

Euro Rates Update

Nordea Research, 21 January 2016

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US Treasury Yields				
	2Y	5Y	10Y	30Y
	0.82	1.42	1.99	2.76
Δ 1D	-4.5	-6.9	-7.9	-8.6
Δ 1W	-13.5	-18.5	-19.1	-20.4

German Benchmark Yields				
	2Y	5Y	10Y	30Y
	-0.41	-0.19	0.42	1.24
Δ 1D	-1.7	-2.7	-6.5	-9.3
Δ 1W	-3.1	-8.7	-13.5	-14.6

German Curve Slopes				
	2-5Y	5-10Y	2-10Y	10-30Y
	-21.9	-60.9	-82.8	-81.6
Δ 1D	-1.0	-3.8	-4.9	-2.8
Δ 1W	-5.6	-4.9	-10.4	-1.1

EUR Swap Curve Slopes				
	2-5Y	5-10Y	2-10Y	10-30Y
	-27.6	-61.7	-89.3	-61.1
Δ 1D	-2.3	-3.0	-5.3	-1.6
Δ 1W	-5.1	-3.3	-8.4	0.4

German Asset Swap Levels				
	2Y	5Y	10Y	30Y
	-30.3	-33.5	-32.3	-14.6
Δ 1D	-1.2	-0.6	-1.4	-2.7
Δ 1W	-1.4	-2.1	-3.2	-5.3

10Y Benchmark Yields				
	Yield	Δ 1D	Spread	Δ 1D
GER	0.420	-6.5	-	-
FRA	0.836	-3.7	37.3	2.4
ITA	1.647	6.9	118.1	13.0
ESP	1.772	5.0	131.8	11.1
BEL	0.813	-3.3	40.8	2.8
HOL	0.622	-5.3	20.8	0.8
AUT	0.740	-5.1	29.0	1.0
GRE	8.988	51.3	862.8	57.3
POR	2.893	12.8	244.5	18.9
FIN	0.747	-4.3	31.0	1.8
IRL	0.966	-1.3	59.9	4.7

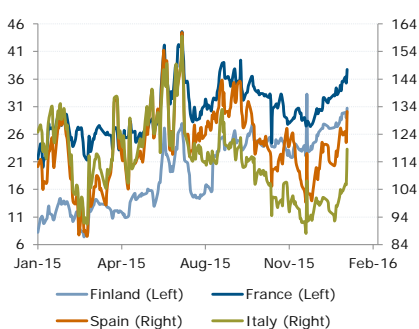
Spread = Maturity interpolated spread to German government par yield curve

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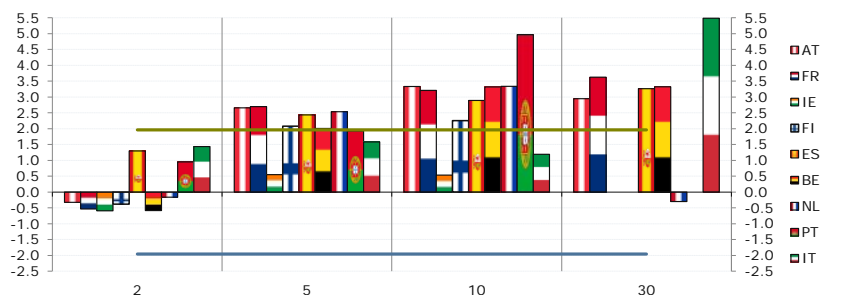
German & US 10-year benchmark yields, %



10 year spreads against Germany, bp



Z-scores of benchmark vs. Germany



Upcoming Issuance (source: Bloomberg)						
Date	Country	Coupon	Maturity			Amount (EURbn)
21 Jan	SP	1.95%	2030			
21 Jan	SP	0.25%	2019			
21 Jan	FR					
25 Jan	LN	0.70%	2020			
26 Jan	IT					
27 Jan	GE	2.50%	2046			1.00

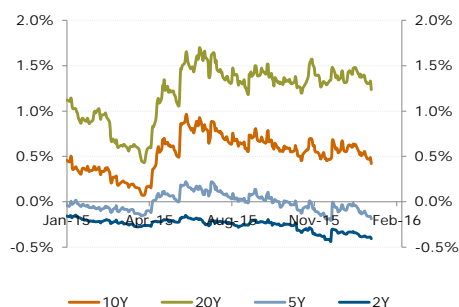
All bond quotes are taken at 16:15 CET.

Bond Yields & Curves

Yield Levels

German & US benchmark bonds on-the-run Nordea Analytics benchmarks.

German benchmark bond yields, %



USA-Germany spreads, annualized yields, %



Bond Curve Shape

German curve slopes are yield spreads between Nordea Analytics benchmark bonds.

German yield curve slopes, bp



Bonds vs. equities



Swaps and Forwards

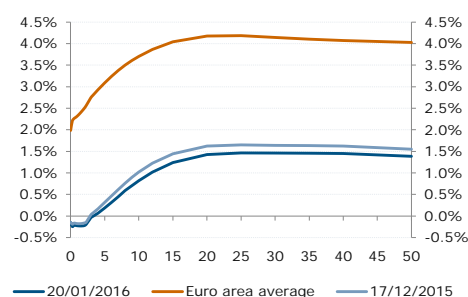
EUR swap rates and implied forwards, %



EUR-USD spreads and implied forwards, %



EUR swap curve shape vs. historical

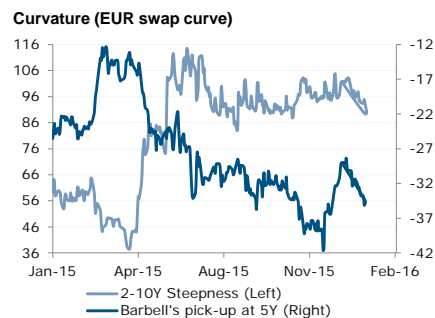
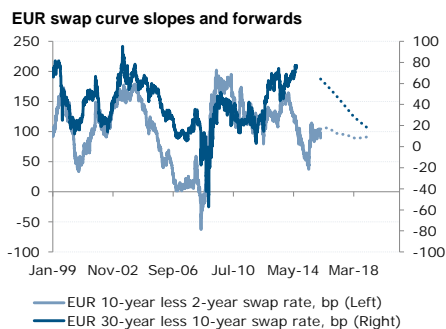


Historical forward rates, %



E.g. 2Y2Y swap rate illustrates the rate of a 2-year swap with a 2-year forward start.

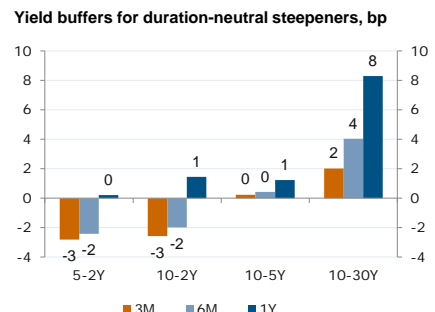
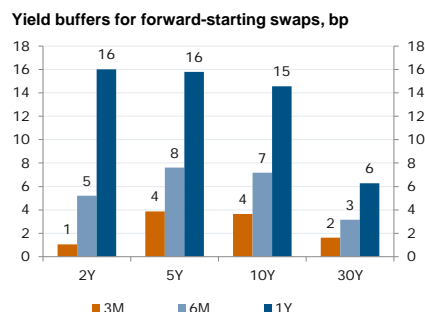
5Y pick-up over a duration and cash neutral 2-10Y EUR swap barbell.



Carry

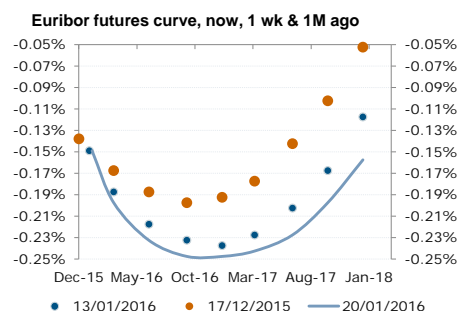
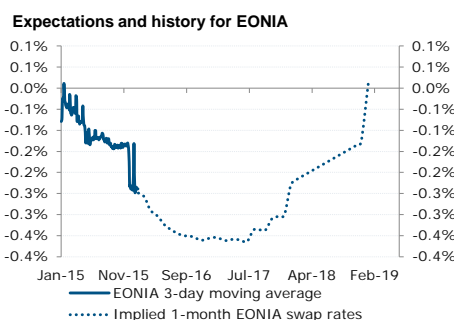
The carry on the given horizon illustrates how much the spot swap rate may rise for a receiver swap position in a forward-starting swap to result in zero profit.

Yield buffers for steepeners tell how much the curve may flatten in order to result in a zero-profit in a forward starting steepener position.



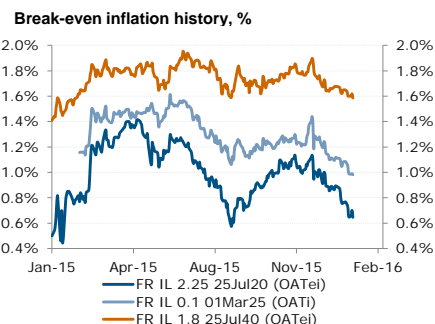
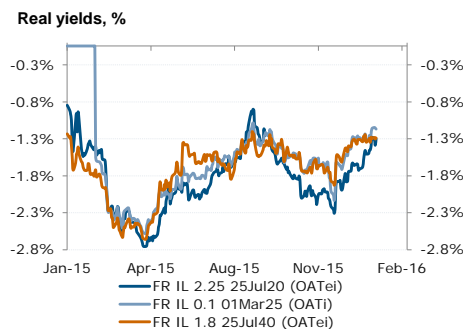
Money Market Rates

The EONIA (Euro Overnight Index - Average) rate is the effective overnight reference rate for the euro.



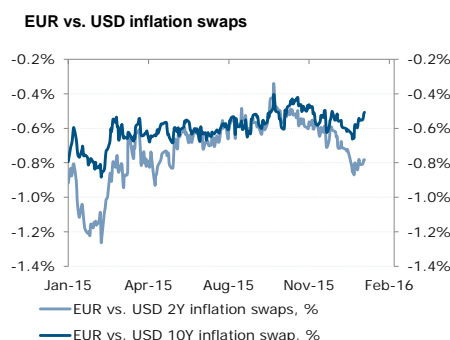
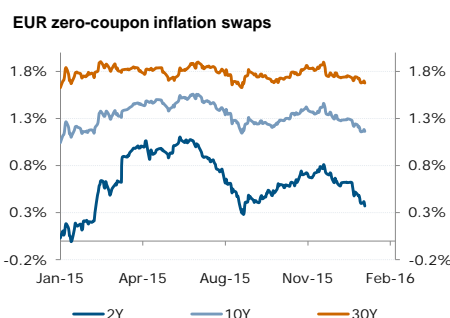
Inflation-linked Bonds

Break-even inflation calculated as a yield spread to a nominal comparable bond.



Inflation Swaps

A zero-coupon inflation swap is a derivative contract, in which one party pays a fixed rate (the break-even inflation rate) and the other party pays a floating rate based on realized inflation. The zero-coupon inflation swap illustrates the average expected inflation rate during the life of the swap.



Credit & Money Market Spreads

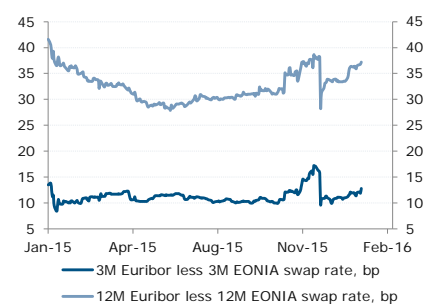
Credit default swap indices illustrate the annual cost of buying protection against a credit event of a company. iTraxx® Europe is comprised of the 125 most liquid CDS contracts referencing European investment grade credits, iTraxx® Crossover of 50 sub-investment grade credits.

The spread between Euribor and EONIA swap rate illustrates the money market credit risk premium, i.e. the difference between Euribor rates and the expected future ECB minimum bid rate.

iTraxx® credit default swap spreads



Money market rates vs. EONIA swap rates



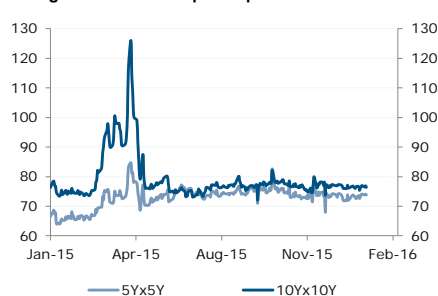
Swaption Volatilities

ATMF (At The Money Forward) swaption bp vol measures the normalized volatility, i.e. the absolute changes in the forward rate in basis points.

Short-dated ATMF swaption bp vol



Long-dated ATMF swaption bp vol

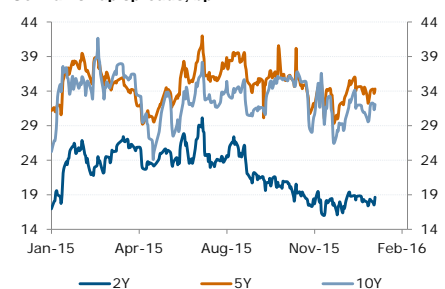


Swap & Cross-country Spreads

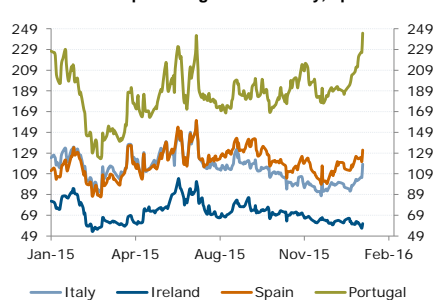
Swap spread:
Benchmark bond's spread to EUR swap curve.

10Y country spreads are maturity interpolated spreads against the German government curve.

German swap spreads, bp



10Y non-AAA spreads against Germany, bp

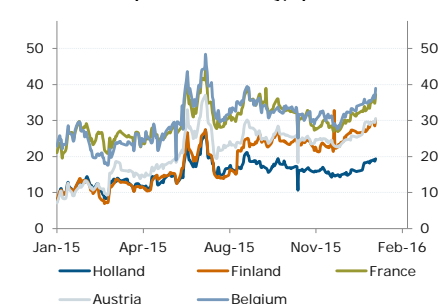


1Y break-even spread changes indicate how much a bond's spread against an equivalent bond trading on the German curve may widen in order to give the same return in one year.

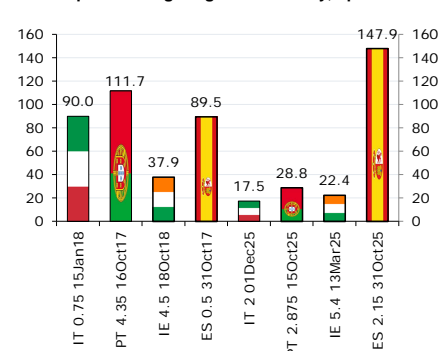
The break-even spread change is based on the spread against the following two German benchmark bonds:

DE TB 15Dec17
DE 1 15Aug25

10Y AAA/AA+ spreads to Germany, bp



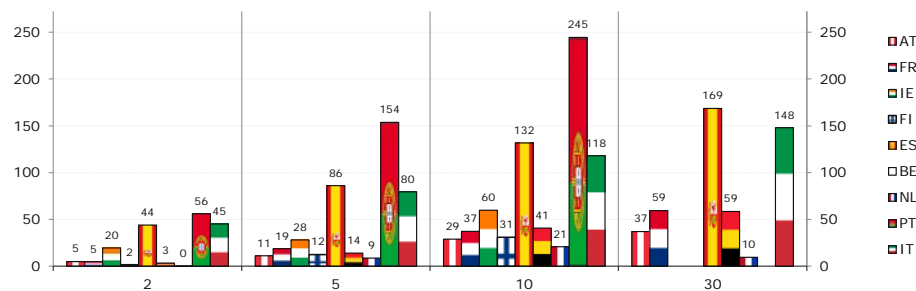
1Y B/E spread changes against Germany, bp



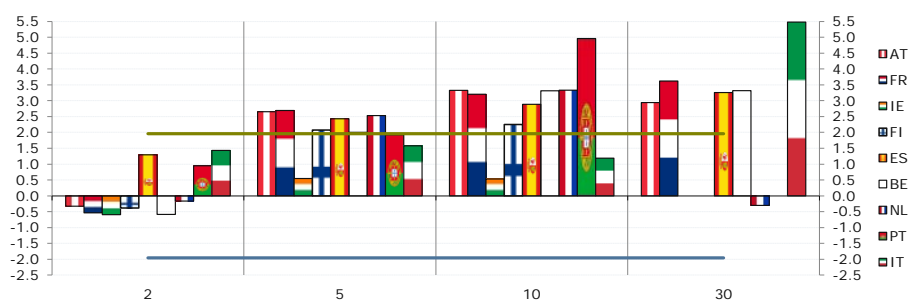


Country Relative Value

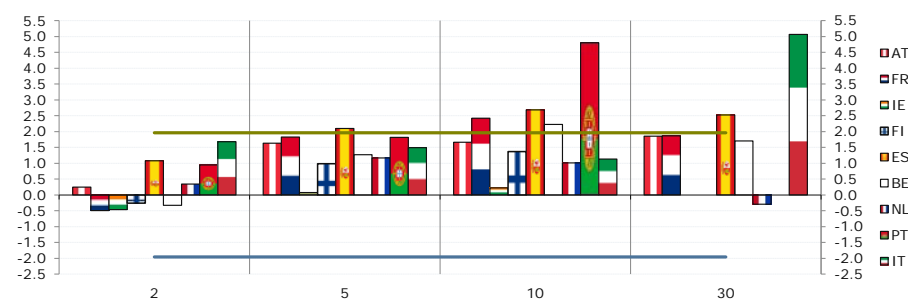
Benchmark spreads over the maturity-interpolated German par curve, bp



Z-scores of benchmark vs. Germany



Z-scores of benchmark vs. swap curve



The richest and cheapest benchmark bonds against Germany and the swap curve by sectors:

	Against German Curve					Against Swap Curve				
	Issue	Maturity	Coupon	Spread	Z-score	Issue	Maturity	Coupon	Spread	Z-score
2Y: Rich	IE	18 Oct 18	4.500	19.6	-0.61	DE	15 Dec 17	0.000	-30.3	-1.44
	GR	17 Jul 17	3.375	1,278.5	5.12	GR	17 Jul 17	3.375	1,112.4	4.97
5Y: Rich	DE	11 Oct 19	0.250	-18.6	-3.48	DE	11 Oct 19	0.250	-34.7	-0.72
	IT	01 Nov 20	0.650	79.6	4.07	EIB	16 Mar 20	2.625	-15.3	4.54
7Y: Rich	DE	15 Aug 23	2.000	-33.0	-4.07	IE	15 Mar 22	0.800	-1.3	-0.74
	GR	24 Feb 23	2.000	814.7	4.66	EIB	14 Apr 23	2.000	-16.0	4.86
10Y: Rich	DE	15 Aug 24	1.000	-35.8	-3.79	DE	15 Feb 25	0.500	-33.8	-0.81
	PT	15 Oct 25	2.875	244.5	4.56	IT	01 Jun 25	1.500	78.9	5.07
15Y: Rich	DE	04 Jan 37	4.000	-62.6	-3.61	DE	04 Jan 31	5.500	-26.2	-0.26
	PT	15 Apr 37	4.100	276.8	5.91	PT	15 Apr 37	4.100	255.7	5.28
20Y: Rich	DE	15 Aug 46	2.500	-71.2	-3.54	NL	15 Jan 47	2.750	1.4	-0.34
	PT	15 Feb 45	4.100	287.2	5.53	IT	01 Sep 46	3.250	141.2	5.56

To exploit the historical cheapness/ richness of bonds, we calculate 60-day z-scores:

$$\frac{\text{Current spread} - 60\text{-day average}}{\text{standard deviation}}$$

Bond is

- rich if z-score < -1.96
- cheap if z-score > 1.96

We evaluate bonds included in the country specific tables below. Bonds are ranked by z-scores.



Germany

	15	16	17
GDP, %, y/y	1.5	1.5	2.0
Public balance	0.4	0.2	0.2
Debt/GDP	74.2	71.9	68.9

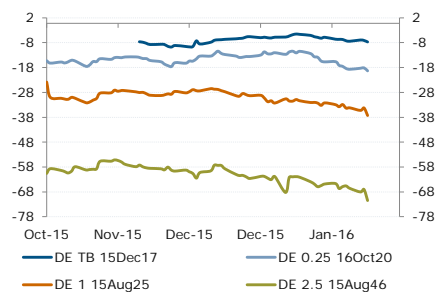
Source: European Commission, Winter 2015 forecast

Rating	Aaa/AAA/AAA
Moody's / S&P / Fitch	

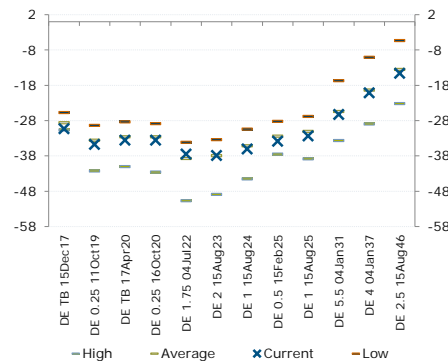
Δ B/E Spd 1Y is calculated as a spread to a synthetically created par bond trading on the French curve.

Benchmark Bonds				Spread vs. France				Asset Swap Spread		
Coupon	Maturity	Volume	Yield	20-Jan	60D Avg.	Z-score	Δ B/E Spd 1Y	20-Jan	60D Avg.	Z-score
0.000	15 Dec 17	13.0B	-0.408	-7.5	-6.9	-0.48	-2.0	-30.3	-28.6	-1.44
0.250	11 Oct 19	16.0B	-0.317	-18.6	-14.2	-3.48	-1.3	-34.7	-33.5	-0.72
0.000	17 Apr 20	20.0B	-0.249	-18.4	-14.1	-2.98	-1.0	-33.5	-32.5	-0.59
0.250	16 Oct 20	19.0B	-0.189	-19.1	-14.6	-2.72	-0.5	-33.5	-32.6	-0.68
1.750	04 Jul 22	24.0B	-0.013	-27.7	-24.3	-3.14	-0.7	-37.4	-38.7	0.63
2.000	15 Aug 23	18.0B	0.124	-33.0	-28.0	-4.07	-0.7	-37.8	-37.9	0.03
1.000	15 Aug 24	18.0B	0.270	-35.8	-29.0	-3.79	-1.5	-36.0	-35.1	-0.51
0.500	15 Feb 25	23.0B	0.357	-35.8	-28.0	-3.62	-0.9	-33.8	-32.4	-0.81
1.000	15 Aug 25	23.0B	0.420	-37.0	-29.7	-3.54	-0.9	-32.3	-31.0	-0.69
5.500	04 Jan 31	17.0B	0.832	-54.2	-45.2	-3.45	-0.3	-26.2	-25.4	-0.26
4.000	04 Jan 37	23.0B	1.103	-62.6	-53.4	-3.61	-0.3	-20.1	-19.3	-0.25
2.500	15 Aug 46	13.0B	1.236	-71.2	-60.6	-3.54	0.2	-14.6	-13.5	-0.34

Spreads against the French curve, bp



Asset swap term structure, bp



France

	15	16	17
GDP, %, y/y	0.4	1.0	1.8
Public balance	-4.3	-4.1	-4.1
Debt/GDP	95.3	97.1	98.2

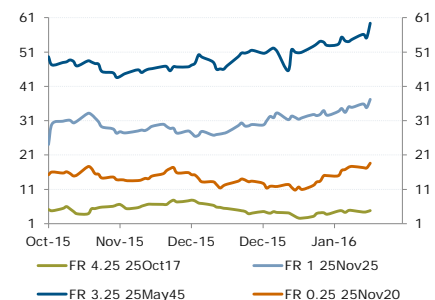
Source: European Commission, Winter 2015 forecast

Rating	Aa1/AA/AA
Moody's / S&P / Fitch	

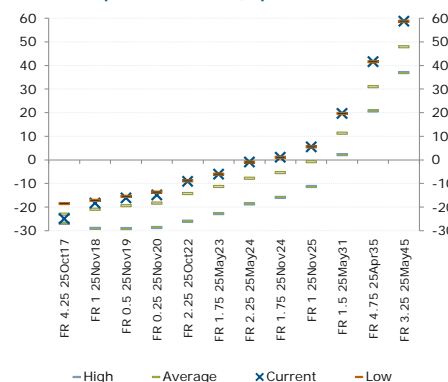
Δ B/E Spd 1Y is calculated as a spread to a synthetically created par bond trading on the German curve.

Benchmark Bonds				Spread vs. Germany				Asset Swap Spread		
Coupon	Maturity	Volume	Yield	20-Jan	60D Avg.	Z-score	Δ B/E Spd 1Y	20-Jan	60D Avg.	Z-score
4.250	25 Oct 17	34.75B	-0.356	4.9	5.4	-0.53	0.2	-24.9	-23.0	-1.01
1.000	25 Nov 18	22.01B	-0.240	13.8	9.9	3.03	0.5	-18.3	-20.9	1.58
0.500	25 Nov 19	26.98B	-0.119	17.4	13.5	3.26	1.5	-16.1	-19.4	1.94
0.250	25 Nov 20	11.99B	0.013	18.7	14.7	2.56	1.3	-14.9	-18.3	1.81
2.250	25 Oct 22	26.99B	0.294	25.1	21.5	3.61	1.0	-9.1	-14.3	2.58
1.750	25 May 23	32.97B	0.403	28.8	24.4	4.47	0.5	-6.1	-11.3	2.52
2.250	25 May 24	30.55B	0.568	31.5	24.7	3.23	0.3	-0.9	-7.8	2.36
1.750	25 Nov 24	30.99B	0.657	33.2	26.2	3.51	0.7	1.1	-5.4	2.41
1.000	25 Nov 25	19.99B	0.836	37.3	30.4	3.06	-0.1	5.5	-0.8	2.58
1.500	25 May 31	9.44B	1.410	47.9	38.8	3.17	1.1	19.7	11.3	2.68
4.750	25 Apr 35	25.03B	1.549	41.8	32.6	3.10	0.4	41.6	31.0	2.33
3.250	25 May 45	17.01B	1.863	59.5	49.2	3.34	-0.1	58.7	47.9	2.21

Spreads against the German curve, bp



Asset swap term structure, bp





Italy

	15	16	17
GDP, %, y/y	-0.5	0.6	1.3
Public balance	-3.0	-2.6	-2.0
Debt/GDP	131.9	133.0	131.9

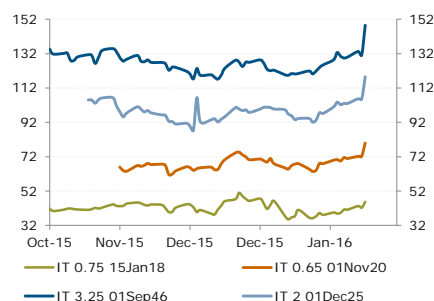
Source: European Commission, Winter 2015 forecast

Rating	Baa2/BBB-/BBB+
Moody's / S&P / Fitch	

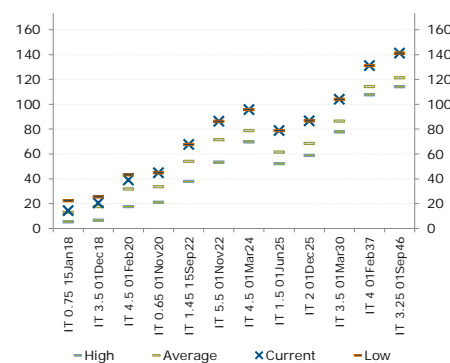
Δ B/E Spd 1Y is calculated as a spread to a synthetically created par bond trading on the German curve.

Benchmark Bonds				Spread vs. Germany				Asset Swap Spread		
Coupon	Maturity	Volume	Yield	20-Jan	60D Avg.	Z-score	Δ B/E Spd 1Y	20-Jan	60D Avg.	Z-score
0.750	15 Jan 18	15.46B	0.044	45.2	41.7	1.38	6.7	14.4	13.2	0.40
3.500	01 Dec 18	19.01B	0.134	51.1	46.8	1.63	4.1	20.7	17.6	0.87
4.500	01 Feb 20	22.99B	0.404	67.8	59.9	2.96	3.4	39.1	31.8	2.34
0.650	01 Nov 20	8.94B	0.613	79.6	67.4	4.07	3.0	44.8	33.7	3.43
1.450	15 Sep 22	14.99B	1.073	104.2	91.8	3.06	3.6	67.7	54.1	3.45
5.500	01 Nov 22	21.01B	1.110	106.5	94.2	3.54	3.3	86.3	71.4	3.77
4.500	01 Mar 24	23.71B	1.387	116.8	100.7	4.33	3.9	95.7	78.8	4.73
1.500	01 Jun 25	19.99B	1.542	114.4	95.8	4.34	2.3	78.9	61.6	5.07
2.000	01 Dec 25	14.88B	1.647	118.1	98.3	4.55	2.1	86.7	68.5	4.94
3.500	01 Mar 30	19.99B	2.058	120.1	102.4	3.35	18.6	104.1	86.5	4.33
4.000	01 Feb 37	26.01B	2.495	132.1	115.1	4.55	0.1	131.1	114.3	5.26
3.250	01 Sep 46	13.24B	2.754	148.0	126.3	5.17	0.8	141.2	121.3	5.56

Spreads against the German curve, bp



Asset swap term structure, bp



Spain

	15	16	17
GDP, %, y/y	1.4	2.3	2.5
Public balance	-5.6	-4.5	-3.7
Debt/GDP	98.3	101.5	102.5

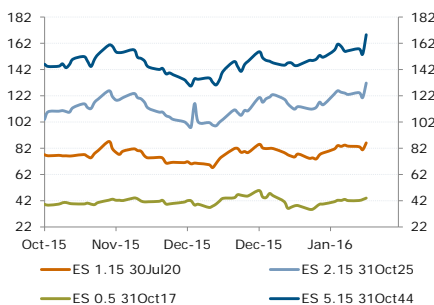
Source: European Commission, Winter 2015 forecast

Rating	Baa2/BBB/BBB+
Moody's / S&P / Fitch	

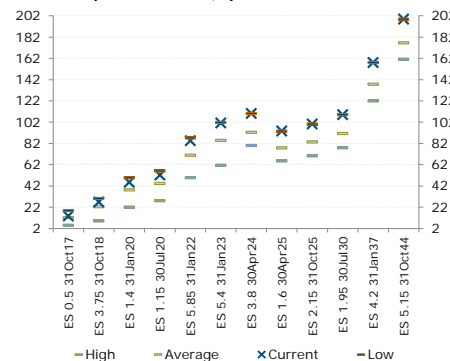
Δ B/E Spd 1Y is calculated as a spread to a synthetically created par bond trading on the German curve.

Benchmark Bonds				Spread vs. Germany				Asset Swap Spread		
Coupon	Maturity	Volume	Yield	20-Jan	60D Avg.	Z-score	Δ B/E Spd 1Y	20-Jan	60D Avg.	Z-score
0.500	31 Oct 17	16.99B	0.036	44.0	41.3	1.25	1.2	14.0	12.6	0.63
3.750	31 Oct 18	20.01B	0.184	56.4	50.9	1.76	2.5	27.3	22.8	1.27
1.400	31 Jan 20	21.91B	0.516	79.0	71.0	1.94	2.9	45.9	38.8	1.68
1.150	30 Jul 20	15.03B	0.648	86.1	77.4	2.29	7.2	52.6	44.8	2.02
5.850	31 Jan 22	22.01B	0.995	103.2	92.5	2.51	-3.2	85.0	71.3	2.52
5.400	31 Jan 23	21.99B	1.271	119.8	105.5	2.85	-1.7	101.6	85.2	2.65
3.800	30 Apr 24	21.99B	1.581	133.8	116.6	3.16	1.3	110.6	92.9	2.95
1.600	30 Apr 25	19.09B	1.685	130.0	112.9	2.77	1.7	94.0	78.2	2.73
2.150	31 Oct 25	20.96B	1.772	131.8	113.8	2.74	13.0	100.7	83.9	2.74
1.950	30 Jul 30	10.81B	2.331	145.0	124.8	2.72	18.5	109.5	91.7	2.72
4.200	31 Jan 37	16.37B	2.742	156.9	136.0	3.02	3.8	158.4	138.0	2.77
5.150	31 Oct 44	11.23B	2.953	168.7	147.5	3.06	-1.3	199.4	177.0	2.82

Spreads against the German curve, bp



Asset swap term structure, bp





Netherlands

	15	16	17
GDP, %, y/y	0.7	1.4	1.7
Public balance	-2.8	-2.2	-1.8
Debt/GDP	69.5	70.5	70.5

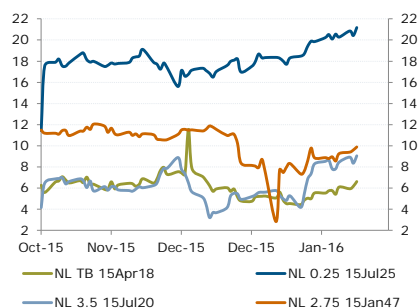
Source: European Commission, Winter 2015 forecast

Rating	Aaa/AA+/AAA
Moody's / S&P / Fitch	

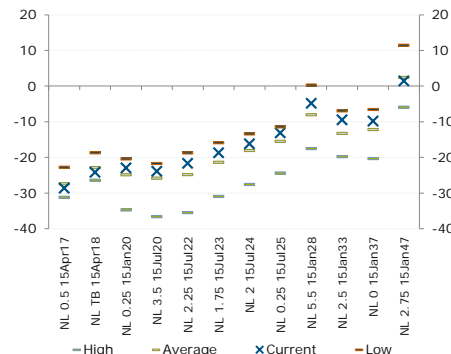
Δ B/E Spd 1Y is calculated as a spread to a synthetically created par bond trading on the German curve.

Benchmark Bonds				Spread vs. Germany				Asset Swap Spread			
Coupon	Maturity	Volume	Yield	20-Jan	60D Avg.	Z-score	Δ B/E Spd 1Y	20-Jan	60D Avg.	Z-score	
0.500	15 Apr 17	13.03B	-0.395	0.1	0.3	-0.15	-3.5	-28.7	-27.4	-0.68	
0.000	15 Apr 18	15.99B	-0.337	6.3	5.9	0.48	0.2	-24.2	-22.9	-0.84	
0.250	15 Jan 20	15.84B	-0.172	10.8	7.9	2.50	1.8	-23.0	-24.9	1.00	
3.500	15 Jul 20	15.02B	-0.132	8.7	6.0	2.42	0.4	-23.9	-25.8	1.05	
2.250	15 Jul 22	15.01B	0.139	12.7	11.1	1.14	0.1	-21.7	-24.9	1.64	
1.750	15 Jul 23	15.63B	0.299	16.5	14.4	2.09	0.0	-18.8	-21.4	1.34	
2.000	15 Jul 24	15.32B	0.440	16.8	14.6	3.66	0.1	-16.2	-18.1	0.91	
0.250	15 Jul 25	15.01B	0.622	20.8	17.9	3.27	0.1	-13.1	-15.5	1.20	
5.500	15 Jan 28	13.02B	0.809	12.1	9.6	1.65	-0.1	-4.9	-8.0	1.10	
2.500	15 Jan 33	12.01B	1.139	11.2	7.0	3.70	1.3	-9.5	-13.3	1.33	
0.000	15 Jan 37	0.0B	1.351	17.8	14.6	2.31	1.5	-9.9	-12.2	0.86	
2.750	15 Jan 47	10.99B	1.371	9.6	9.9	-0.28	0.0	1.4	2.4	-0.34	

Spreads against the German curve, bp



Asset swap term structure, bp



Belgium

	15	16	17
GDP, %, y/y	1.0	1.1	1.4
Public balance	-3.2	-2.6	-2.4
Debt/GDP	106.4	106.8	106.6

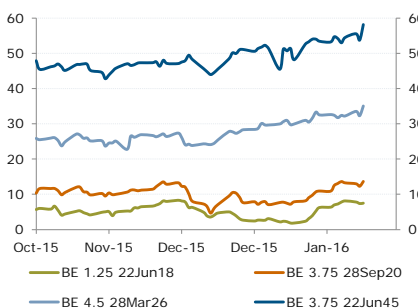
Source: European Commission, Winter 2015 forecast

Rating	Aa3/AA/AA
Moody's / S&P / Fitch	

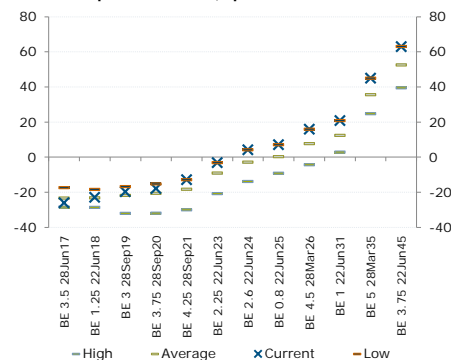
Δ B/E Spd 1Y is calculated as a spread to a synthetically created par bond trading on the German curve.

Benchmark Bonds				Spread vs. Germany				Asset Swap Spread			
Coupon	Maturity	Volume	Yield	20-Jan	60D Avg.	Z-score	Δ B/E Spd 1Y	20-Jan	60D Avg.	Z-score	
3.500	28 Jun 17	13.34B	-0.366	3.4	4.3	-0.56	-5.0	-26.1	-23.4	-1.01	
1.250	22 Jun 18	11.01B	-0.315	7.9	5.7	1.46	-0.1	-22.9	-23.3	0.16	
3.000	28 Sep 19	12.01B	-0.175	13.2	10.3	1.75	1.7	-19.7	-21.8	0.97	
3.750	28 Sep 20	19.01B	-0.054	14.0	10.7	1.92	2.0	-17.9	-20.6	1.19	
4.250	28 Sep 21	15.98B	0.106	18.3	14.8	2.18	1.8	-13.0	-18.3	2.35	
2.250	22 Jun 23	13.99B	0.432	30.7	25.6	2.67	0.4	-3.2	-9.1	2.27	
2.600	22 Jun 24	15.85B	0.617	35.3	28.3	3.23	-0.2	4.1	-2.9	2.49	
0.800	22 Jun 25	17.99B	0.813	40.8	33.3	3.16	-0.7	7.0	0.3	2.38	
4.500	28 Mar 26	9.02B	0.858	35.4	28.0	2.85	-0.7	15.9	7.6	2.14	
1.000	22 Jun 31	4.0B	1.461	52.6	43.1	2.80	1.1	20.8	12.3	2.22	
5.000	28 Mar 35	19.01B	1.561	43.2	35.1	2.83	0.9	44.9	35.5	2.14	
3.750	22 Jun 45	8.01B	1.854	58.5	49.1	3.06	-0.4	62.9	52.5	2.04	

Spreads against the German curve, bp



Asset swap term structure, bp





Finland

	15	16	17
GDP, %, y/y	0.0	0.8	1.4
Public balance	-2.7	-2.5	-2.2
Debt/GDP	58.9	61.2	62.6

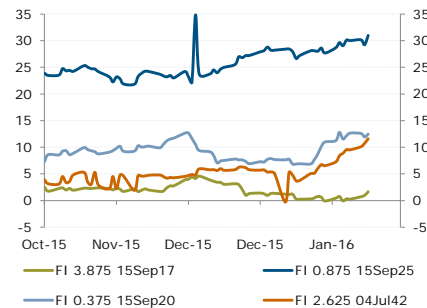
Source: European Commission, Winter 2015 forecast

Rating	Aaa/AA+/AAA
Moody's / S&P / Fitch	

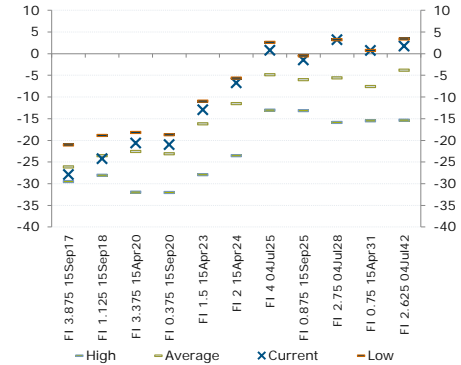
Δ B/E Spd 1Y is calculated as a spread to a synthetically created par bond trading on the German curve.

Benchmark Bonds				Spread vs. Germany				Asset Swap Spread			
Coupon	Maturity	Volume	Yield	20-Jan	60D Avg.	Z-score	Δ B/E Spd 1Y	20-Jan	60D Avg.	Z-score	
3.875	15 Sep 17	6.0B	-0.386	1.7	2.0	-0.37	-2.1	-27.9	-26.2	-0.90	
1.125	15 Sep 18	5.03B	-0.316	6.9	6.2	0.81	-0.4	-24.3	-23.6	-0.35	
3.375	15 Apr 20	6.5B	-0.129	12.0	9.3	2.03	1.3	-20.6	-22.6	0.89	
0.375	15 Sep 20	6.03B	-0.073	12.5	9.5	1.99	0.8	-21.0	-23.1	0.94	
1.500	15 Apr 23	5.0B	0.327	22.7	20.2	3.06	0.7	-13.0	-16.2	1.70	
2.000	15 Apr 24	5.0B	0.503	26.6	21.8	2.93	0.4	-6.7	-11.5	1.99	
4.000	04 Jul 25	6.03B	0.665	25.6	19.7	2.39	-0.5	0.8	-4.9	1.88	
0.875	15 Sep 25	4.03B	0.747	31.0	25.8	2.13	0.4	-1.5	-6.0	1.65	
2.750	04 Jul 28	5.0B	0.993	26.4	18.2	4.23	-0.2	3.2	-5.6	2.29	
0.750	15 Apr 31	3.5B	1.242	31.9	22.3	3.78	1.1	0.7	-7.6	2.29	
2.625	04 Jul 42	4.03B	1.372	11.6	5.3	4.20	-0.4	1.7	-3.8	1.46	

Spreads against the German curve, bp



Asset swap term structure, bp



Austria



	15	16	17
GDP, %, y/y	0.2	0.8	1.5
Public balance	-2.9	-2.0	-1.4
Debt/GDP	86.8	86.4	84.5

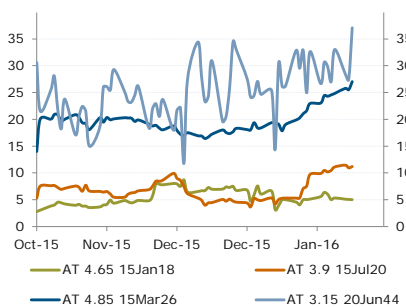
Source: European Commission, Winter 2015 forecast

Rating	Aaa/AA+/AA+
Moody's / S&P / Fitch	

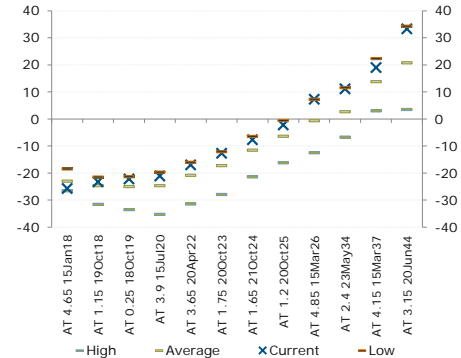
Δ B/E Spd 1Y is calculated as a spread to a synthetically created par bond trading on the German curve.

Benchmark Bonds				Spread vs. Germany				Asset Swap Spread			
Coupon	Maturity	Volume	Yield	20-Jan	60D Avg.	Z-score	Δ B/E Spd 1Y	20-Jan	60D Avg.	Z-score	
4.650	15 Jan 18	12.06B	-0.358	5.0	5.5	-0.36	1.2	-25.7	-22.9	-1.36	
1.150	19 Oct 18	7.02B	-0.298	8.4	5.7	3.17	0.9	-23.2	-24.7	0.88	
0.250	18 Oct 19	7.95B	-0.190	11.3	7.8	2.33	0.7	-22.2	-25.0	1.28	
3.900	15 Jul 20	13.01B	-0.107	11.2	7.0	2.51	-0.2	-21.1	-24.7	1.50	
3.650	20 Apr 22	8.71B	0.142	15.6	13.7	0.93	-1.7	-17.0	-20.8	1.53	
1.750	20 Oct 23	9.99B	0.390	22.1	18.0	3.50	-1.1	-12.7	-17.2	2.22	
1.650	21 Oct 24	10.35B	0.562	25.1	20.7	3.71	-0.8	-7.6	-11.5	1.86	
1.200	20 Oct 25	9.02B	0.740	29.0	24.2	3.11	-0.9	-2.2	-6.4	1.83	
4.850	15 Mar 26	8.01B	0.770	27.0	19.9	3.98	-0.6	7.3	-0.7	2.75	
2.400	23 May 34	5.19B	1.386	28.8	20.1	3.72	2.9	11.2	2.7	2.14	
4.150	15 Mar 37	12.22B	1.422	24.6	19.5	3.30	-1.2	19.0	13.8	1.24	
3.150	20 Jun 44	6.72B	1.636	37.1	25.1	2.84	1.7	33.4	20.8	1.94	

Spreads against the German curve, bp



Asset swap term structure, bp





Greece

	15	16	17
GDP, %, y/y	1.0	2.5	3.6
Public balance	-2.5	1.1	1.6
Debt/GDP	176.3	170.2	159.2

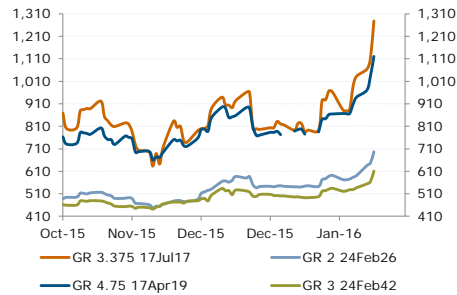
Source: European Commission, Winter 2015 forecast

Rating	Caa1/B-/CCC
Moody's / S&P / Fitch	

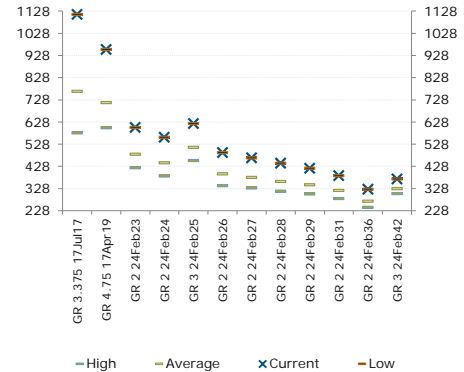
Δ B/E Spd 1Y is calculated as a spread to a synthetically created par bond trading on the German curve.

Benchmark Bonds				Spread vs. Germany				Asset Swap Spread		
Coupon	Maturity	Volume	Yield	20-Jan	60D Avg.	Z-score	Δ B/E Spd 1Y	20-Jan	60D Avg.	Z-score
3.375	17 Jul 17	2.02B	12.385	1,278.5	851.7	5.12	693.2	1,112.4	766.1	4.97
4.750	17 Apr 19	4.02B	10.856	1,120.6	802.0	4.86	206.9	954.7	714.6	4.63
2.000	24 Feb 23	1.04B	8.229	814.7	624.8	4.66	140.5	602.7	482.4	4.39
2.000	24 Feb 24	1.25B	7.920	770.4	582.8	4.28	133.0	558.7	443.5	4.06
3.000	24 Feb 25	1.84B	8.988	862.8	673.7	3.99	148.0	620.1	513.3	3.76
2.000	24 Feb 26	1.37B	7.461	696.6	530.8	3.91	114.1	489.7	393.2	3.66
2.000	24 Feb 27	1.21B	7.360	676.2	520.4	3.82	111.2	465.5	377.7	3.55
2.000	24 Feb 28	1.84B	7.224	652.6	502.9	4.03	103.8	441.8	359.6	3.69
2.000	24 Feb 29	1.48B	7.069	628.5	489.4	3.83	85.8	418.8	344.4	3.53
2.000	24 Feb 31	1.29B	6.889	597.4	466.4	3.67	112.5	385.1	319.0	3.43
2.000	24 Feb 36	1.33B	6.451	530.0	411.4	3.83	108.7	324.7	270.4	3.58
3.000	24 Feb 42	1.05B	7.365	611.1	493.8	4.20	189.3	370.8	326.7	3.89

Spreads against the German curve, bp



Asset swap term structure, bp



Portugal

	15	16	17
GDP, %, y/y	1.0	1.6	1.7
Public balance	-4.6	-3.2	-2.8
Debt/GDP	128.9	124.5	123.5

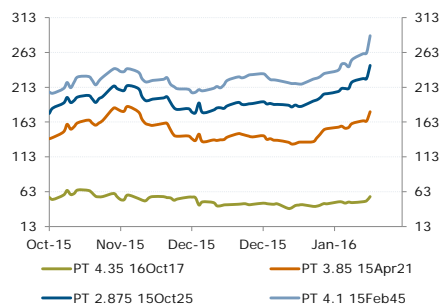
Source: European Commission, Winter 2015 forecast

Rating	Ba1/BB/BB+
Moody's / S&P / Fitch	

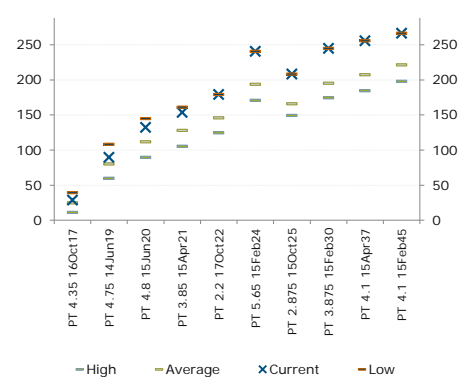
Δ B/E Spd 1Y is calculated as a spread to a synthetically created par bond trading on the German curve.

Benchmark Bonds				Spread vs. Germany				Asset Swap Spread		
Coupon	Maturity	Volume	Yield	20-Jan	60D Avg.	Z-score	Δ B/E Spd 1Y	20-Jan	60D Avg.	Z-score
4.350	16 Oct 17	8.99B	0.157	56.1	50.8	0.94	10.8	28.7	24.5	0.70
4.750	14 Jun 19	10.75B	0.813	114.8	104.5	1.17	6.4	89.5	80.0	0.95
4.800	15 Jun 20	10.99B	1.309	153.8	133.1	1.85	7.1	132.3	111.6	1.70
3.850	15 Apr 21	9.55B	1.651	178.0	153.0	2.07	6.1	153.6	128.1	2.03
2.200	17 Oct 22	3.0B	2.231	219.0	184.6	2.96	5.1	179.2	145.7	2.98
5.650	15 Feb 24	12.02B	2.700	248.8	202.4	4.61	4.9	240.8	193.8	4.18
2.875	15 Oct 25	10.52B	2.893	244.5	196.7	4.56	2.7	208.4	165.9	4.38
3.875	15 Feb 30	4.05B	3.575	272.0	214.6	5.40	3.4	244.8	195.3	5.11
4.100	15 Apr 37	8.02B	3.946	276.8	216.7	5.91	2.0	255.7	207.3	5.28
4.100	15 Feb 45	2.5B	4.140	287.2	226.9	5.53	1.8	266.5	221.4	5.01

Spreads against the German curve, bp



Asset swap term structure, bp





Ireland

	15	16	17
GDP, %, y/y	4.8	3.5	3.6
Public balance	-4.0	-2.9	-3.1
Debt/GDP	110.8	110.3	107.9

Source: European Commission, Winter 2015 forecast

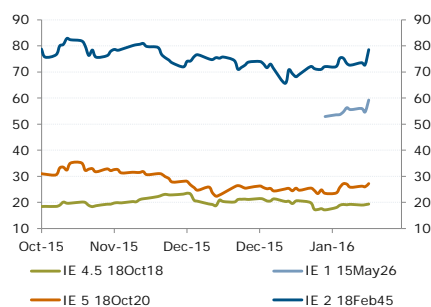
Rating	Baa1/A/A-
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Moody's / S&P / Fitch

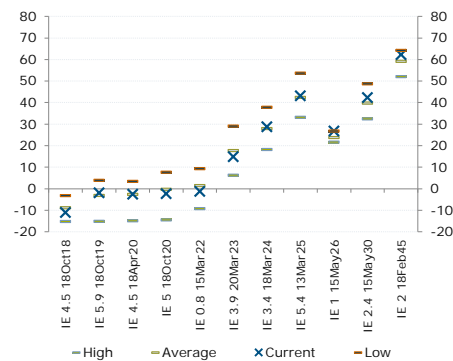
Δ B/E Spd 1Y is calculated as a spread to a synthetically created par bond trading on the German curve.

Benchmark Bonds				Spread vs. Germany				Asset Swap Spread		
Coupon	Maturity	Volume	Yield	20-Jan	60D Avg.	Z-score	Δ B/E Spd 1Y	20-Jan	60D Avg.	Z-score
4.500	18 Oct 18	9.58B	-0.186	19.6	20.3	-0.61	-0.5	-11.1	-8.9	-0.94
5.900	18 Oct 19	6.58B	-0.019	28.4	26.5	1.30	1.0	-1.9	-3.1	0.54
4.500	18 Apr 20	11.77B	0.033	28.1	27.2	0.51	1.4	-2.6	-2.7	0.03
5.000	18 Oct 20	8.99B	0.087	27.4	28.4	-0.31	0.4	-2.3	-0.3	-0.53
0.800	15 Mar 22	4.25B	0.312	33.7	38.2	-1.14	1.1	-1.3	1.4	-0.74
3.900	20 Mar 23	5.95B	0.539	44.8	48.1	-0.81	1.8	14.8	17.7	-0.68
3.400	18 Mar 24	8.01B	0.797	57.1	56.2	0.32	1.7	28.7	27.9	0.28
5.400	13 Mar 25	11.35B	0.966	59.9	58.5	0.51	0.9	43.1	42.3	0.24
1.000	15 May 26	3.0B	1.111	59.4	55.4	2.53	4.6	26.7	23.7	2.55
2.400	15 May 30	7.78B	1.525	65.6	63.1	0.70	0.8	42.3	39.7	1.07
2.000	18 Feb 45	5.05B	2.055	78.7	75.7	1.04	6.0	62.2	59.1	1.34

Spreads against the German curve, bp



Asset swap term structure, bp





European Investment Bank (EIB)

Benchmark Bonds				Spread vs. Germany				Asset Swap Spread		
Coupon	Maturity	Volume	Yield	20-Jan	60D Avg.	Z-score	Δ B/E Spd 1Y	20-Jan	60D Avg.	Z-score
1.000	13 Jul 18	5.0B	-0.220	17.1	11.0	3.59	2.6	-13.8	-18.1	3.29
1.375	15 Nov 19	3.0B	-0.134	16.2	11.9	2.30	0.1	-17.0	-20.8	3.34
2.625	16 Mar 20	3.4B	-0.086	17.3	11.0	3.27	1.6	-15.3	-21.1	4.54
1.500	15 Apr 21	5.0B	0.041	17.0	12.7	2.80	0.4	-16.1	-20.8	4.30
1.375	15 Sep 21	4.02B	0.099	17.9	15.0	1.58	0.7	-15.7	-20.0	2.91
2.000	14 Apr 23	5.0B	0.290	19.0	14.6	2.62	1.6	-16.0	-21.3	4.86
2.125	15 Jan 24	5.0B	0.373	17.2	13.7	1.76	0.4	-16.9	-20.4	3.37
2.750	15 Sep 25	5.35B	0.591	15.4	12.5	1.32	-1.7	-12.5	-14.9	2.04
3.500	15 Apr 27	4.0B	0.770	15.8	13.1	1.14	1.2	-7.7	-10.8	3.95
4.000	15 Apr 30	6.55B	1.046	18.2	14.9	1.09	0.8	0.7	-2.6	3.34
2.625	15 Mar 35	1.7B	1.352	22.5	18.8	1.37	0.8	6.8	3.4	3.54
1.750	15 Sep 45	1.3B	1.494	22.4	18.3	1.46	1.4	9.4	5.9	5.36



Kreditanstalt für Wiederaufbau (KfW)

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Oct-15 Nov-15 Dec-15 Jan-16

— KFW 0.625 12Feb18 — KFW 1.625 15Jan21
— KFW 1.375 31Jul35 — KFW 0.625 15Jan25

Date	KFW Index (Current)	Average Deaths
12Feb18	-17.5	1500
18Mar19	-21.5	1000
15Jan21	-21.5	1000
15Aug23	-21.5	1000
15Jan25	-17.5	1000
23Apr30	-12.5	1000
31Jul5	-12.5	1000

<https://nexus.nordea.com/#/research>