DUFF & PHELPS

INDUSTRY INSIGHTS:

Capital Markets

Winter 2018 Review

Highlights

The fourth quarter experienced strong economic growth and tightening monetary policy. In spite of improving corporate fundamentals and low default rate expectations, yields held largely in check.

Consistent with previous guidance, the U.S. Federal Reserve raised short-term rates, another quarter-point in December. This increase was the Fed's third in 2017 and the fifth since commencing tightening in late 2015.

In November, the Bank of England hiked rates a quarter-point, representing its first increase in a decade. European central bankers similarly began to raise rates and/or scale back economic stimulus.

Total 2017 loan issuance in the United States and Europe was significantly higher than in 2016, increasing 18% and 11%, respectively. The surge in new issuance was largely attributable to an urgency to go to market in advance of rising base rates and spreads, in addition to an uptick in M&A related activity.

In December, major tax reform was signed into law in the United States. It was the largest tax reform package since the 1980s. The administration has indicated its next major growth initiative will be an infrastructure spending bill to be introduced in early 2018.

Risks abound with respect to the low interest rate environment that issuers in the United States and Europe have long enjoyed. Risks include: accelerating economic growth in the United States and Eurozone, tighter monetary policy across major economies, and calls for protectionist trade policies.

Middle-market issuers can still reap the benefits of flexibility around uses of proceeds (in particular for dividends and growth related purposes) and high leveragability and structural flexibility (covenants), albeit with modest near-term rate risk.

Central banks in the United States, U.K. and Europe took steps to further raise rates in light of increasing economic growth.

Seeking to benefit from low rates and favorable terms, issuers drove new issuance up 18% in the United States and 11% in Europe.

In spite of borrowing rate pressure, benign default rate expectations largely offset higher yields.

Executive Summary

In mid-December, the U.S. Federal Reserve, as anticipated, raised the discount rate another quarter-point. It was the Fed's third such hike in 2017 and its fifth over the last two years. Immediately following the Fed's announcement, the 2-year Treasury note yield rose, while the 10-year yield dropped 7bps (3% change), further flattening the yield curve. However, at the end of December the United States signed into law its largest tax overhaul in 30 years, bringing expectations of accelerating economic growth and rising wages. An 11bp (5% change) spike in the 10-year Treasury note followed, capping a 36bp (18% change) run up in the 10-year that began in early September. Views expressed by individual Fed members range from two to five additional hikes in 2018. The official Fed guidance is currently three. Any surprises could further accelerate the rising rate environment that appears to be materializing. Adding to the uncertainty, the Fed will have a new chair, Jerome Powell, in February 2018.

The go-slow approach toward monetary stimulus withdrawal in major economies seems to be dissipating, as central banks in the U.K. and Europe are now increasing base rates, like the United States. The Bank of England hiked rates a quarter-point, its first increase in 10 years, and the European Central Bank announced the reduction to its bond buying program following a similar announcement by the Fed earlier in 2017.

Despite upward pressure on corporate borrowing costs, default rate expectations through 2018 have declined. The decline is partly due to a projected continuation of corporate profit growth and liquidity, which has offset yield pressure on loans and, to a lesser extent, bond yields. Risks abound with respect to the low interest rate environment global issuers have enjoyed. These risks include rising base rates due to tighter monetary policy across major economies, accelerating 2018 expectations for economic growth, rising capital spending and increasing talk of protectionist trade policies (tariffs).

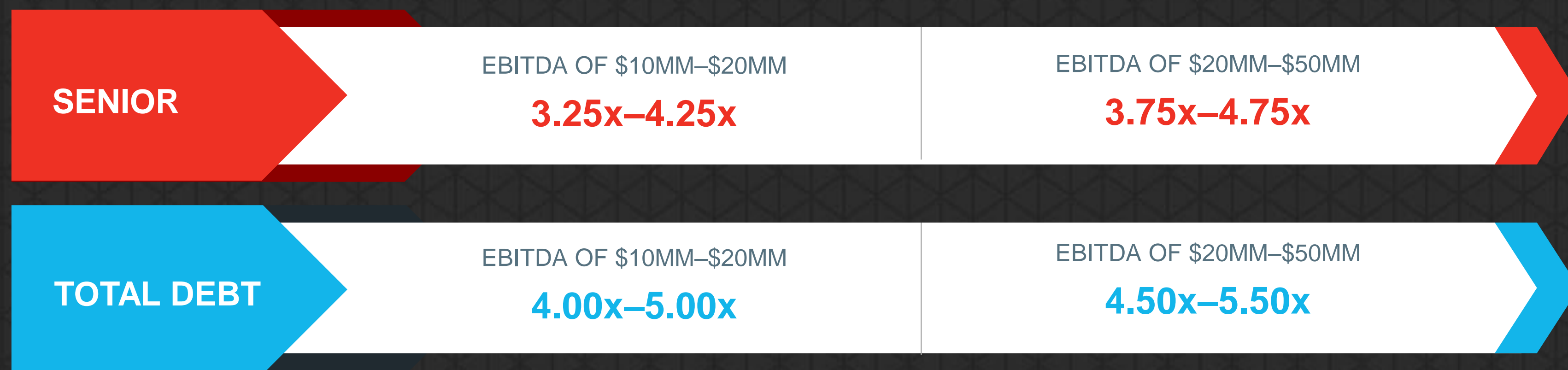
Total 2017 issuance in both the United States and Europe was significantly higher than in 2016, increasing 18% and 11%, respectively. We believe the surge in new issuance was largely driven by an urgency to go to market in advance of rising base rates and spreads, as well as an uptick in M&A-related activity.

Although the U.K. economy suffered a Brexit-induced moderation in its GDP growth rate to around 1%, the Eurozone economy has bounced back strongly with a 2.5% GDP increase estimated for 2017. On the back of these economic conditions, the European credit markets remain attractive. In the middle-market, alternative (non-bank) lenders have continued to gain market "share;" and fundraising for credit funds has grown approximately €12.5 billion in first three quarters of 2017.

Middle-market issues in the United States and Europe can still reap the benefits of flexibility around use of proceeds (in particular for dividends and growth-related purposes) and high available leveragablity and structural flexibility (covenants), despite prevailing interest rate risks.

Indicative Middle-Market Credit Parameters

U.S. LEVERAGE MULTIPLES



U.K./EUROPE LEVERAGE MULTIPLES

U.S. Indicative Middle-Market Credit Parameters

PRICING	EBITDA OF $10MM–$20MM	EBITDA OF $20MM–$50MM
FIRST LIEN	LIBOR + 2.75%–3.50% (bank) LIBOR + 3.75%–5.75% (nonbank)	LIBOR + 2.50%–3.25% (bank) LIBOR + 3.75%–5.75% (nonbank)
SECOND LIEN	LIBOR + 6.00%–9.00%	LIBOR + 5.50%–8.50%
SUBORDINATED DEBT	10.50%–12.50%	9.50%–11.50%
UNITRANCHE	LIBOR + 6.00%–8.50%	LIBOR + 5.50%–8.00%

U.K./Europe Indicative Middle-Market Credit Parameters

PRICING	EBITDA OF €10MM–€20MM	EBITDA OF €20MM–€50MM
FIRST LIEN	LIBOR/EURIBOR + 3.50%–4.00% (bank) LIBOR/EURIBOR + 4.50%–5.50% (nonbank)	LIBOR/EURIBOR + 3.25%–3.75% (bank) LIBOR/EURIBOR + 4.50%–6.50% (nonbank)
SECOND LIEN	LIBOR/EURIBOR + 8.00%–10.00%	LIBOR/EURIBOR + 7.50%–9.50%
SUBORDINATED DEBT	10.50%–12.50%	9.50%–11.50%
UNITRANCHE	LIBOR/EURIBOR + 6.00%–8.50%	LIBOR/EURIBOR + 5.50%–8.00%

New Issuance

In the fourth quarter, U.S. high-yield issuance volume increased slightly from the previous quarter. In 2017, issuance reached $276 billion, up 20% in dollar volume compared to 2016 and up 39% in the number of tranches versus 2016. Refinancings drove the majority of new issuance in 2017, representing 64% of the total dollar volume, while 23% went toward M&A.

Total U.S. High-Yield Bond Issuance

Quarter	Total Bond Volume ($B)	Number of Tranches
1Q14	74.9	146
2Q14	105.1	178
3Q14	68.9	123
4Q14	64.5	112
1Q15	91.3	129
2Q15	94.1	163
3Q15	39.8	61
4Q15	36.3	53
1Q16	36.1	55
2Q16	83.4	112
3Q16	62.7	107
4Q16	47.1	89
1Q17	81.7	143
2Q17	61.1	118
3Q17	64.8	116
4Q17	67.6	130

Source: LCD Comps

New Issuance

The European high-yield bond market saw record-breaking issuance in 2017, with €93.6 billion of supply recorded, up from €53.0 billion in 2016. In 2007, this asset class accounted for just 12% of the overall volume, while in 2017 the share was 44%, indicating a more even balance between loans and bonds as a share of overall volume.

Total European High-Yield Bond Issuance

Quarter	Total Bond Volume (€B)	Number of Tranches
1Q14	19.0	51
2Q14	32.3	85
3Q14	16.4	48
4Q14	4.0	16
1Q15	27.1	60
2Q15	18.7	47
3Q15	10.4	28
4Q15	8.1	21
1Q16	7.1	15
2Q16	16.9	42
3Q16	18.8	46
4Q16	10.2	30
1Q17	24.4	61
2Q17	21.2	55
3Q17	19.0	47
4Q17	29.0	61

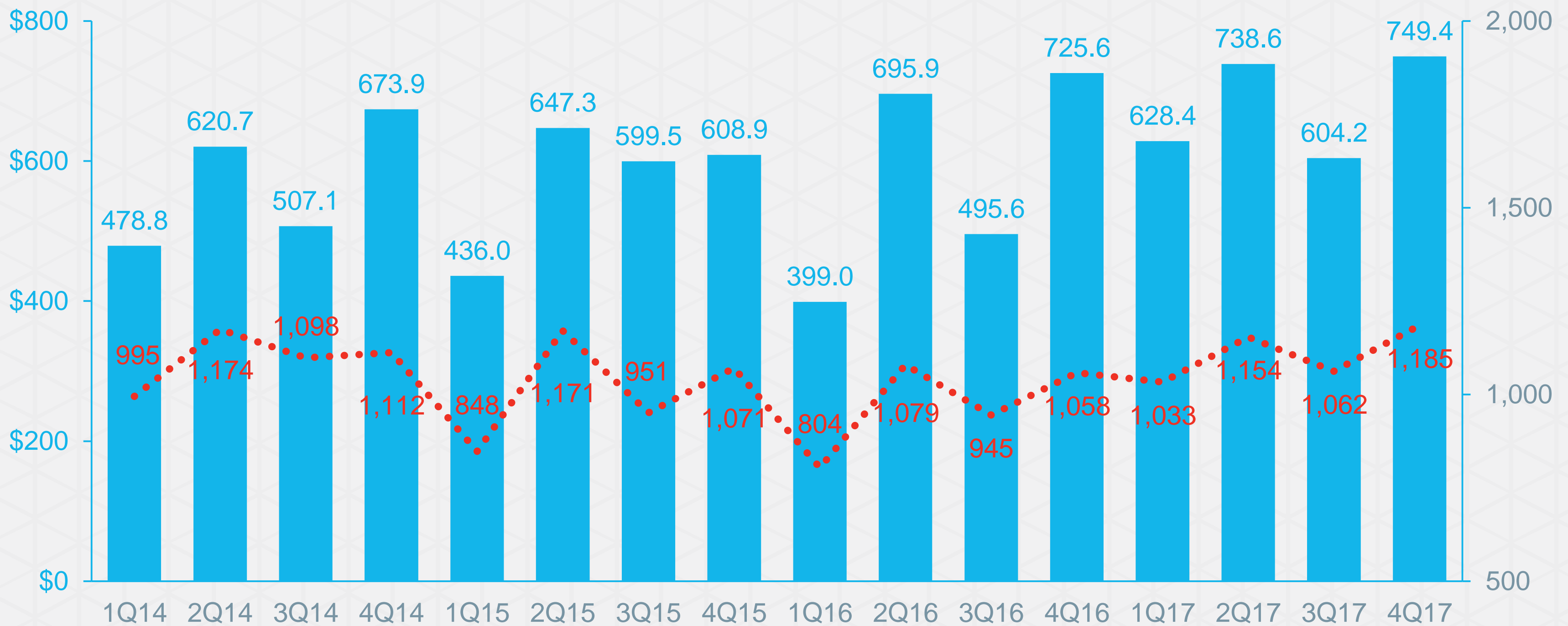
Left axis: € 0, € 20, € 40. Right axis: 0, 50, 100, 150, 200.

Source: LCD Comps

New Issuance

Fourth quarter U.S. corporate loan issuance was $749 billion on 1,185 deals, which was the highest dollar volume and deal count since 2007. Investors absorbed the surging number of issuances with yields only backing up modestly, despite base rates having risen.

U.S. Total Loan Issuance



Source: SDC Platinum
Volume data includes deals reported as of 1/18/2018

New Issuance

European loan issuance totaled €275 billion, up 8.5% over 2016, but lower than total issuance in both 2014 and 2015. Roughly 44% of issuance was for refinancings, while 41% went toward M&A transactions and approximately 15% was for leveraged recapitalizations.

European Total Loan Issuance

Total Loan Volume (€B) | Number of Deals

€ 400, € 300, € 200, € 100, € 0 | 1,500, 1,000, 500, 0

Quarter	Total Loan Volume (€B)	Number of Deals
1Q14	188.3	441
2Q14	306.5	555
3Q14	243.2	566
4Q14	276.0	556
1Q15	250.2	478
2Q15	285.7	661
3Q15	250.0	608
4Q15	370.5	625
1Q16	186.6	499
2Q16	228.4	600
3Q16	218.5	562
4Q16	291.9	555
1Q17	275.3	522
2Q17	263.6	576
3Q17	190.4	441
4Q17	275.2	500

Source: SDC Platinum
Volume data includes deals reported as of 1/18/2018

New Issuance

Loan volume grew 32% and transaction count increased 15% in 2017 versus 2016. Continued strong appetite for middle-market paper and issuers eager to take advantage of low rates and favorable terms drove new issuance higher.

U.S. Total Loan Issuance (EBITDA < $50MM)

Quarter	Total Loan Volume ($B)	Number of Deals
1Q14	266.3	769
2Q14	303.6	913
3Q14	229.1	852
4Q14	255.2	830
1Q15	174.3	649
2Q15	300.5	878
3Q15	244.1	747
4Q15	267.8	823
1Q16	168.4	620
2Q16	321.9	840
3Q16	259.0	763
4Q16	349.2	838
1Q17	369.9	812
2Q17	396.2	918
3Q17	322.4	852
4Q17	360.3	929

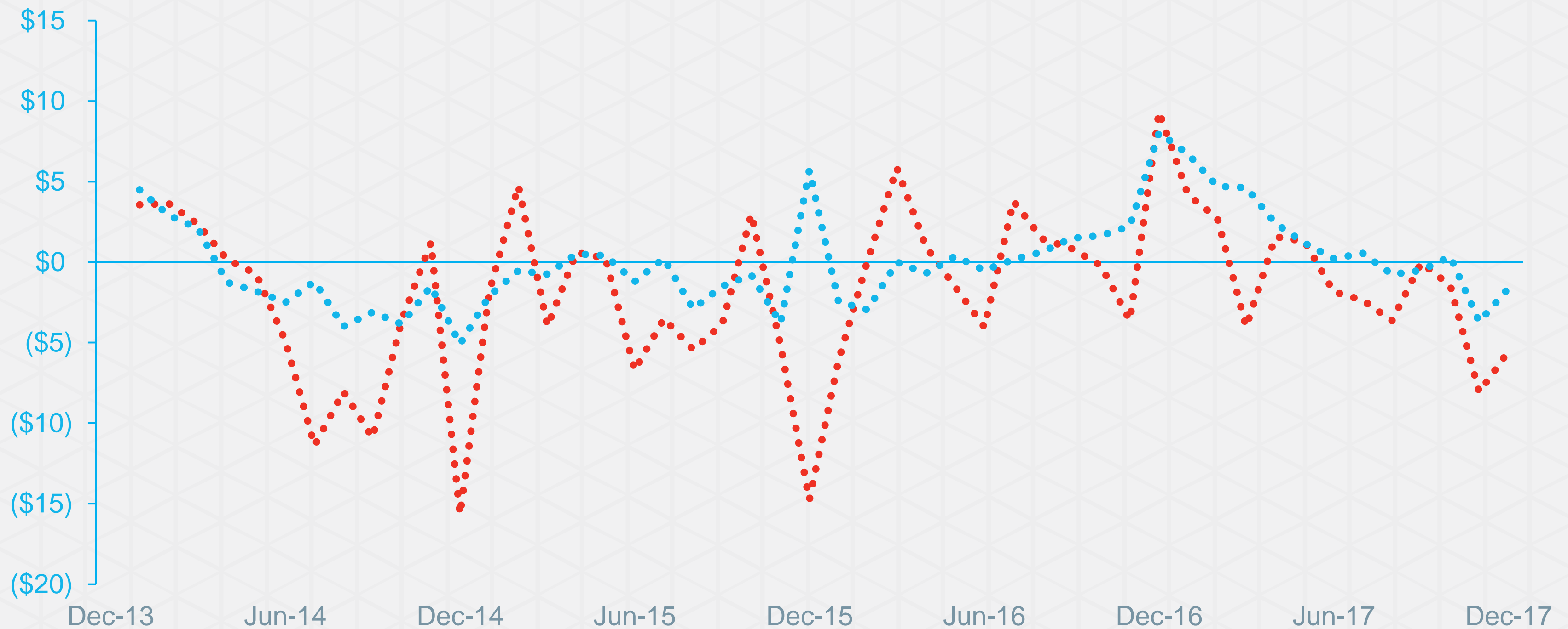
Left axis: $0, $100, $200, $300, $400. Right axis: 500, 750, 1,000, 1,250.

Source: SDC Platinum
Volume data includes deals reported as of 1/18/2018

Fund Flows

U.S. leveraged loan and high-yield bond funds both saw net outflows in the fourth quarter and in 2017 on the whole. November had the strongest net outflow of the quarter with leveraged loans and high-yield funds experiencing a $2.6 billion and $8.1 billion net outflow, respectively.

Mutual Fund Flows



Sources: Investment Company Institute; Lipper FMI; LCD Comps

Leverage

U.S. middle-market leverage multiples increased roughly a half-turn versus 2016. Average first lien leverage increased from 4.1x in 2016 to 4.8x in 2017, which may be attributed to a stronger unitranche bid. Over the same period, average total leverage increased from 4.8x to 5.5x, with higher valuations and lower expected default rates likely having contributed.

U.S. Leverage Multiple (EBITDA < $50MM)

Debt/EBITDA Multiple

Quarter	First Lien	Second Lien/Subordinated	Total
1Q14	3.4x	1.2x	4.7x
2Q14	4.4x	0.7x	5.1x
3Q14	4.5x	0.7x	5.2x
4Q14	4.2x	0.6x	4.8x
1Q15	4.2x	0.6x	4.8x
2Q15	3.9x	0.5x	4.4x
3Q15	4.2x	1.4x	5.6x
4Q15	4.4x	1.4x	5.7x
1Q16	4.0x	0.9x	4.9x
2Q16	4.0x	1.0x	5.0x
3Q16	4.3x	0.7x	5.0x
4Q16	4.1x	0.8x	4.8x
1Q17	4.1x	0.7x	4.7x
2Q17	4.9x	1.0x	5.9x
3Q17	4.8x	0.7x	5.5x
4Q17	4.8x	0.7x	5.5x

Source: LCD Comps

Leverage

Total 2017 European leverage continued the uptick that has largely occurred since 2014, with first lien and total leverage registering at 4.5x and 4.7x, respectively. The European deal market tends to display an affinity for first lien debt due to the shallower market for second lien and subordinated issuance.

European Leverage Multiple (EV < €350MM)

Debt/EBITDA Multiple

Year	First Lien	Second Lien/Subordinated	Total
2005	3.8x	1.0x	4.8x
2006	4.0x	1.1x	5.1x
2007	4.4x	1.4x	5.8x
2008	3.8x	1.0x	4.8x
2009	3.2x	0.5x	3.7x
2010	3.6x	0.4x	4.0x
2011	3.7x	0.5x	4.2x
2012	3.7x	0.3x	4.0x
2013	4.0x	0.3x	4.3x
2014	3.6x	0.6x	4.2x
2015	4.4x	0.1x	4.5x
2016	4.3x	0.3x	4.6x
2017	4.5x	0.2x	4.7x

Source: LCD Comps

Transaction Volume

The fourth quarter saw a 13% decline in the number of U.S. middle-market deals and a 17% decline in total dollar volume. We believe dealmakers postponed transactions in anticipation of more favorable tax treatment in 2018.

U.S. Middle-Market M&A Volume (Target EBITDA < $50MM)

Quarter	Total M&A Volume ($B)	Number of Deals (thousands)
1Q14	135.9	2.5
2Q14	206.8	2.6
3Q14	199.5	2.6
4Q14	166.4	2.7
1Q15	192.8	2.8
2Q15	160.7	2.9
3Q15	262.1	2.7
4Q15	174.6	2.5
1Q16	138.8	2.7
2Q16	193.6	2.9
3Q16	209.7	2.8
4Q16	230.5	3.1
1Q17	166.2	3.6
2Q17	169.5	3.4
3Q17	212.0	3.3
4Q17	175.2	2.9

Source: SDC Platinum
Volume data includes deals reported as of 1/18/2018

Transaction Volume

The decline in European M&A volume was far more muted than in the United States, with the number of middle-market deals declining only 1% on a decline in dollar volume of roughly 17%.

European Middle-Market M&A Volume (Target EBITDA < $50MM)

Total M&A Volume (€B) | Number of Deals (thousands)

Quarter	Total M&A Volume (€B)	Number of Deals (thousands)
1Q14	138.1	3.4
2Q14	180.8	3.9
3Q14	114.3	4.2
4Q14	164.8	4.2
1Q15	116.2	3.8
2Q15	123.1	4.3
3Q15	127.8	4.3
4Q15	103.0	4.3
1Q16	95.4	4.3
2Q16	125.2	4.6
3Q16	113.8	4.0
4Q16	148.3	4.4
1Q17	87.9	3.9
2Q17	139.7	4.2
3Q17	137.4	3.8
4Q17	114.4	3.8

Source: SDC Platinum
Volume data includes deals reported as of 1/18/2018

Transaction Volume

Leveraged dividend recapitalizations declined in the fourth quarter from the third quarter but increased in the aggregate during 2017, up 15% from 2016. The decline in the fourth quarter may reflect investors' anticipation of tax changes limiting corporate interest expense deductibility.

U.S. Loan Issuance for Dividend Recapitalizations

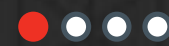
Total Loan Volume ($B)

Quarter	1Q14	2Q14	3Q14	4Q14	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16	3Q16	4Q16	1Q17	2Q17	3Q17	4Q17
Volume	$16.2	$16.7	$13.0	$3.9	$6.3	$14.0	$8.8	$2.2	$0.2	$14.2	$11.9	$21.8	$18.7	$6.8	$14.9	$12.7

Y-axis: $0, $5, $10, $15, $20, $25, $30

Source: LCD Comps

Yields



U.S. high-yield bond yields increased 27bps this quarter, however, ended the year down 40bps from year-end 2016, reflecting a decrease in expected defaults. Widely traded leveraged loan yields were roughly flat over the prior quarter and year. Differences in yield movement between high-yield bonds and loans may be attributed to debt providers shifting investments from fixed- to floating-rate securities in preparation for rising rates.

U.S. Corporate High-Yield Bonds and Leveraged Loans

Yields (%)

Barclays U.S. Corporate High Yield
S&P/LSDA U.S. Leveraged Loan 100 All Loans

10.5%
9.5%
8.5%
7.5%
6.5%
5.5%
4.5%

Dec-13 Jun-14 Dec-14 Jun-15 Dec-15 Jun-16 Dec-16 Jun-17 Dec-17

Source: Bloomberg; LCD Comps

Yields

Spreads between the 10-year Treasury and the U.S. high-yield bond index widened slightly during the fourth quarter compared to the third quarter. This reversal of trends in the first three quarters of 2017 may reflect investors beginning to move from fixed- to floating-rate securities.

U.S. Corporate High-Yield Bond vs. 10-Year Treasury Spread

Spread (bps)

1,000
800
600
400
200
0

Dec-13 Jun-14 Dec-14 Jun-15 Dec-15 Jun-16 Dec-16 Jun-17 Dec-17

Source: Bloomberg

Yields

The 2-year Treasury yield hit a new nine-year high of 1.88%, a 40bp increase over the quarter, while the 5-year Treasury yield increased by 27bps. Rapidly rising short-term rates were predominantly driven by Fed rate hike actions. The 10-year yield increased 7bps during the quarter to finish the year at 2.41%. The 10-year yield rose dramatically in December following approval of the tax reform bill.

2-, 5- and 10-Year Treasury Yields

Yield (%)

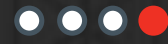
2-Year
5-Year
10-Year

4.0%
3.0%
2.0%
1.0%
0.0%

Dec-13
Jun-14
Dec-14
Jun-15
Dec-15
Jun-16
Dec-16
Jun-17
Dec-17

Source: Bloomberg

Yields



The spread between 2- and 10-year Treasury yields decreased by approximately 33bps over the quarter. During the fourth quarter, the yield curve attained its flattest level since before the financial crisis, with the spread between the 2-year and the 10-year notes reaching a low of 52bps.

2-Year vs. 10-Year Treasury Spread

Spread (bps)

300
250
200
150
100
50
0

Dec-13 Jun-14 Dec-14 Jun-15 Dec-15 Jun-16 Dec-16 Jun-17 Dec-17

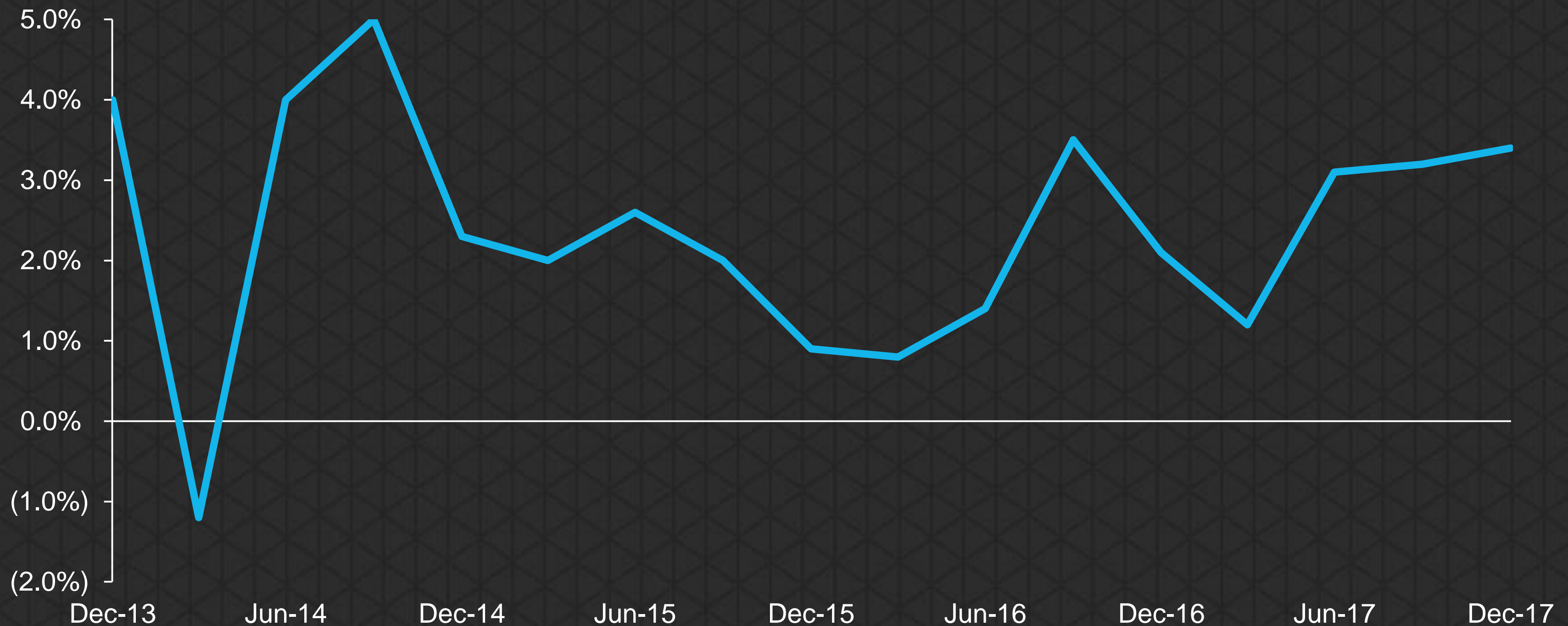
Source: Bloomberg

Macroeconomic Update

The latest U.S. GDPNow forecast of 3.4% for the fourth quarter indicates a modest increase in the GDP growth rate from the third quarter. The employment picture continued to improve, as the unemployment rate fell to 4.1%. European GDP for the full year increased 2.5% over 2016.

Real GDP Growth

GDP Growth Rate



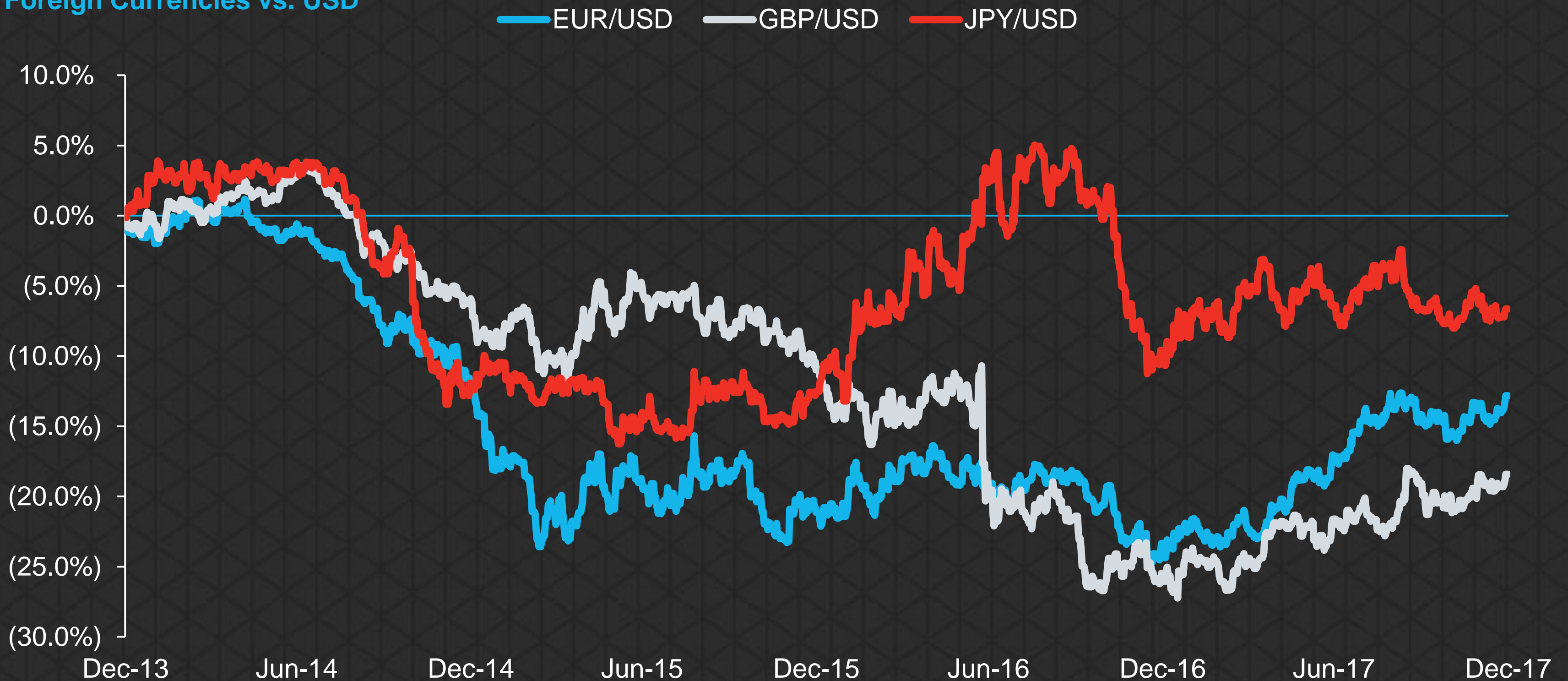
Source: Federal Reserve and European Central Bank
Fourth quarter data represents Atlanta Fed GDPNow Projection as of 1/18/2018

Macroeconomic Update

The U.S. dollar had its worst performance in 14 years, dropping 12.8% against the euro and 18.4% against the pound. With global growth converging with that of the United States more capital is flowing into other countries. Concerns around trade disputes and the President's statements favoring a weak dollar may have also been a factor.

U.S. Dollar Foreign Exchange Rates

Foreign Currencies vs. USD



Source: S&P Capital IQ

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