



GLOBAL PROJECT BONDS MARKET OVERVIEW

Recently closed transactions

ENERGY

- **Noboribetsu Solar Project (BBB Japan's rating):** ¥8.9BN (~\$88MM) in 22-year senior secured notes to finance the construction of a 22MW solar plant located in Noboribetsu, Japan. The transaction was issued as RJ Renewable Energy Project Bond III Trust Certificates and labeled as a green project bond. The notes priced with a 150bps spread. (Sponsor: Renewable Japan)
- **Brooklyn Navy Yard Cogeneration Partners (BNYCP) (B2):** \$323MM in senior secured notes to refinance a 286MW gas and oil-fired cogeneration facility. BNYCP generates steam and electricity in the New York Independent System Operator Zone-J power market and has a long-term offtake agreements with ConEd and the Brooklyn Navy Yard Development Corporation until 2036. The refinancing included as well a \$82MM subordinated loan from the proceeds of tax-exempt bonds issued by Build NYC Resources Corporation (Build NYC) and a \$30MM senior secured letter of credit facility. (Sponsor: Axiom Infrastructure)
- **Australia Pacific LNG Processing Pty Ltd. (Baa2):** \$600MM in 11.5-year senior secured notes backing a coal seam gas to liquefied natural gas Project in Queensland, Australia. The notes has a 9.7 WAL and priced with a 4.82% coupon at 200bps. The LNG facility is operated by ConocoPhillips while the gas fields and the main gas transmission pipeline are operated by Origin who managed the construction of the Project. (Sponsor: Australia Pacific LNG Co (37.5% ConocoPhillips, 37.5% Origin Energy and 25% Sinopec))
- **Deepwater Poseidon Drillship:** \$550MM in 8-year senior secured notes backing the Deepwater Poseidon drillship which is working for Shell in the Gulf of Mexico. The notes priced at 99bps over Treasuries to reach a 7.0% coupon and will be callable after February 2022. The notes are guaranteed by Transocean Ltd, Transocean Inc. and an indirect subsidiary that owns the Deepwater Poseidon, and are secured by a lien on the Deepwater Poseidon and other assets related to the rig. (Sponsor: Transocean Ltd.)

INFRASTRUCTURE

- **Autopistas Metropolitanas de Puerto Rico (BBB-):** \$181MM in 20-year senior secured notes priced at 7% to refinance the PR-22 and PR-5 toll roads in Puerto Rico. (Sponsors: Abertis and GS Infrastructure Partners) **CACIB acted as Placement Agent.**
- **Carlsbad Desalination Plant (Baa3):** \$183MM issued in 1-year and 5-year tax exempt revenues bonds backing Carlsbad reverse-osmosis desalination plant in California with the support of the California Pollution Control Financing Authority. The bonds priced at 5.0% to yield 2.18% to 2.49% for the 2020 to 2024 maturities, respectively. The project benefits from a 30-year water purchase agreement (WPA) with San Diego County Water Authority. (Sponsor: Orion Water Partners, a joint venture between Poseidon Resources and Stonepeak Infrastructure Partners)
- **Hong Kong International Airport (HKIA) (AA+):** \$500MM in senior secured notes to finance the Three-Runway System (3RS) Project within the HKIA priced at 78bps over UST₁₀. (Sponsor: Airport Authority Hong Kong, owned by Hong Kong SAR Government)
- **Liege Tram PPP:** €136MM in 30-year senior secured notes backing the construction of the Liege tram project in Belgium as part of a broader €386MM hybrid financing. (Sponsors: CAF, Colas and DIF)
- **Flinders Ports Pty Ltd (Baa2):** multi currency issuances of \$91MM USD in 10-year senior secured notes and \$50MM AUD in 20-year senior secured notes backing South Australia's largest port operator. Both tranches were structured as bullets and respectively priced at UST+140bps (4.08% coupon) and Icur+175bps (4.72% coupon). (Sponsor: Flinders Ports)
- **Italian Street Lighting Cluster PPP:** \$17MM in 20-year senior secured notes to finance the installation of street lighting across six municipalities in the regions of Umbria, Molise and Campania in central and southern Italy.(Sponsors: Pagano and Ascolillo)

EMEA TRANSACTION SPOTLIGHT

- **The Project:**
 - ✓ The **Liege Tram PPP** is comprised of 12km of tracks, 21 stations, 20 trams, a maintenance depot and two park-and-ride facilities.
 - ✓ It is sponsored by the Tram'Ardent consortium which includes DIF Infrastructure V fund, Spanish rolling stock manufacturer CAF and French civil construction firm Colas. CAF and Colas are the joint EPC and O&M providers of the Project.
 - ✓ The Project is expected to reach COD by the end of 2022 and has a contract in place until 2050.
 - ✓ The deal is backed by availability payments from the Operateur du Transport de Wallonie, the regional public transport company.
- **The Transaction:** The €386MM refinancing comprises €136MM provided by institutional investors, €193MM provided by the EIB and a €58MM floating-rate bank tranche. The spread was in the 100bp–150bps area. The transaction is noteworthy for backing a both the rail and rolling stock within a single Project.

AMERICAS TRANSACTION SPOTLIGHT

- **The Project:**
 - ✓ The **Autopistas Metropolitanas de Puerto Rico** consists of two toll roads in Puerto Rico (PR-22 and PR-5) which have a long history of operations (45+ years for PR-22 and 12+ years for PR-5) with historically inelastic traffic volume to toll increases.
 - ✓ The Sponsors are Abertis Infraestructuras, SA and GS Infrastructure Partners.
 - ✓ The Project benefits from a Concession Period with the Puerto Rico Highways and Transportation Authority ("PRHTA") which ends in 2061.
- **The Transaction:** \$181MM in 20-year amortizing senior secured notes were issued to refinance the project. The Notes priced at 7.50%. This transaction is the first bond issuance in the Puerto Rican infrastructure industry since the beginning of the economic recession and the devastation following hurricane Maria. **CACIB acted as Placement Agent.**

* Source: Crédit Agricole Corporate & Investment Bank, Bloomberg, PFI, IJGlobal.



GLOBAL PROJECT BONDS MARKET OVERVIEW (cont'd)

Primary Issuances

ENERGY									
Issuer	Geography	Currency	Size (MM)	Date	Tenor	WAL	Pricing	Spread at Issuance	Ratings (Moody's / S&P / Fitch)
Noboribetsu Solar Project	APac	YEN	8,900	Feb-19	22	--	--	150bps	BBB (Japan's rating)
Brooklyn Navy Yard Cogeneration Partners (BNYCP)	NAm	USD	323	Feb-19	--	--	--	--	B2 / -- / --
Australia Pacific LNG Processing Pty Ltd	APac	USD	600	Feb-19	12	10	4.850%	220bps	Baa2 / -- / --
Deepwater Poseidon drillship	NAm	USD	550	Jan-19	8	--	7.000%	99bps	--
Lestari Banten Energi	APac	USD	775	Jan-19	20	--	6.875%	--	Baa3 / -- / BBB-
Vila do Conde Transmissora de Energia (VCTE) and LT Triângulo (LTT) transmission projects	LatAm	BRL	565	Jan-19	--	--	--	CDI+750bps	--

INFRASTRUCTURE									
Issuer	Geography	Currency	Size (MM)	Date	Tenor	WAL	Pricing	Spread at Issuance	Ratings (Moody's / S&P / Fitch)
Autopistas Metropolitanas de Puerto Rico	NAm	USD	181	Feb-19	20	15	7.500%	--	-- / BBB- / --
Carlsbad Desalination Plant	NAm	USD	183	Feb-19	1 and 5	--	5.000%	--	Baa3 / -- / --
Airport Authority Hong Kong (HKIA)	APac	USD	500	Feb-19	10	--	3.450%	78bps	-- / AA+ / --
Liege tram PPP	EMEA	EUR	136	Feb-19	30	--	0.000%	100-150bps	--
Flinders Ports Pty Ltd	APac	USD	91	Feb-19	10	10	4.080%	140bps	Baa2 / -- / --
		AUD	50	Feb-19	20	20	4.720%	175bps	Baa2 / -- / --
Italian Street Lighting Cluster PPP	EMEA	EUR	17	Jan-19	20	--	--	--	--
DSTelecom Fibre to the Home (FTTH)	EMEA	EUR	50	Jan-19	12	--	--	--	--
Tours-Bordeaux High-speed Rail Project	EMEA	EUR	572	Jan-19	30	--	--	Mid-swap+140bps	--
		EUR	333		35	--	--	Mid-swap+150bps	--
University of Exeter Streatham Campus Accomodation	EMEA	GBP	140	Jan-19	48	--	--	--	--

* ND: Not Disclosed

FY 2018 Global Project Bond League Tables (Source: PFI)

#	Lead Manager	(\$MM)	# deals
1	Citigroup	7,882	28
2	MUFG	3,681	17
3	Bank of America	2,868	14
4	JP Morgan	2,544	12
5	Crédit Agricole	2,171	14
6	SMBC	1,973	16
7	HSBC	1,741	10
8	Societe Generale	1,656	8
9	BNP Paribas	1,547	10
10	RBC Capital Markets	1,393	9

FY 2018 Global Project Bond League Tables (Source: IJGlobal)

#	Lead Manager	(\$MM)	# deals
1	Citigroup	4,705	18
2	JP Morgan	2,776	11
3	MUFG	2,463	14
4	HSBC	2,007	13
5	Crédit Agricole	1,917	15
6	Societe Generale	1,831	10
7	RBC	1,811	10
8	Bank of America	1,636	5
9	Sumitomo	1,494	16
10	Santander	1,441	17

* Source: Crédit Agricole Corporate & Investment Bank, Bloomberg, PFI, IJGlobal,



GLOBAL BOND MARKET OVERVIEW

Market update 2019

EUR Bond Corporate Market

- All in all, investors are sending mixed signals to the market: monthly volumes were down to €30.0BN in February (from €32.8BN in January) and average transaction size reached €770MM in February (vs. €820MM in January). This month 25 deals closed. The volatility has decreased and investors appetite remained strong. The average oversubscription at 3.4x YTD allowed the issuers to tighten their prices vs. IPTs by c. 23bps in average since the beginning of the year.
- Still, for the month to come pipeline is heavy with many issuers on the side-line waiting for a favorable window to come to the market. And the average NIP is around 5.8 bps in Feb 2019 (5.7bps in 2018) and the average maturity reached 7.6 years.
- However mounting concerns regarding global growth and inflation expectations are keeping rates under pressure. Rates remain at very low levels offering support and attractiveness to the market.

Key Transaction in February

Iberdrola (Baa1/BBB+) has been the second Spanish issuer and announced the issuance of its third Green hybrid. On this transaction, IPTs were announced at 3.750% area for a new PerpNC6 at a benchmark size. Pricing were tightened to 3.375% (+/-12.5bps wpir) and were successfully priced at the tighter end of the guidance at 3.250% for a size of €800MM thanks to a strong investor demand with an orderbook of €4.8BN. **CACIB acted as Global Coordinator and Structuring Agent on this transaction**

GBP Market

- The Sterling primary market has had a strong start to the year, eclipsing January 2018 levels and pushing past record February 2017 volume. The Sterling market is not the exception, rather it follows suit with both the EUR and USD primary market. The excessive widening of credit spreads in Q418 has been retraced and GBP tranches garner large orderbooks and perform in secondary trading.
- Monthly volumes were up to £2.55BN in February 2019 (vs. £2BN in February 2018) and £1BN in January 2019 (vs. £2.18BN in January 2018). This month 9 deals closed. GBP continues to offer a good complimentary liquidity pool, historically most attractive in terms of relative value as a longer duration play or at the very short-end. With BoE QE (£10BN corporate purchase scheme) we saw not only rising volumes but also an increasing maturity mix with good supply in the intermediate 7-12yr maturities.

US Investment Grade Public Corporate Bond Market

- The primary market closed February with \$102.9BN in issuances vs. a 10-year February average of ~\$83BN. YTD tally now stands at ~\$213.7BN, trailing 7.1% behind 2018's pace.
- Issuers continue to leverage the constructive market backdrop to price with minimal concessions. The last week of February W.A. average NIC of -0.23bps pulled the February average down to just over 1bp, notably lower than 35-40bps seen at beginning of 2019.
- Despite minimal concessions, secondary market performance has been encouraging. Recent issues are generally trading anywhere from flat to 10bps tighter vs. re-offer.
- For the week ended February 27, 2019, Lipper reported a third consecutive material inflow of \$3.9BN, which brought the YTD net fund flows to \$5.539BN.
- The CDX has been on a consistent re-tightening path since reaching 2Y wide in the beginning of January. During the last week of January it fell below the 60 threshold into the high 50's range.
- Despite headlines that drove equities, credit remains resilient. Spreads continue to improve, setting and surpassing new tightness w-o-w, with the ICE BAML Corporate Index closing at +127bps, the tightest level seen in 2019 and 31bps tighter YTD.
- Remarks from Fed Chairman Powell indicating flexibility around future rate hikes and stronger than expected economic data led to a sell-off in Treasuries.

	Statistics (LTM)				
	Min	Max	Average	Current	Δ 01/01/19
IG Index	103 bps	161 bps	124 bps	127 bps	-31 bps
A Index	82 bps	126 bps	98 bps	95 bps	-28 bps
BBB Index	130 bps	205 bps	157 bps	165 bps	-36 bps

USPP Market Highlight

- The volume of private placements reached \$5.8BN in February vs. \$3.3BN in January and \$5.4BN in December. February volume consisted in 45 issues by 22 issuers vs. 36 issues by 10 issuers last month. About \$9.1BN of USPP have been issued YTD.
- Although January was lean on cross-border transactions, February made up for it with \$4.7BN in 32 issuances by 15 issuers vs. \$1.1BN in 13 domestic transactions by 7 issuers. About \$5.7BN of cross-border USPP have been issued YTD vs. \$3.4BN of domestic USPP.



EMEA BOND MARKET OVERVIEW

EMEA market – Public secondary levels

Sources: Crédit Agricole CIB, Bloomberg

ENERGY										
Pricing date	Issuer	Country	Moody's	S&P	Maturity	Size	Coupon	Bid Spread (bps)	Bid YTM (%)	
21/02/2017	2i Rete Gas	Italy	Baa2	BBB	2026	435	1.750%	157	2.01	
24/10/2017	2i Rete Gas	Italy	Baa2	BBB	2027	550	1.608%	159	2.16	
04/09/2018	2i Rete Gas	Italy	Baa2	BBB	2025	500	2.195%	151	1.83	
09/03/2017	A2A	Italy	Baa3	BBB	2024	300	1.250%	90	1.07	
10/12/2013	Elenia Finance	Finland	NR	BBB	2020	500	2.875%	40	0.24	
31/03/2017	Elia	Belgium	NR	BBB+	2027	250	1.375%	88	1.36	
20/11/2014	Fluxys Belgium	Belgium	NR	NR	2034	100	3.250%	106	2.14	
20/11/2014	Fluxys Belgium	Belgium	NR	NR	2029	250	2.750%	130	2.05	
28/09/2017	Fluxys Belgium	Belgium	NR	NR	2032	50	2.375%	122	2.17	
28/09/2017	Fluxys Belgium	Belgium	NR	NR	2027	300	1.750%	119	1.76	
22/11/2013	Madrilena Red de Gas Finance	Spain	NR	BBB	2023	275	4.500%	67	0.82	
05/04/2017	Madrilena Red de Gas Finance	Spain	NR	BBB	2029	300	2.250%	117	1.86	
05/04/2017	Madrilena Red de Gas Finance	Spain	NR	BBB	2025	300	1.375%	95	1.21	
05/07/2017	National Grid	UK	Baa1	BBB+	2024	500	1.000%	56	0.77	
21/09/2017	NorteGas	Spain	NR	BBB-	2027	750	2.065%	166	2.22	
21/09/2017	NorteGas	Spain	NR	BBB-	2022	550	0.918%	91	0.90	
24/03/2014	Redexis Gas	Spain	Baa3	BBB	2021	650	2.750%	77	0.62	
20/09/2018	RTE	France	NR	A	2038	500	2.125%	57	1.77	
20/09/2018	RTE	France	NR	A	2030	500	1.500%	40	1.22	
30/08/2017	SSE	UK	A3	A-	2025	600	0.875%	80	1.14	
28/08/2018	SSE	UK	A3	A-	2027	650	1.375%	89	1.44	
13/03/2017	Statkraft	Norway	Baa1	A-	2025	500	1.125%	42	0.68	
19/07/2017	Terna	Italy	Baa1	BBB	2027	1 000	1.375%	109	1.63	
03/06/2013	Vier Gas Transport	Germany	NR	BBB+	2025	750	2.875%	32	0.63	
03/06/2013	Vier Gas Transport	Germany	NR	A-	2020	750	2.000%	13	-0.06	
01/07/2013	Vier Gas Transport	Germany	NR	A-	2023	750	3.125%	21	0.31	
17/09/2018	Vier Gas Transport	Germany	NR	A-	2028	500	1.500%	47	1.11	
20/11/2015	Viesgo (IE2 Holdco)	Spain	NR	BBB-	2023	500	2.375%	101	1.12	
23/05/2016	Viesgo (IE2 Holdco)	Spain	NR	BBB-	2026	550	2.875%	164	2.03	

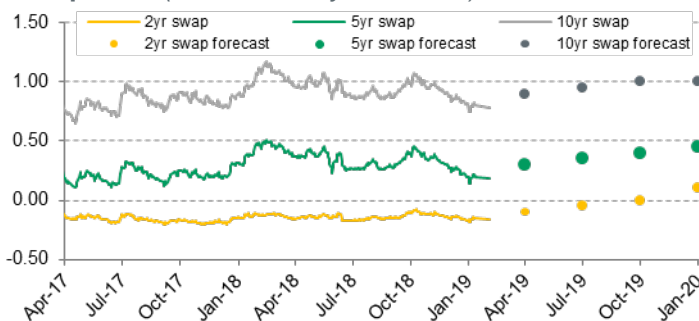
INFRASTRUCTURE AND TRANSPORTATION										
Pricing date	Issuer	Country	Moody's	S&P	Maturity	Size	Coupon	Bid Spread (bps)	Bid YTM (%)	
10/05/2016	Abertis	Spain	NR	BBB	2026	1 150	1.375%	164	2.06	
02/11/2016	Abertis	Spain	NR	BBB	2027	500	1.000%	168	2.18	
05/12/2013	Aeroporti Di Roma	Italy	Baa1	BBB+	2021	600	3.250%	81	0.67	
01/06/2017	Aeroporti Di Roma	Italy	Baa1	BBB+	2027	500	1.625%	139	1.92	
28/05/2013	Aeroports de Paris	France	NR	A+	2028	600	2.750%	39	1.02	
01/10/2014	Aeroports de Paris	France	NR	A+	2025	500	1.500%	29	0.55	
15/07/2015	Aeroports de Paris	France	NR	A+	2023	500	1.500%	12	0.20	
06/12/2017	Aeroports de Paris	France	NR	A+	2027	500	1.000%	33	0.89	
04/10/2018	Aeroports de Paris	France	NR	A+	2038	500	2.125%	49	1.70	
18/03/2015	Alpha Trains	Luxembourg	Baa2	NR	2025	350	2.064%	105	1.37	
01/06/2016	APRR	France	Baa2	A-	2026	700	1.125%	31	0.66	
16/11/2016	APRR	France	Baa2	A-	2031	500	1.875%	47	1.32	
16/11/2016	APRR	France	Baa2	A-	2027	500	1.250%	30	0.75	
31/05/2017	APRR	France	Baa2	A-	2032	500	1.625%	52	1.43	
06/11/2017	APRR	France	NR	A-	2033	700	1.500%	51	1.50	
04/05/2016	ASF	France	A3	A-	2026	500	1.000%	41	0.80	
05/01/2017	ASF	France	A3	A-	2027	1 000	1.250%	42	0.88	
05/04/2017	ASF	France	A3	A-	2026	500	1.125%	38	0.76	
10/01/2018	ASF	France	A3	A-	2030	1 000	1.375%	57	1.33	
21/06/2018	ASF	France	A3	A-	2028	700	1.375%	47	1.08	
26/01/2017	Atlantia	Italy	Baa2	BBB	2025	750	1.625%	223	2.50	
06/07/2017	Atlantia	Italy	Baa2	BBB	2027	1 000	1.875%	238	2.92	
18/09/2017	Autostrade	Italy	Baa1	BBB+	2029	700	1.875%	217	2.92	
03/05/2017	Brisa	Portugal	Baa3	NR	2027	300	2.375%	103	1.55	
25/06/2013	Brussels Airport	Belgium	Baa1	NR	2020	500	3.250%	13	-0.04	
26/04/2017	Brussels Airport	Belgium	Aa1	NR	2024	300	1.000%	40	0.59	
03/02/2014	Heathrow Funding	UK	NR	A-	2030	750	1.500%	73	1.52	
13/05/2014	Heathrow Funding	UK	NR	A-	2022	600	1.875%	27	0.25	
28/06/2017	Heathrow Funding	UK	NR	A-	2032	500	1.875%	76	1.72	
17/11/2017	HIT	France	Baa3	NR	2027	500	1.625%	139	1.97	
17/11/2017	HIT	France	Baa3	NR	2023	500	0.625%	99	1.06	
09/10/2014	Infra Park (Indigo)	France	NR	BBB	2025	650	2.125%	82	1.09	
12/07/2017	Infra Park (Indigo)	France	NR	BBB	2037	125	2.951%	150	2.66	
19/07/2013	SANEF	France	Baa1	NR	2019	300	2.500%	-1	-0.24	
06/11/2015	SANEF	France	Baa1	NR	2026	600	1.875%	66	1.03	
11/10/2016	SANEF	France	Baa1	NR	2028	300	0.950%	76	1.43	
17/04/2018	Sydney Airport	Australia	Baa1	BBB+	2028	500	1.750%	79	1.39	
01/12/2017	Tank & Rast	Germany	Baa3	BBB-	2027	300	2.375%	227	2.85	
01/12/2017	Tank & Rast	Germany	Baa3	BBB-	2024	300	1.625%	195	2.21	
06/09/2017	Transurban	Australia	Baa1	BBB+	2028	500	1.750%	99	1.58	



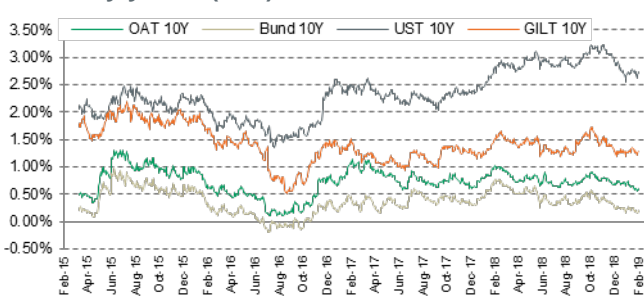
MACROECONOMIC ENVIRONMENT

- The last ECB Meeting was held the 24th of January. Mario Draghi kept the interest rates unchanged and reassessed that they were expected to remain at their present levels at least through the summer 2019.
- As for the economic outlook, the ECB President confirmed that the growth was slower in the Euro area and that “the near-term growth momentum is likely to be weaker than previously anticipated”. The ECB adopted a very dovish tone during the meeting, assessing that “an ample degree of monetary accommodation is still necessary for the continued sustained convergence of inflation levels” towards the 2% objective.
- Some concerns have risen due to the Spanish situation where the national budget was rejected in Parliament by 191 votes in the 350-seat chamber as the government of Pablo Sanchez failed to gather the votes from Catalan independent parties necessary to obtain the majority. This loss conducted the government to organize snap elections that will be held the 28th of April. The market impact of this negative political development has been muted thus far, which can be attributed to: (1) solid Spanish economic fundamentals and well advanced structural reforms; (2) any snap election could also potentially deliver a market-friendly outcome, with the PP (centre-right) and Citizens (centre) already standing united – along with Vox (far-right) – against ceding ground to or relying on pro-Catalan-independence parties for political support.
- On the trade war front, good news came in the beginning of the week after the publication of reports in the financial press assessing that both sides were close to reach a consensus on general principles. Donald Trump has met the Chinese Vice President Liu He, who is leading the trade talks with US officials, at the White House. Trump wrote that the negotiations had made “substantial progress”, which led him to delay US increase in tariffs now scheduled for March 1st.
- Prime Minister May managed to pass her Plan B for Brexit through Parliament. In comparison with her initial plan, she added among others an amendment theoretically excluding a “no deal” Brexit but that does not legally oblige the government to avoid one. Also, May has stepped back on the “backstop” that will be replaced by “alternative arrangements” to prevent from a physical Irish border. Theresa May has promised MPs a vote on delaying the UK’s departure from the EU or ruling out a no-deal Brexit, if they reject her deal next month.

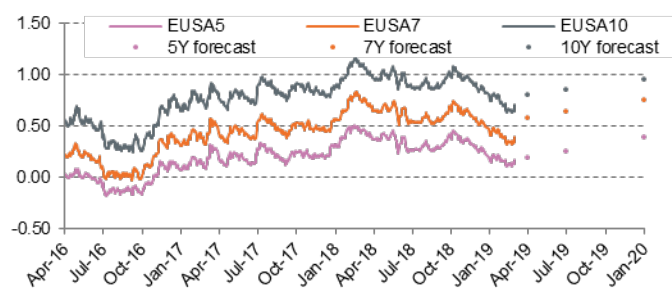
Swap rates (as of February 28th, 2018)



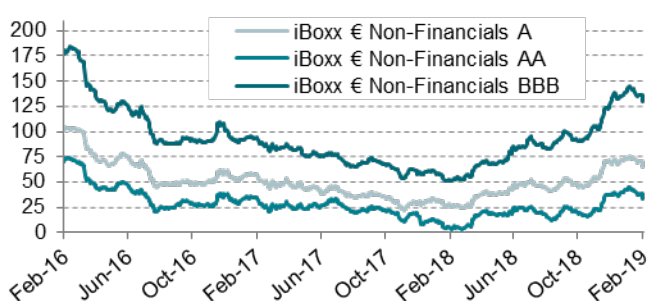
Treasury yields (10Y)



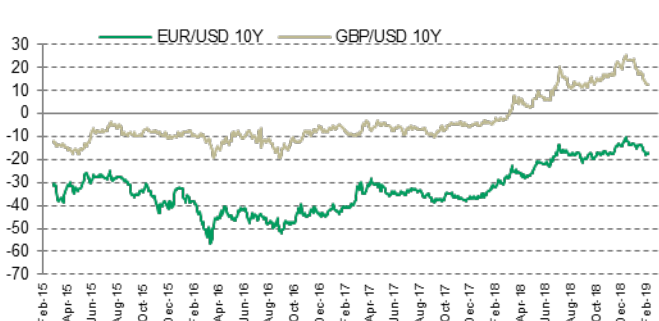
EUR swap rates (historic and forward levels)



Credit spread evolutions (€)



10Y basis swap evolution



Main upcoming events

	Events / Data	Expected impact
07-Mar	ECB monetary meeting + projection update	The cap EUR rates, especially at the front end of the curve
20-Mar	Fed meeting + 'dot-plot' update	Higher ST USD rates, flatter curve
29-Mar	UK exit the EU	Slightly positive for the GBP
10-Apr	ECB monetary meeting	N/A

iBoxx™ bond indices offer broad benchmarking and liquid tradable index solutions that track bond markets globally. Fuelled by multi-source pricing, iBoxx provides transparency to bond market performance.

Sources: Bloomberg, Crédit Agricole CIB



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