

European High Yield & Leveraged Loan Report

European Leveraged Finance

Q4: 2018



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Highlights and Market Environment

Highlights

Issuance Highlights

European leveraged finance issuance (leveraged loans and high yield bonds) decreased to €28.9 billion in 4Q'18, a 43.7% decrease from €51.3 billion in 3Q'18 and a 72.4% decrease from a record €104.6 billion in 4Q'17. The issuance volume for 4Q'18 was the lowest quarterly total since 4Q'15. This quarterly decrease was driven largely by decrease in high yield bonds issuance. The high yield bond share of leveraged finance market issuance decreased to 24.0% in 4Q'18, down from 34.5% in 3Q'18 and down from 37.0% in 4Q'17.

Market and Economic Environment

According to the January 2019 European Central Bank lending survey, credit standards remained broadly unchanged for loans to enterprises and housing loans while credit standards on consumer credit and other lending to households tightened slightly in 4Q'18.

Credit standards remained broadly unchanged for loans to small and medium-sized enterprises (SMEs) and continued to ease for loans to large firms in 4Q'18.

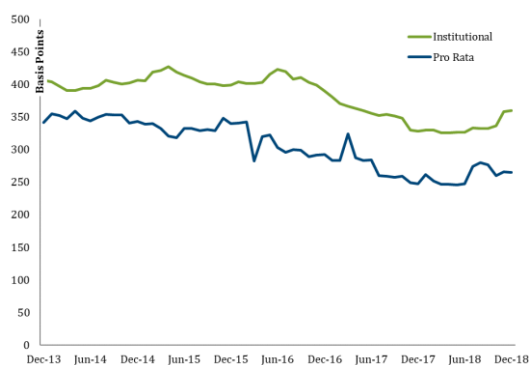
While banks' overall terms and conditions continued to ease in 4Q'18, margins on average loans generally narrowed less than in previous quarters.

Net demand for loans to enterprises, housing loans and consumer credit continued to increase in the fourth quarter of 2018. Low level of interest rates, fixed investment, inventories and working capital were the main drivers in increasing demand for loans to enterprises. The increase in net demand for housing loans was driven mainly by favourable housing market prospects and consumer confidence.

“European leveraged finance issuance (leveraged loans and high yield bonds) totaled €28.9 billion in 4Q'18”

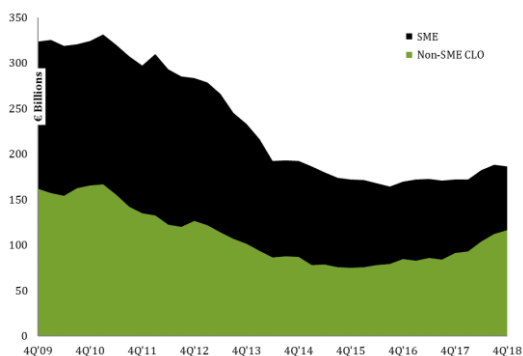
“Leveraged loan issuance totaled €22.0 billion on 53 deals in 4Q’18”

Leveraged Loan Spreads



Source: Dealogic, AFME, SIFMA

European CLO Outstanding



Source: AFME, SIFMA

Issuance

Issuance: Leveraged Loans

Leveraged loan issuance, including first lien, second lien, and mezzanine financing, decreased to €22.0 billion in the fourth quarter of 2018, a 34.7% decrease from €33.6 billion in 3Q’18 and a 66.7% decrease from €65.9 billion in 4Q’17.

Most of the leveraged loans issued in 4Q’18 were 1st lien loans (€21.6 billion or 98.4% of total). Two 2nd lien loans (€0.4 billion) and no mezzanine loans were financed in 4Q’18.

Pricing spreads for institutional loans widened by 27 basis points (bps) q-o-q and by 31 bps y-o-y while spreads for pro rata loans tightened by 12 bps q-o-q but widened by 18 bps y-o-y.

In 4Q’18, €6.2 billion of amend-and-extend (“A&E”) loans were financed, up twelvefold from €0.5 billion in 3Q’18 but down 53.2% from €13.2 billion in 4Q’17. Another €0.6 billion of loans has been amended to reduce pricing (“A&R”) in the fourth quarter of 2018, up from no issuance of A&R loans in 3Q’18 but down 90.0% from €5.9 billion in 4Q’17.

The top three sectors accounted for over half of leveraged loan issuance in 4Q’18; the leading sector was food & beverage (€6.6 billion or 30.2% of total), followed by professional services (€3.0 billion, 13.7%), and telecommunications (€2.5 billion, 11.4%), with the balance split between 17 other sectors.

Over three quarters (67.3%) of deals financed in the fourth quarter of 2018 were issued for refinancing and/or repayment of debt, up from 20.0% in 3Q’18 but slightly down from 68.7% in 4Q’17. Refinancing and/or repayment of debt were the largest use of proceeds in 4Q’18 with €14.8 billion, followed by leveraged buyouts with €6.1 billion or 27.7% of the total, and general corporate purposes with €0.5 billion or 2.4% of the total.

European CLO outstandings, including SME deals, increased by 9.1% to €198.9 billion in 4Q’18 from €182.3 billion in 3Q’18 and by 16.6% from €170.6 billion in 4Q’17. Non-SME CLOs outstanding increased to €116.3 billion in 4Q’18, up 3.5% from €112.4 billion in 3Q’18 and up 27.2% from €91.5 in 4Q’17. SME CLOs outstanding increased to €82.5 billion in 4Q’18, up 18.1% from €69.9 billion in 3Q’18 and up 4.3% from €79.1 billion in 4Q’17.

“Primary high yield issuance totaled €6.9 billion on 22 deals in 4Q’18”

Issuance: High Yield Bonds

Primary high yield issuance totaled €6.9 billion on 22 deals in 4Q’18, a 60.9% decrease from €17.7 billion on 46 deals in 3Q’18 and a 82.1% decrease from €38.6 billion on 90 deals in 4Q’17. All of the high yield issuance in 4Q’18 was in developed market Europe with no issuance in emerging market Europe. In the quarter €6.9 billion of high yield bonds were issued in developed market Europe, down 60.2% from €17.4 billion in 3Q’18 and down 80.4% from €35.4 billion in 4Q’17. There was no high yield bond issuance in emerging market Europe in 4Q’18, down from €0.3 billion in 3Q’18 and down from €3.2 billion in 4Q’17.

In the fourth quarter of 2018, average deal size in developed market Europe decreased by 18.7% to €314.7 million from €386.9 million in 3Q’18 and by 27.1% from €431.9 million in 4Q’17.

High yield issuance for refinancing and/or repayment of debt in developed market Europe decreased to €1.2 billion in 4Q’18, representing 17.0% of all issuance, a decrease of 77.2% from €5.2 billion (29.7% of total) in 3Q’18 and a decrease of 91.7% from a record €14.3 billion (35.4% of total) in 4Q’17. The leading use of proceeds for high yield bonds issuance in 4Q’18 were general corporate purposes with €2.8 billion, followed by acquisitions with €1.5 billion and leveraged buyouts with €1.3 billion.

Three sectors accounted for almost half (48.7%) of the total high yield issuance volume in 4Q’18: the healthcare sector led issuance with €1.6 billion (23.6% of total), followed by professional services with €0.9 billion (12.9% of total), and retail with €0.8 billion (12.1% of total), all of the issuance being in developed market Europe.

The proportion of USD-denominated issuance decreased to 8.8% of all issuance in 4Q’18, down from 20.6% in 3Q’18 and down from 16.8% in 4Q’17. USD-denominated issuance in developed market Europe decreased to €0.6 billion, down 83.0% from €3.6 billion in 3Q’18 and down 89.7% from €5.9 billion in 4Q’17.

“U.S. Treasury Index led returns in 4Q’18 with 2.6% q-o-q”

“Five European high yield bond issuers defaulted in 4Q’18”

Returns & Credit Quality

Only five of the 20 analysed asset classes recorded positive returns in the fourth quarter of 2018. U.S. Treasury Index led quarterly returns with an increase of 2.6% in 4Q’18, followed by U.S. 30y Mortgage Index with a 2.1% gain and U.S. Municipal Index with a 1.6% gain. The worst performing asset class was U.S. Russel 2000 Index with a decrease of 20.5% in 4Q’18, followed by U.S. HY Distressed Index with a 19.9% decline, and U.S. S&P 500 Index with a 14.0% decline.

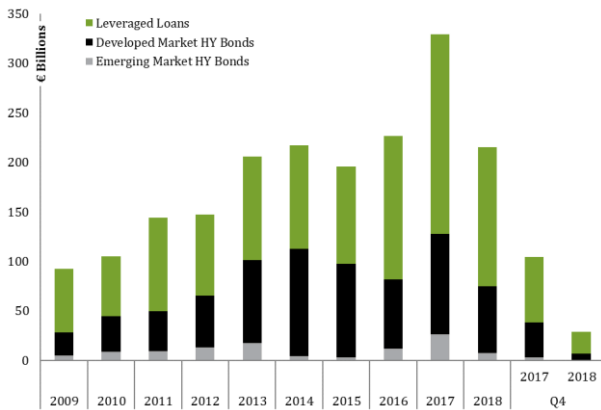
As of November 2018 (December 2018 data not available at time of publication), S&P reported the trailing 12-month speculative-grade default rate at 1.9%, a decrease from 2.1% end-September 2018 and a decrease from 2.4% end-December 2017. Moody’s reported the trailing 12-month speculative-grade default rate in December 2018 to be 2.3%, up from 2.0% end-September 2018 but down from 3.4% end-December 2017.

Five bond-related defaults were reported in the fourth quarter of 2018, four in developed market Europe and one in emerging market Europe. The most common reason for default in 4Q’18 was a missed interest payment.

According to Standard and Poor’s, in 4Q’18 downgrades exceeded upgrades in developed market Europe (39 downgrades to 27 upgrades), a much worse ratio than 17 downgrades to 19 upgrades in 3Q’18 and than 26 downgrades to 47 upgrades in 4Q’17. In emerging market Europe, there were 3 upgrades and 2 downgrades by S&P in 4Q’18 compared to 2 upgrades and 7 downgrades in 3Q’18 and 5 upgrades and 7 downgrades in 4Q’17. Three sectors accounted for almost a third of all the rating actions in 4Q’18: banks led the number of rating actions (total of 7 upgrades and one downgrade), followed by capital goods (no upgrades and 7 downgrades) and consumer products (3 upgrades and 3 downgrades).

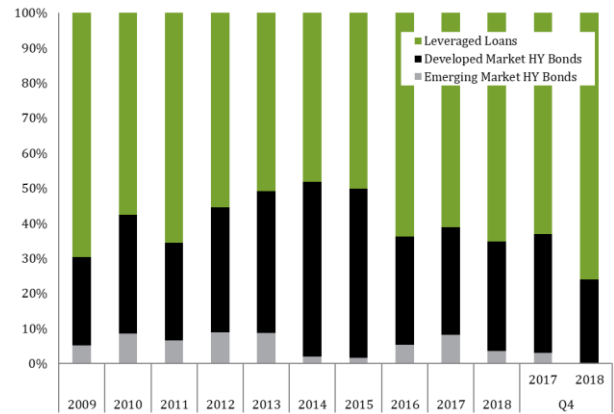
1 Leveraged Finance Overview

1.1 European Leveraged Issuance by Type



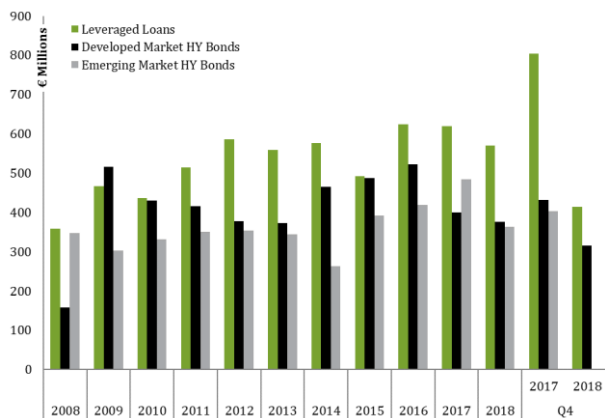
Source: Dealogic

1.2 European Leveraged Issuance Percentage



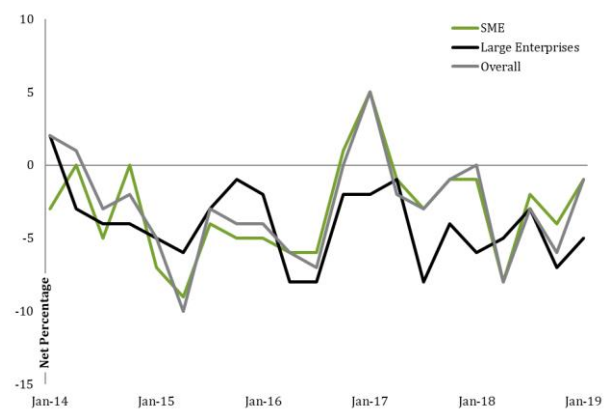
Source: Dealogic

1.3 European Leveraged Average Deal Size



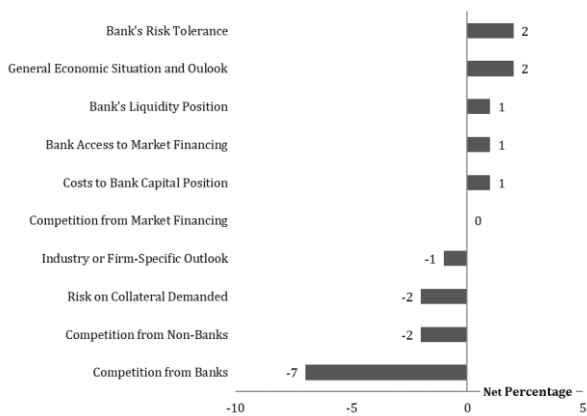
Source: Dealogic

1.4 Bank Credit Standards¹



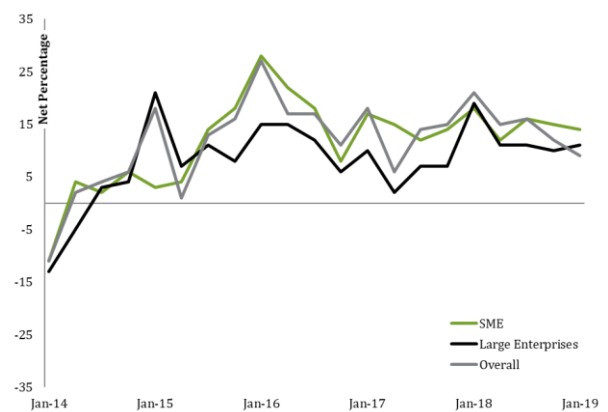
Source: European Central Bank

1.5 Factors Affecting Bank Credit Standards: January 2019²



Source: European Central Bank

1.6 European Leveraged Issuance Percentage³



Source: European Central Bank

¹ A positive net percentage number signifies tightening bank credit; a negative net percentage number signifies easing credit.

² A positive net percentage signifies the factor contributed to tightening credit standards; a negative net percentage signifies the factor contributed to easing credit standards.

³ A positive net percentage signifies increased demand; a negative net percentage signifies decreased demand.

1.7 Factors Affecting Loan Demand: January 2019⁴



Source: European Central Bank

1.8 Global Comparison – High Yield Issuance

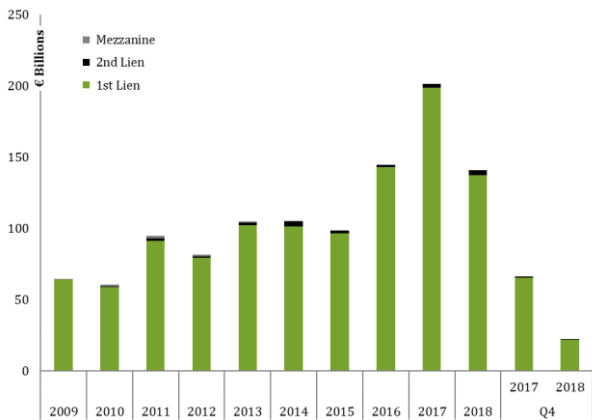
€ Billions	2018					2017					Prior Years		
	Q1	Q2	Q3	Q4	Full Year	Q1	Q2	Q3	Q4	Full Year	2016	2015	2014
United States	38.4	32.1	34.9	10.4	115.8	58.5	62.6	51.2	48.0	220.3	192.0	187.6	164.4
Europe	24.9	25.4	17.7	6.9	74.9	35.3	34.5	19.4	38.6	127.9	82.1	97.8	112.4
Asia Pacific	18.3	12.7	8.1	11.2	50.3	20.2	23.2	21.7	11.5	76.6	27.1	25.2	27.1

Source: Dealogic

⁴ A positive net percentage signifies a factor that contributed to higher demand; a negative net percentage signifies a factor that contributed to lower demand.

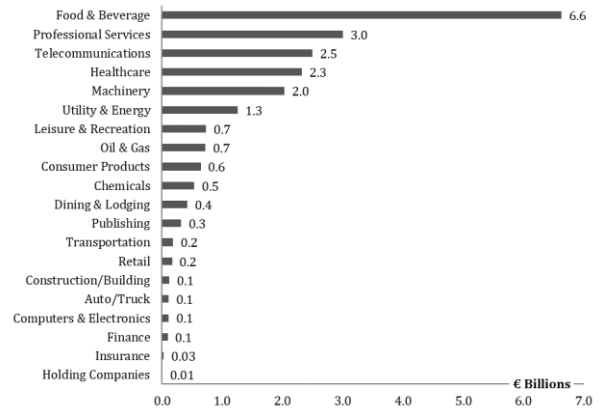
2 Issuance – Leveraged Loans

2.1 European Leveraged Loan Issuance By Type



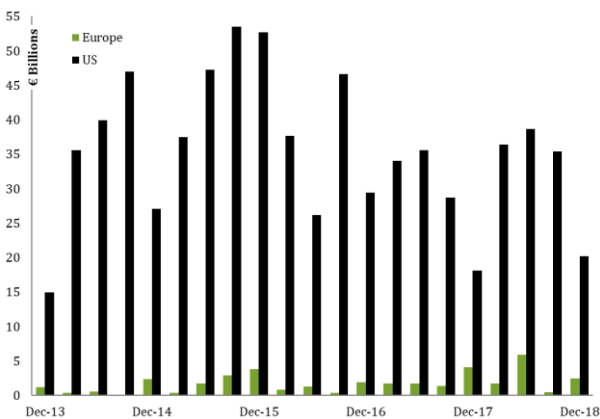
Source: Dealogic

2.2 European Leveraged Loan Issuance by Industry: 4Q 2018



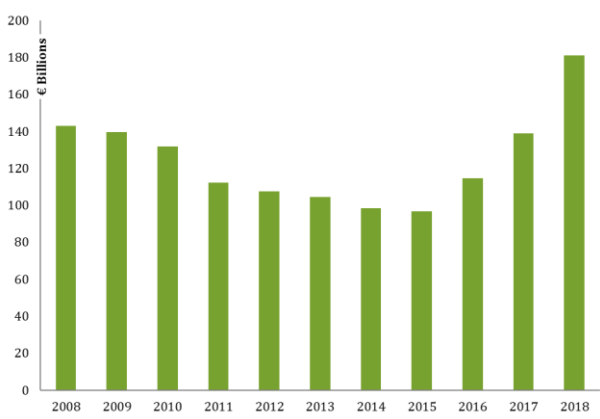
Source: Dealogic

2.3 Forward Pipeline of Leveraged Loan Market



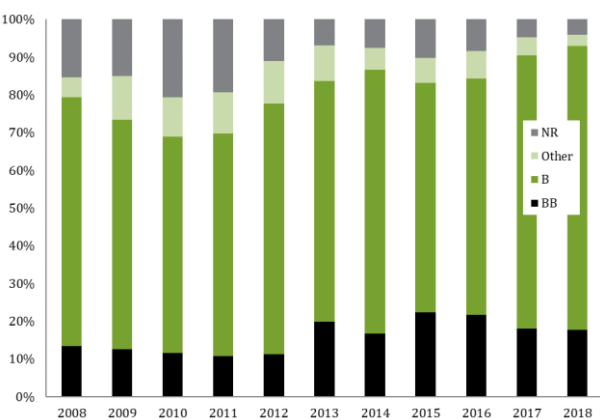
Source: Standard & Poor's LCD

2.4 ELLI Total Institutional Loans Outstanding



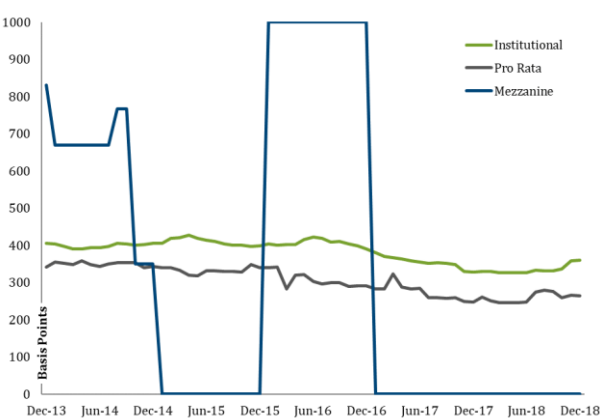
Source: Standard & Poor's LCD

2.5 ELLI Ratings Diversification



Source: Standard & Poor's LCD

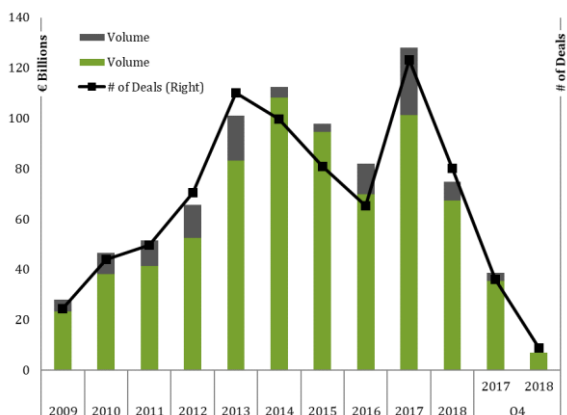
2.6 Institutional, Pro Rata and Mezzanine Spreads



Source: Dealogic, AFME, SIFMA

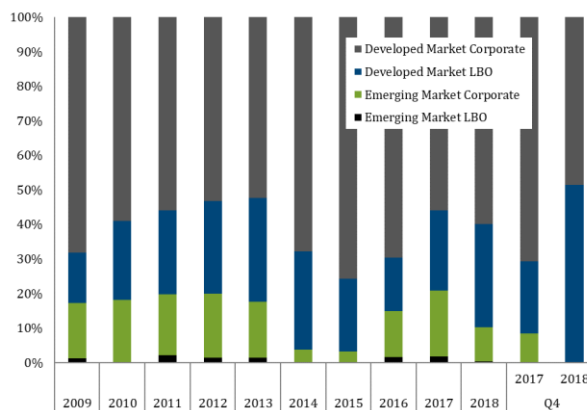
3 Issuance – High Yield Bonds Overview

3.1 European High Yield Issuance



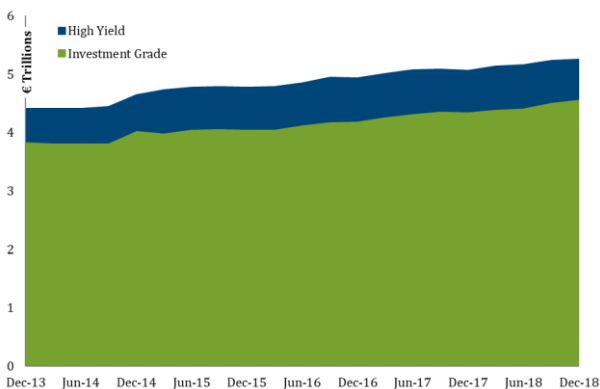
Source: Dealogic

3.2 European High Yield Issuance by Sponsor



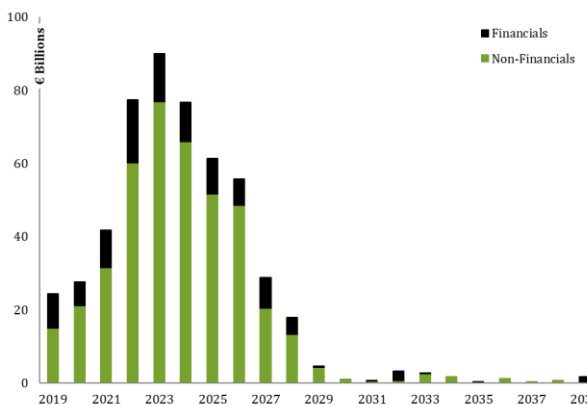
Source: Dealogic

3.3 European Corporate Bonds Outstanding (IG and HY only)



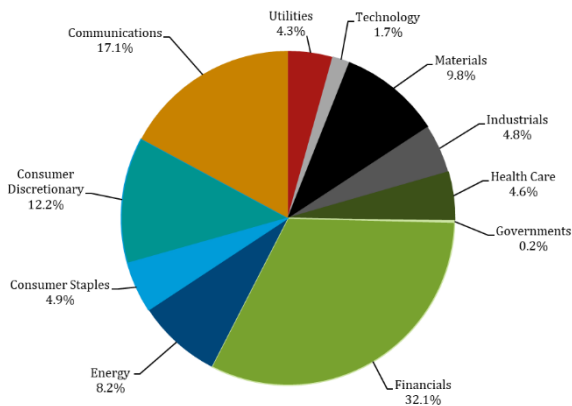
Source: Bloomberg, AFME, SIFMA

3.4 European Corporate Bonds HY Maturity Wall: 4Q 2018



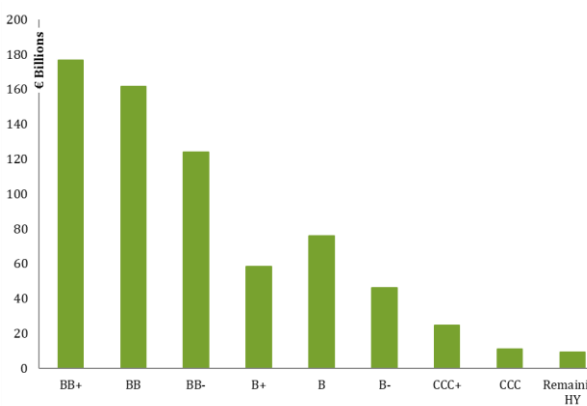
Source: Bloomberg, AFME, SIFMA

3.5 European Corporate HY Bonds Outstanding by Sector: 4Q 2018



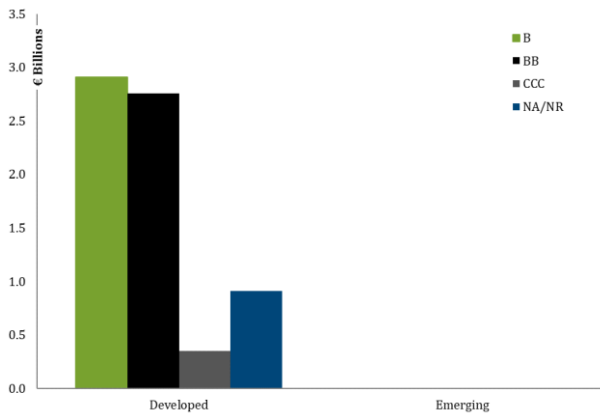
Source: Bloomberg, AFME, SIFMA

3.6 European Corporate HY Bonds Outstanding by Current Rating: 4Q 2018



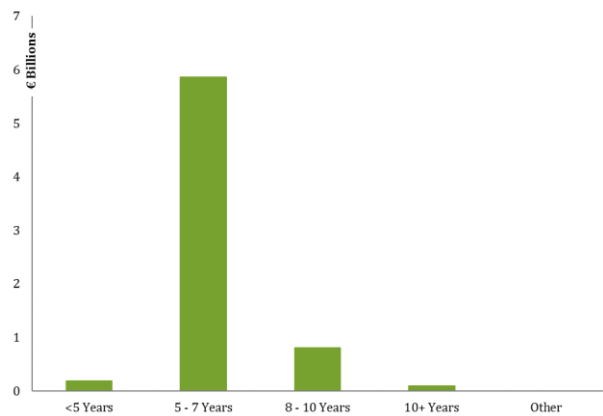
Source: Bloomberg, AFME, SIFMA

3.7 European Corporate Bond Issuance by Rating: 4Q 2018



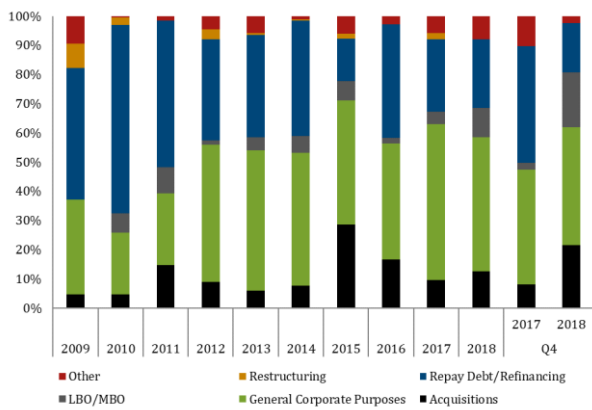
Source: Dealogic, AFME, SIFMA

3.8 European Corporate Bond Issuance by Tenor: 4Q 2018



Source: Dealogic, AFME, SIFMA

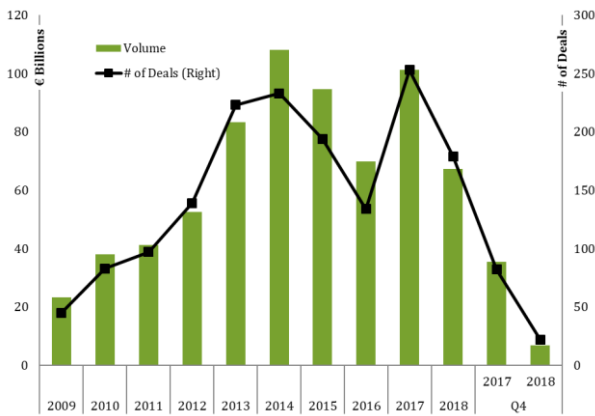
3.9 European HY Use of Proceeds



Source: Dealogic, AFME, SIFMA

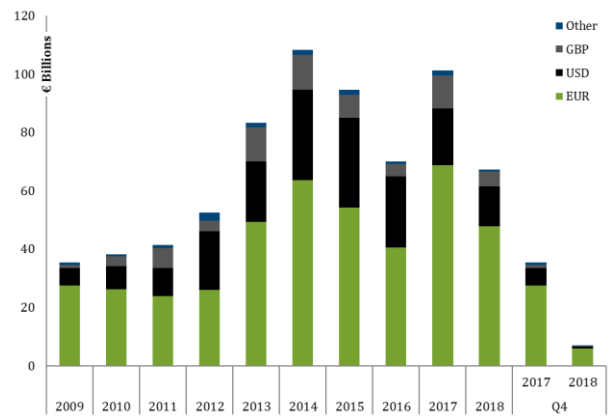
4 Issuance – European Developed Market High Yield Bonds

4.1 European Developed Market HY Bond Issuance



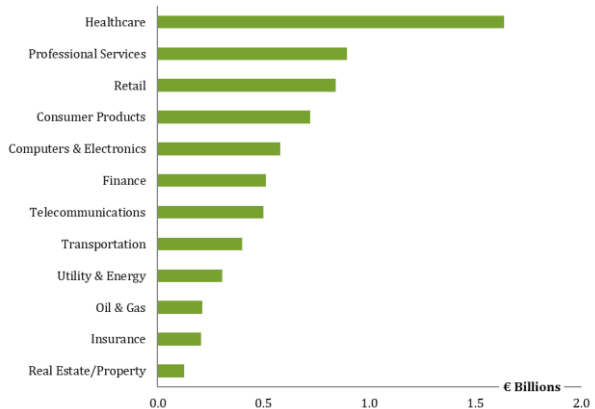
Source: Dealogic

4.2 European Developed Market HY Issuance by Currency



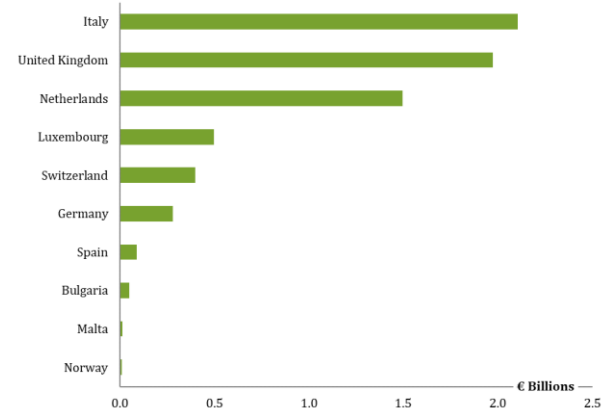
Source: Dealogic

4.3 European Developed Market HY Issuance by Industry: 4Q 2018



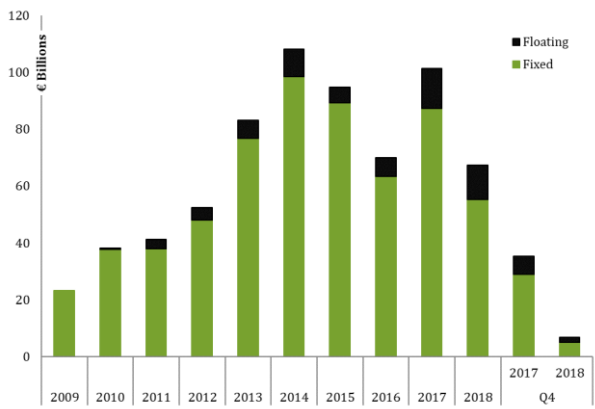
Source: Dealogic

4.4 European Developed Market HY Issuance by Country of Risk: 4Q 2018



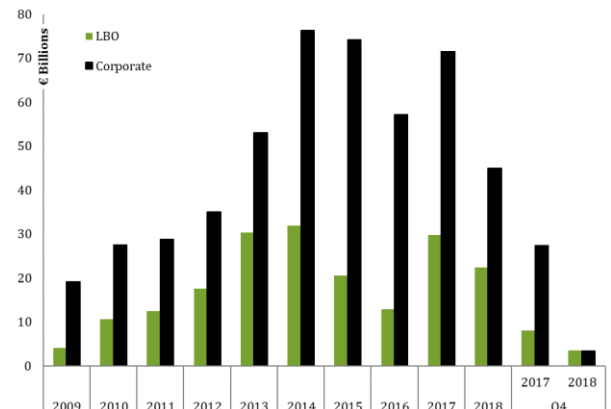
Source: Dealogic

4.5 European Developed Market HY Issuance, Fixed vs. Floating



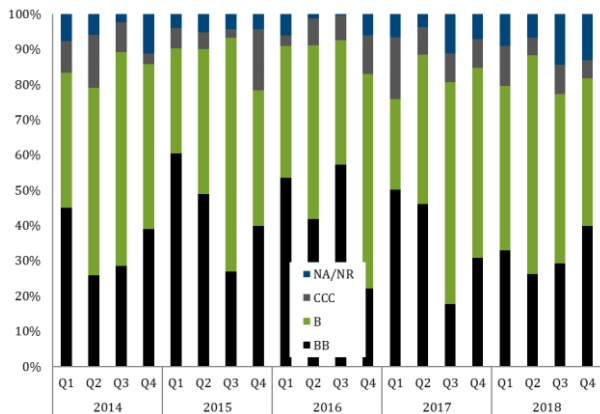
Source: Dealogic

4.6 European Developed Market HY Issuance, Sponsored vs. Corporate



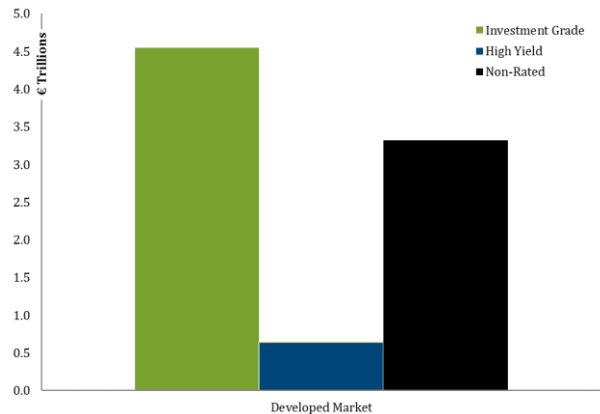
Source: Dealogic

4.7 European Developed Market HY Rating Distribution at Issuance



Source: Dealogic, AFME, SIFMA

4.8 European Developed Market Corporate Bonds Outstanding: 4Q 2018



Source: Bloomberg, AFME, SIFMA

4.9 European Developed Market HY Bond Issuance

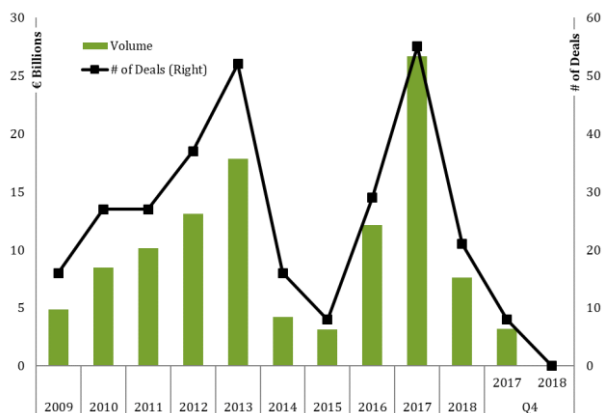
Issuer	Industry Group	Date	Currency	Amount (Millions)	Coupon	Moody's	S&P	Fitch
Gamigo AG	Computers & Electronics	02/10/2018	EUR	32	3M EURIBOR +775	NA	NA	NA
Playtech plc	Computers & Electronics	05/10/2018	EUR	530	3.75	Ba2	BB	NA
Bulgarian Energy Holding EAD	Utility & Energy	05/10/2018	EUR	50	3.50	Ba2	NA	BB
Millicom International Cellular SA	Telecommunications	11/10/2018	EUR	500	6.63	Ba2	NA	BB+
Gambling.com Group plc	Computers & Electronics	11/10/2018	EUR	16	10.50	NA	NA	NA
Rossini SARL	Healthcare	12/10/2018	EUR	650	3M EURIBOR +625	B3	(P)B	NA
Rossini SARL*	Healthcare	12/10/2018	EUR	650	6.75	B3	(P)B	NA
Kistefos AS	Finance	15/10/2018	NOK	100	3M NIBOR +600	NA	NA	NA
Tesco Corporate Treasury Services plc	Retail	17/10/2018	EUR	750	1.38	Ba1	BB+	BBB-
Navigator Holdings Ltd	Transportation	22/10/2018	NOK	600	3M NIBOR +600	NA	NA	NA
Heathrow Finance plc	Transportation	31/10/2018	GBP	300	4.75	Ba3	NA	BB+
Ardonagh Midco 3 plc	Insurance	02/11/2018	USD	235	8.63	B3	NA	B+
Intertrust Group BV	Finance	07/11/2018	EUR	500	3.38	Ba2	BB+	NA
Verisure MidHolding AB	Professional Services	09/11/2018	EUR	100	5.75	Caa1	CCC+	NA
Verisure Holding AB	Professional Services	09/11/2018	EUR	300	3.50	B1	B	NA
International Design Group SpA	Consumer Products	09/11/2018	EUR	400	6.50	B2	B	NA
International Design Group SpA*	Consumer Products	09/11/2018	EUR	320	3M EURIBOR +600	B2	B	NA
Bluewater Holding BV	Oil & Gas	09/11/2018	USD	240	10.00	NA	NA	NA
Groupe Ecore Holding SAS	Utility & Energy	15/11/2018	EUR	255	3M EURIBOR +625	B2	BB-	B+
Algeco Global Finance plc	Real Estate/Property	28/11/2018	EUR	85	6.50	B2	B-	B+
Algeco Global Finance plc*	Real Estate/Property	28/11/2018	EUR	40	3M EURIBOR +625	B2	B-	B+
Nidda Bondco GmbH	Healthcare	29/11/2018	EUR	250	7.25	Caa2	B-	CCC+
Futura Srl (Brescia Hospital)	Healthcare	04/12/2018	EUR	85	3.76	NA	NA	NA
Greenrock Finance Inc	Professional Services	14/12/2018	EUR	300	3M EURIBOR +875	NR	NR	NR
Greenrock Finance Inc*	Professional Services	14/12/2018	USD	220	3M LIBOR +700	NR	NR	NR
El Corte Ingles SA	Retail	20/12/2018	EUR	90	3.00	Ba1	BB+	BB+

* denotes multiple tranches of the deal

Source: Dealogic

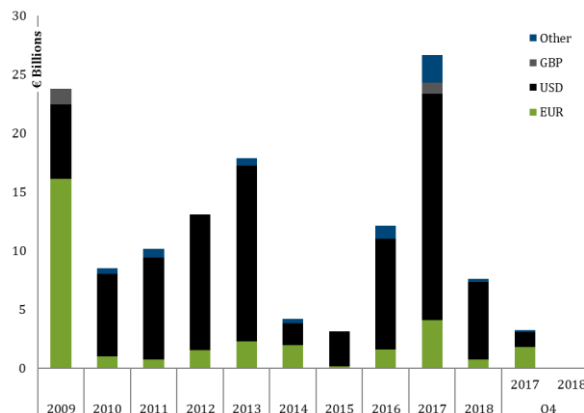
5 Issuance – European Emerging Market High Yield Bonds

5.1 European Emerging Market HY Bond Issuance



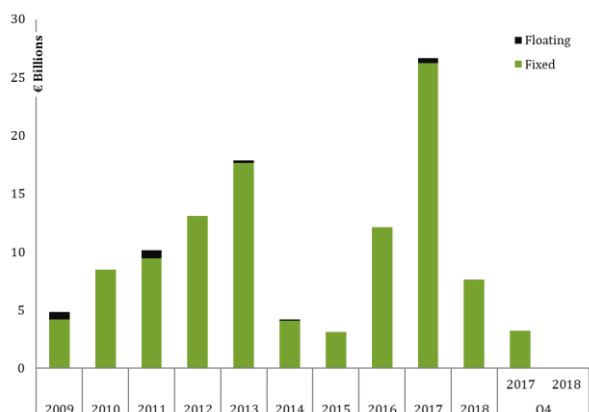
Source: Dealogic

5.2 European Emerging Market HY Bond Issuance by Currency



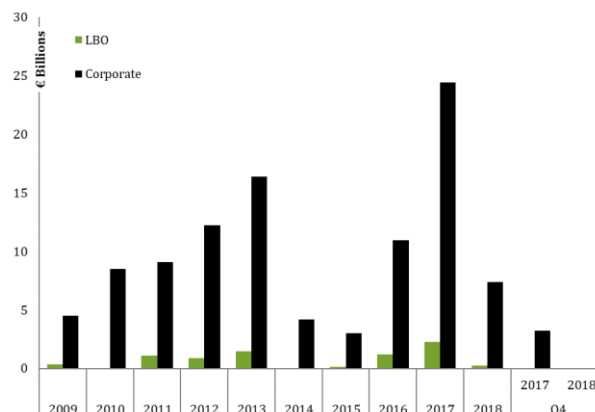
Source: Dealogic

5.3 European Emerging Market HY Issuance, Fixed vs. Floating



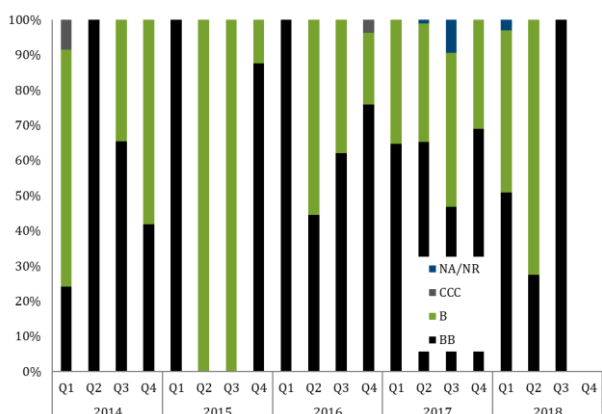
Source: Dealogic

5.4 European Emerging Market HY Issuance, Sponsored vs. Corporate



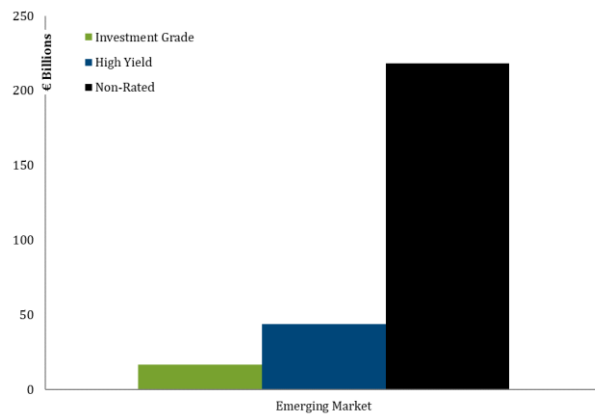
Source: Dealogic

5.5 European Emerging Market HY Rating Distribution at Issuance



Source: Dealogic, AFME, SIFMA

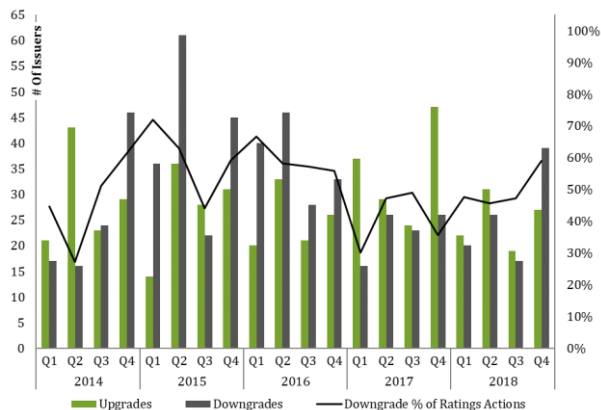
5.6 European Emerging Market Corporate Bonds Outstanding: 4Q 2018



Source: Bloomberg, AFME, SIFMA

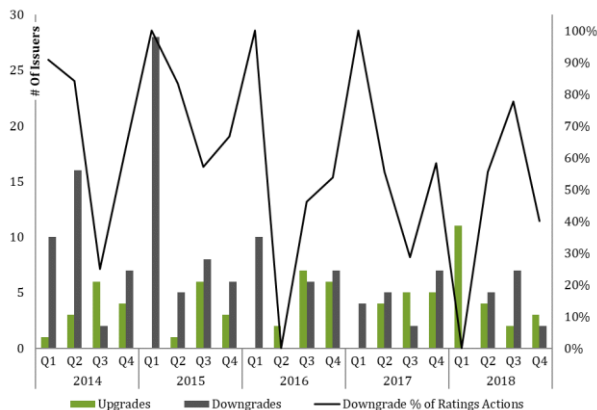
6 Credit Quality

6.1 Developed Europe Issuer Rating Actions⁵



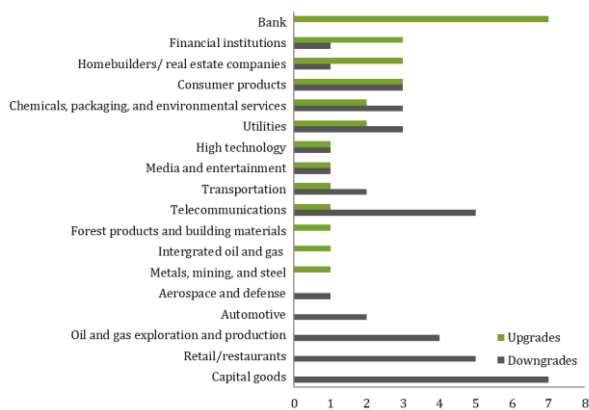
Source: Standard and Poor's

6.2 Emerging Europe Issuer Rating Actions⁶



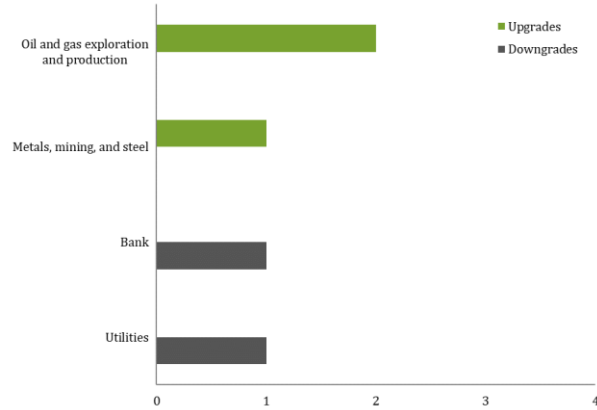
Source: Standard & Poor's

6.3 Developed European Industry Rating Actions by Number of Ratings: 4Q 2018



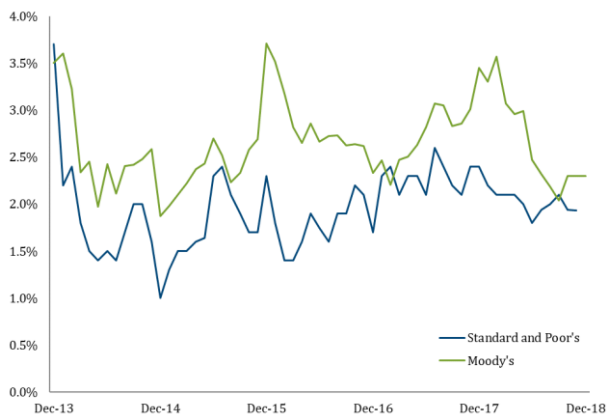
Source: Standard & Poor's

6.4 Emerging European Industry Rating Actions by Number of Ratings: 4Q 2018



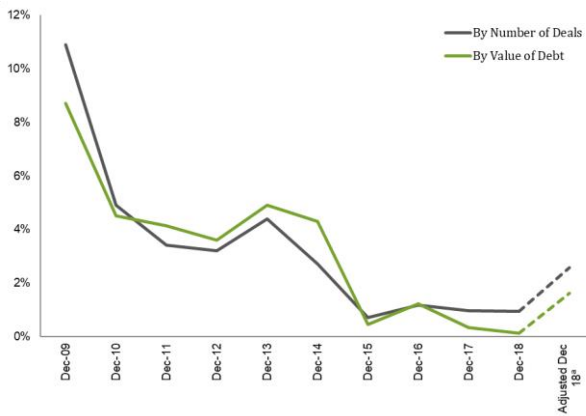
Source: Standard & Poor's

6.5 European High Yield Default Rates



Source: Standard & Poor's, Moody's

6.6 European Leveraged Loan Default Rates⁷



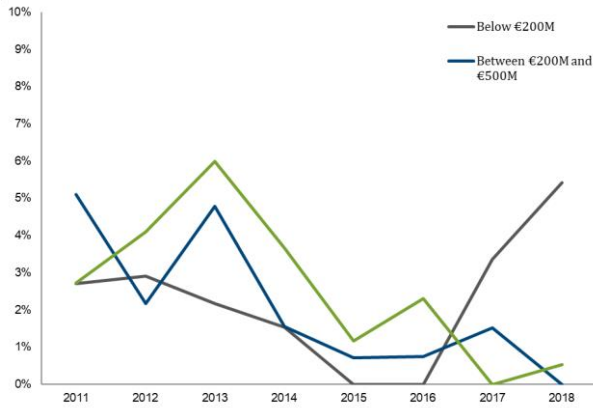
Source: Fitch Leveraged Credit Database

⁵ Numbers include both corporate and sovereigns.

⁶ Numbers include both corporate and sovereigns.

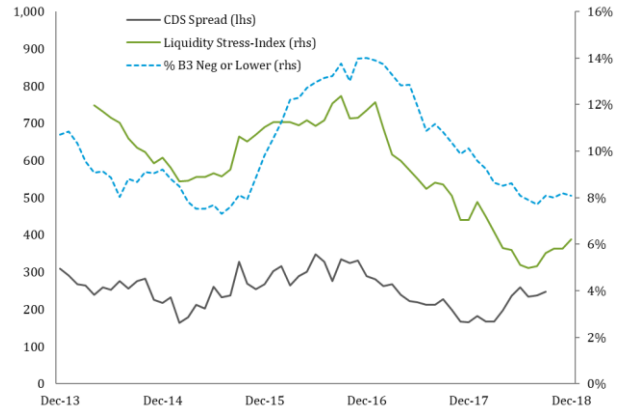
⁷ Includes c* and cc* rated issuers as if those had already defaulted.

6.7 European Leveraged Loan Default Rates by Deal Size



Source: Fitch Leveraged Credit Database

6.8 High-Yield bond CDS spreads vs. liquidity-stress index and HY bonds rated B3 neg and lower in Europe



Source: Moody's

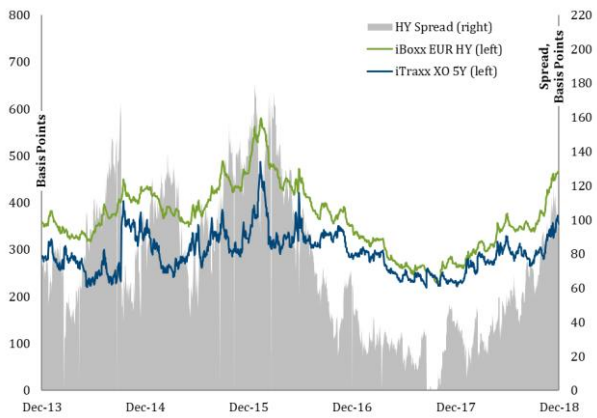
6.9 European Defaults

Issuer	Industry Group	Country	Date	Reported By	Reason
Astaldi SpA	Capital goods	Italy	October 2018	S&P, Moody's	Default on financial obligations
International Bank of Saint-Petersburg	Bank	Russia	October 2018	S&P	Regulatory intervention
Johnston Press plc	Media Publishing	U.K.	November 2018	S&P, Moody's	Bankruptcy
Sterling Mid-Holdings Limited	Non finance conduit	U.K.	December 2018	S&P, Moody's	Distressed exchange
Cooperativa Muratori e Cementisti C.M.C	Construction and Engineering	Italy	December 2018	Moody's	Missed interest payment

Source: Standard & Poor's, Moody's

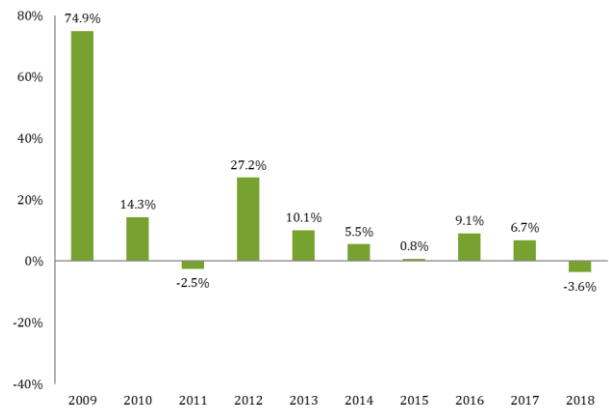
7 Relative Value and Total Return

7.1 Relative value: European HY Bonds, Cash vs. Synthetic



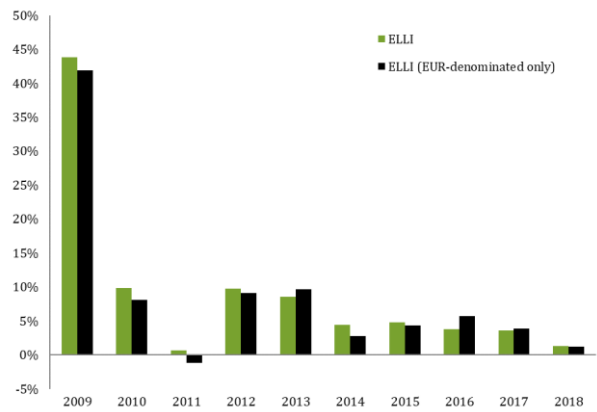
Source: Thomson Reuters Eikon, Markit

7.2 European HY Bond Total Return



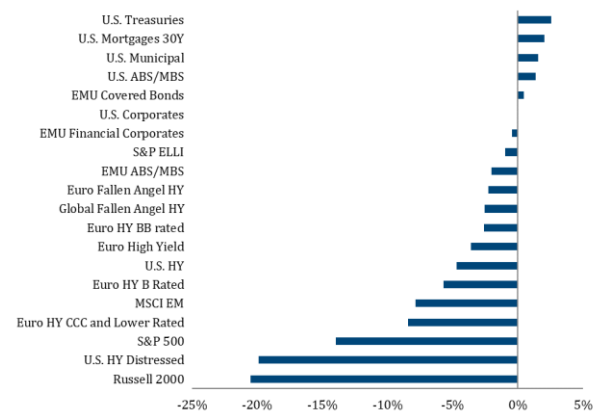
Source: BAML

7.3 European Leveraged Loan Total Return



Source: Standard & Poor's LCD

7.4 Asset Class Total Return: 4Q 2018



Source: BAML, Bloomberg

Summary of the Methodologies Adopted for this Report

1. Leveraged Issuance – Overview

1.1. – 1.3. Leveraged Loans and High Yield Bonds

Leveraged loan data are sourced from Dealogic. Leveraged loan data are defined primarily as coming from a leveraged or highly leveraged European deal; loan tranches must have sub-investment grade ratings, or, if unrated, a margin spread minimum of 125 basis points over a benchmark (e.g., Euribor, LIBOR). Under these guidelines, sub-investment grade-rated loans with a margin spread of less than 125 basis points are included. Deals must be European and are inclusive of both developed and emerging market Europe as defined in high yield criteria in Section 3. Deals must also be marketed either in Europe or in the United States. Loans not EUR-denominated are converted to EUR as of credit date for purposes of aggregation. Aggregates include new money as well as non-new money deals.

Criteria for high yield bond transactions can be found in Section 3, 4, and 5.

1.4. – 1.7. Bank Lending Surveys

Data for loan demand and credit standards are sourced from the ECB's bank lending survey. Graph numbers are net percentages of reporting banks.

1.8. Global Comparison – High Yield Issuance

Data for global high yield issuance are sourced from Dealogic. Asian deals are inclusive of Japan and Australia. Totals include issues having a Dealogic "deal nationality/region" as well as "nationality/region of risk" within US, Europe or Asia Pacific. Sovereign, sub-sovereign, and supranational parent issuers are excluded from issuance, as well as ABS/MBS issuers.

2. Issuance – Leveraged Loans

2.1. – 2.2. Leveraged Loan Issuance

Leveraged loan issuance data are sourced primarily from Dealogic and Thomson Reuters LPC. For more details on qualifying criteria, please refer to section 1.

2.3. Forward Pipeline of Leveraged Loan Market

Forward leveraged loan pipeline data are sourced from S&P LCD.

2.4. S&P ELLI Total Institutional Loans Outstanding

Total institutional loan outstanding data are sourced from S&P LCD and are outstanding loans in the S&P ELLI index.

2.5. S&P ELLI Ratings Diversification

S&P ELLI ratings diversification are the percentages of currently outstanding loans in S&P's ELLI index that are rated accordingly. Data are provided by S&P LCD.

2.6. – 2.7. Loan Spreads

Loan spread data are sourced from Dealogic under our criteria for leveraged loans (see Section 1). For purposes of loan spread calculations, deals marketed in the US are excluded. Spreads are a weighted average of spread margin on new leveraged issuance on a rolling twelve months basis, and are typically benchmarked to LIBOR or EURIBOR. Institutional loan spread data are inclusive of 2nd lien; pro rata spreads include all revolvers and term loan A (T1a).

3. Issuance – High Yield Bonds Overview

High yield bond transactions are sourced primarily from Dealogic, with supplemental information sourced from Bloomberg. High yield transactions are defined as transactions with a Dealogic "effective" rating of equal or less than BB+, and may include unrated transactions based on issuer and desk notes. Split-junk rated transactions are generally excluded.

European issuance, inclusive of both emerging market Europe and developed market Europe, are defined as an issue having a Dealogic "deal nationality" as well as "nationality of risk" within Europe issued in the euro, foreign, and global markets; deals marketed locally are excluded. Sovereign, sub-sovereign, and supranational parent issuers are excluded from issuance, as well as ABS/MBS issuers.

Emerging market Europe and developed market European issuance are defined by nationality of risk, rather than nationality of deal, and although primarily sourced from Dealogic, are ultimately subject to AFME's discretion. Emerging and developed market issuances are mutually exclusive and will contain no overlap unless otherwise mentioned.

European emerging market bonds are further defined with having a minimum deal size of €75.0 million; deals on the same day from the same issuer are aggregated for the purpose of meeting this minimum. Deals are shown in EUR amount but

include deals originated in other currencies and are converted to EUR at the exchange rate on the day of the deal. Russian ruble (RUB)-denominated issuance are excluded due to differences in terms and documentation; as of 4Q'10 this criteria no longer applies and may be included on a case by case basis.

3.2. European HY Issuance by Sponsor

Data for high yield issuance by sponsor are sourced from Dealogic. LBO deals are defined as all high yield transactions whose issuer parent is a public or private finance entity (i.e., a financial sponsor), regardless of use of proceeds.

3.3. – 3.6. European Corporate Bonds Outstanding

Data for European corporate outstanding are sourced from Bloomberg and AFME/SIFMA estimates. Criteria for European corporate bonds are: bonds must be placed in the domestic, euro, foreign and global markets with nationality of incorporation from a European developed or emerging market country as defined by AFME. Corporate bonds exclude non-Bloomberg verified securities, all structured notes, covered bonds, warrants, deposit notes, receipts, and certificates of deposit. All currencies are included and have been converted to EUR at time of pricing and/or issue.

High-yield ratings are sourced from Bloomberg's composite rating, which is an average of all available ratings from four rating agencies: Moody's, Standard and Poor's, Fitch Ratings, or DBRS. Split-rated securities may be included in high yield numbers due to this.

Corporate bonds outstanding include certain securities that may be considered corporate securitisations or structured finance securities; while all effort is made to exclude the latter, the former will be counted toward the corporate bonds outstanding total, and will subsequently overlap to some extent to AFME structured finance outstanding numbers. Excludes unrated securities.

3.7. European Corporate Bond Issuance by Rating

Data for HY issuance by rating are sourced from Dealogic, Bloomberg, and the three rating agencies. The composite rating is determined by the lowest rating assigned by either Moody's, Standard and Poor's, or Fitch Ratings.

3.8. European Corporate Bond Issuance by Tenor

Data for HY issuance by tenor are sourced from Dealogic. "Other" includes perpetuals.

3.9. European HY Issuance By Use of Proceeds

Data for HY issuance by use of proceeds are sourced from Dealogic and aggregated for the purposes of this calculation. Please refer to Section 3 for criteria on high yield issue inclusion.

4. Issuance – European Developed Market High Yield Bonds

4.1. – 4.7., 4.9 European Developed Market HY Bond Issuance

High yield bond issuance data are sourced from Dealogic. For further criteria on how high yield issuance are defined, please refer to section 3.

Developed European issuance are deals predominantly from western Europe and includes deals from Andorra, Austria, Belgium, Bulgaria, Cyprus, Switzerland, Germany, Denmark, Spain, Estonia, Finland, France, Faroe Islands, United Kingdom, Guernsey, Gibraltar, Greenland, Greece, Isle of Man, Ireland, Iceland, Italy, Jersey, Liechtenstein, Luxembourg, Monaco, Malta, Montenegro, Netherlands, Norway, Portugal, San Marino, and Sweden.

4.8. European Developed Market Corporate Bonds Outstanding

Data for corporate bonds outstanding are sourced from Bloomberg. Please refer to Section 3 for criteria and methodology.

5. Issuance – European Emerging Market High Yield Bonds

5.1. – 5.7., 5.9. European Emerging Market HY Bond Issuance

High yield bond issuance data are sourced from Dealogic. Criteria for all high yield issuance are found in section 3.

Emerging market European issuance deals are predominantly from Eastern Europe but will also additionally include Turkey, the Russian Federation, Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan, Azerbaijan, and Kyrgyzstan. Certain sub-investment grade countries are not included in the emerging market total, including, among others, Iceland and Greece.

5.8. European Emerging Market Corporate Bonds Outstanding

Data for corporate bonds outstanding are sourced from Bloomberg. Please refer to Section 3 for criteria and methodology.

6. Credit Quality

6.1. – 6.2. European Issuer Rating Actions

European issuer upgrades and downgrades are sourced from S&P. The breakdown by emerging market and developed Europe are from AFME's definition of developed and emerging markets and would be, under S&P's guidelines, a combination of both European and EMEA rating actions. Multiple downgrades of a single issuer are counted separately. Rating actions are inclusive of both corporate (both credit and merger-related) as well as sovereign ratings.

6.3. – 6.4. European Issuer Rating Actions by # of Ratings

Rating actions are sourced from S&P. Breakdown by emerging market and developed Europe are from AFME's definition of developed and emerging markets and would be, under S&P's guidelines, a combination of both European and EMEA rating actions.

6.5. European High Yield Default Rate

European HY bond default rates are sourced from Standard and Poor's and Moody's, calculated on a trailing 12 month basis.

"Europe" for the S&P default rate is defined to include Austria, Belgium, Bulgaria, Channel Islands, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland and the United Kingdom. Countries are subject to revision.

6.6. – 6.7. European Leveraged Loan Default Rate

European LL default rates are sourced from Fitch Leveraged Credit Database, calculated on a trailing 12 month basis.

6.8. Leveraged Loan Recovery Rates

European LL recovery rate are sourced from Fitch Leveraged Credit Database, calculated on a trailing 12 month basis. Recovery rates are based on median cash realised (cash or cash-pay debt received) recoveries for senior loans and on average cash realised recoveries (excluding any equity/warrants given in a debt exchange) for mezzanine loans.

6.9. HY CDS spreads vs. liquidity-stress index and HY bonds rated B3 negative and lower in Europe

The liquidity stress index is calculated by Moody's Investor Services as the percentage of speculative

grade companies with the weakest liquidity profile in EMEA. Speculative grade liquidity is categorised in one of four ways: SGL 1: Very good liquidity. Most likely to meet obligations over the coming 12 months through internal resources without relying on external sources of committed financing. SGL 2: Good liquidity. Likely to meet obligations during the coming 12 months through internal resources but may rely on external sources of committed financing. The issuer's ability to access committed financing is highly likely, based on Moody's evaluation of near term covenant compliance. SGL3: Adequate liquidity. Expected to rely on external sources of committed financing. Based on Moody's evaluation of near term covenant compliance there is only a modest cushion, and the issuer may require covenant relief in order to maintain orderly access to funding lines. SGL4: Weak liquidity. Relies on external sources of financing and the availability of that financing is, in Moody's opinion, highly uncertain. The percentage of bonds rated B3 negative or lower is sourced from Moody's

6.10. European Defaults

Defaults reported by either Moody's or Standard and Poor's in the European bond markets and loan markets, when available.

7. Cash and Synthetic

7.1. Loans and Bonds, Cash and Synthetic

Data are sourced from Markit and Thomson Reuters LPC. High yield bond cash and synthetic spreads from Markit; European leveraged loan cash bid prices from Thomson Reuters LPC, and European leveraged loans synthetic prices from Markit.

7.2. European HY Bond Total Return

European HY bond total return data are sourced from the Bank of America-Merrill Lynch's Euro High Yield Index (HE00). The index tracks the performance of EUR-denominated below-investment-grade corporate debt publicly issued in the euro domestic or Eurobond markets. Qualifying securities must have a below-investment-grade rating and an investment-grade rated country of risk. Qualifying securities must have at least one year remaining term to maturity, fixed coupon schedule and minimum amount outstanding of €100 million. Original issue zero coupon bonds, "global securities" (debt issued simultaneously in the Eurobond and euro domestic markets), 144a securities and pay-in-kind securities, including toggle notes, qualify for inclusion in the index. Callable perpetual securities qualify provided they are at least one year from the first call date. Fixed-to-floating rate securities also qualify provided they

are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. Defaulted, warrant-bearing and euro legacy currency securities are excluded from the index.

7.3. European Leveraged Loan Total Return

Total return data are provided by S&P LCD and are total returns from S&P's ELLI index, both ELLI and EUR-denominated ELLI. Total returns for ELLI EUR-denominated data are unavailable for 2003 and 2004.

7.4. Asset Class Total Return (Cash Basis)

Total returns are sourced from respective index owners and Bank of America-Merrill Lynch's indices.

Annex

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