still retaining the ability to participate in an equity rally. Convertible bonds tend to exhibit lower interest rate sensitivity than high yield and investment grade thanks to the implied equity option and a generally shorter maturity issuance. Looking at the global convertible bond universe, recent market activity has driven observed volatility closer to implied volatility — a phenomenon that rarely occurs. While this convergence represents a sign of stress in the markets over the long run, it tends to provide opportunities to re-allocate convertible bonds.

Global Convertible Bond Index: Average Weighted Implied Volatility vs. Observed Volatility



Source: State Street Global Advisors, Thomson Reuters, as of 28 December 2018.

How can investors navigate this theme?

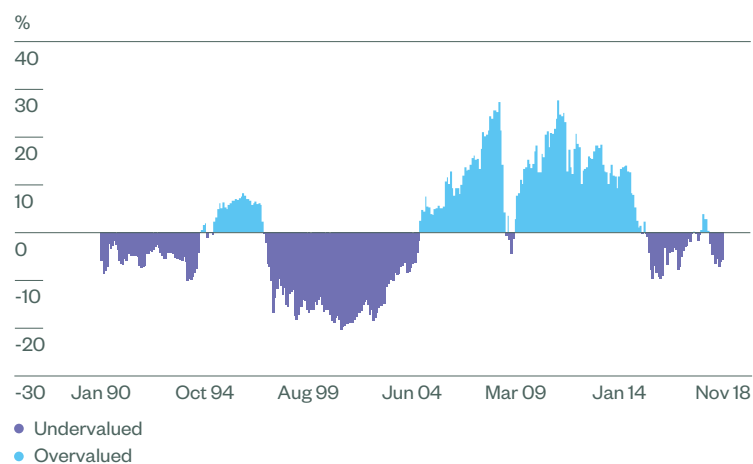
Having the ability to quickly gain exposure to convertible bonds via an ETF could be appealing as the market backdrop remains fluid. The SPDR Thomson Reuters Global Convertible Bond UCITS ETF has performed well versus the broad convertible bond fund universe thanks to its diversified index. The index holds bonds based on minimum outstanding size but still allows the bonds to rally strongly as equity markets rise; in addition, the index also includes low delta bonds. Over the past three years, this fund has outperformed a majority of the actively managed universe.

(D) Q1 Investment Outlook

Investment Theme #3 — Potential Outperformance of EM vs DM

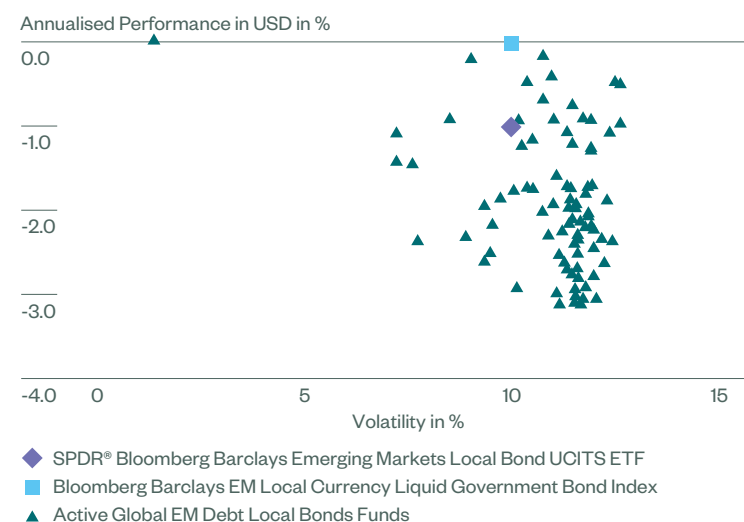
After a challenging 2018, we expect emerging markets (EM) to overtake developed markets (DM), which are forecast to slow from 2.4% in 2018 to 2.1% in 2019. Meanwhile, inflation is expected to stabilise in EM economies. Although further tightening may be in store for more internationally linked economies, like Turkey, the expected performance impact on local currency bonds would be more limited going forward as pre-emptive rate hikes have already occurred in order to anchor inflation. According to the International Monetary Fund (IMF), EM economies are forecast to grow at 4.7% in 2019 (unchanged versus 2018). US dollar evolution could be key to returns in the short run. As growth slows in the US, and if the Fed's rate path becomes shallower, EM currencies may look relatively more attractive.

Fair Value Emerging Market Currencies: Index vs. USD



Source: State Street Global Advisors, Bloomberg Finance L.P., as of 31 December 2018.

Emerging Market Debt: Comparing 5-Year Annualised Return and Volatility of ETFs vs. Active Funds



Source: State Street Global Advisors, Morningstar Direct, as of 31 December 2018. See page 23 for additional disclaimers.

How can investors navigate this theme?

EM local currency bond ETFs have an average duration of 5.6 and a yield of 5.9%, and thus offer a better trade-off than their DM counterparts. The real yield (c. 3%) and higher carry relative to global government bond indices make this exposure better adapted for income generation, despite its volatility. Actively managed funds struggled to beat their index in 2018. This has happened repeatedly since we launched our ETFs in this space in 2011. During that time, developed market yields increased against a backdrop of monetary policy normalisation. This generated pressure on EM exposures, as in 2013 and in 2018; in these years, the SPDR Bloomberg Barclays Emerging Markets Local Bond UCITS ETF outperformed most actively managed funds in its category.

Important Information

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Bonds generally present less short-term risk and volatility than stocks, but contain interest rate risk (as interest rates rise, bond prices usually fall); issuer default risk; issuer credit risk; liquidity risk; and inflation risk. These effects are usually pronounced for longer-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

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*This website has not been reviewed by the SFC.

Q1 Calendar of Events

January 2019

1	Tue	
2	Wed	
3	Thu	
4	Fri	US Nonfarm Payrolls
5	Sat	
6	Sun	
7	Mon	
8	Tue	
9	Wed	US FOMC Meeting Minutes EU ECB 'Non-Policy' Meeting
10	Thu	EU ECB Minutes
11	Fri	US CPI
12	Sat	
13	Sun	
14	Mon	
15	Tue	
16	Wed	UK CPI
17	Thu	EU CPI
18	Fri	
19	Sat	
20	Sun	
21	Mon	
22	Tue	
23	Wed	JN BOJ Interest Rate Decision
24	Thu	EU ECB Interest Rate Decision
25	Fri	
26	Sat	
27	Sun	
28	Mon	
29	Tue	
30	Wed	US FOMC Rate Decision
31	Thu	EU Unemployment Rate

February 2019

1	Fri	US Nonfarm Payrolls
2	Sat	
3	Sun	
4	Mon	
5	Tue	
6	Wed	EU ECB 'Non-Policy' Meeting
7	Thu	UK BoE Interest Rate/Inflation Report
8	Fri	
9	Sat	
10	Sun	
11	Mon	
12	Tue	
13	Wed	US CPI UK CPI
14	Thu	EU Employment
15	Fri	
16	Sat	
17	Sun	
18	Mon	
19	Tue	UK Unemployment Rate
20	Wed	US FOMC Meeting Minutes EU ECB 'Non-Policy' Meeting
21	Thu	EU ECB Minutes
22	Fri	EU CPI
23	Sat	
24	Sun	
25	Mon	
26	Tue	
27	Wed	
28	Thu	

March 2019

1	Fri	EU Unemployment Rate
2	Sat	
3	Sun	
4	Mon	
5	Tue	
6	Wed	
7	Thu	EU ECB Interest Rate Decision
8	Fri	US Nonfarm Payrolls
9	Sat	
10	Sun	
11	Mon	
12	Tue	US CPI
13	Wed	
14	Thu	
15	Fri	JN BOJ Interest Rate Decision EU CPI
16	Sat	
17	Sun	
18	Mon	
19	Tue	UK Unemployment Rate
20	Wed	US FOMC Rate Decision EU ECB 'Non-Policy' Meeting
21	Thu	UK Bank of England Bank Rate
22	Fri	
23	Sat	
24	Sun	
25	Mon	
26	Tue	
27	Wed	
28	Thu	
29	Fri	UK Scheduled to Withdraw From The EU EU CPI Core
30	Sat	
31	Sun	