

Securitisation Data Report

European Structured Finance

Q3: 2019



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Market Highlights and Commentary

Market Environment

Economic conditions

According to Eurostat, GDP rose by 0.2% in the euro area (EA19) and by 0.3% in the EU28 during the third quarter of 2019. As of the end of September 2019, the unemployment rate stood at 7.5% (EU19), the lowest rate since July 2008 and 6.3% (EU28), the lowest rate recorded ever for the EU28.

Term Issuance and Outstanding Volumes

In Q3 2019, EUR 40.4 billion of securitised product was issued in Europe, a decrease of 33.4% from Q2 2019 and a decrease of 25.8% from Q3 2018. Of the EUR 40.4 billion issued, EUR 31.1 billion was placed, representing 76.9% of issuance, compared to the 45.6% of issuance in Q2 2019 and the 55.8% of issuance in Q3 2018. Among placed issuance, PanEuropean CLO, UK RMBS, and German Auto led issuance totals, with EUR 11.9 billion, EUR 6.5 billion, and EUR 3.0 billion of issuance, respectively.

Outstanding volumes fell slightly to EUR 1.19 trillion outstanding at the end of Q3 2019, a decrease of 4.4% QoQ and 0.5% YoY.

Credit Quality

In Europe, upgrades outpaced downgrades in Q3 2019, with upgrades concentrated in RMBS, both conforming and non-conforming.

Major upcoming regulatory, legislative and policy initiatives

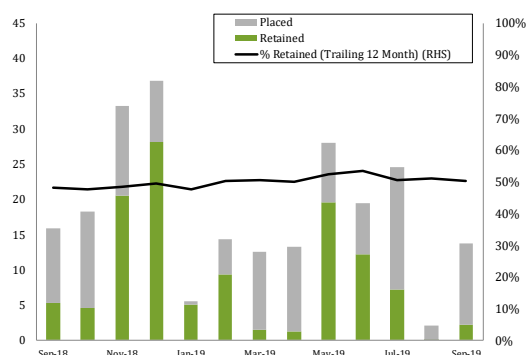
STS framework - Level 2 legislation

The implementation of the Level 2 legislation under the STS Framework is still progressing. The Regulatory Technical Standards (RTS) on the authorisation for third-party certifiers of STS and the RTS defining the Homogeneity of Underlying Exposures in Securitisation have been finalised and published in the Official Journal of the EU (OJ) in May and in November 2019 respectively. The final drafts of the RTS on the Disclosure Requirements, on the STS notification and on Securitisation Data Repositories (operational standards) have been adopted by the European Commission (EC) and are awaiting endorsement by the European Parliament and the Council (expected in Q1 2020). However, the RTS on Risk Retention are not expected to be adopted by the EC until later in 2020.

The EBA's work on capital, including RTS on Kirb calculation, is still in progress and will continue in 2020. Over the summer of 2019, the EBA consulted on draft Guidelines on the definition of Tranche Maturity. AFME responded on 31 October, stressing that the methodology should be the same for synthetic securitisations and for traditional (cash) securitisations, and that an element of prepayments should be allowed in the calculations. The final Guidelines are expected in 2020.

In September 2019, the EBA published a consultation on a STS Framework for Synthetic Securitisation. One of the key points of

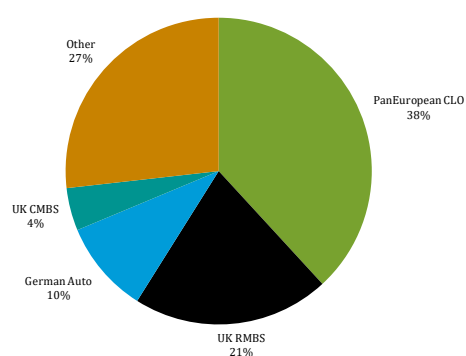
European Securitisation Issuance (EUR Billions)



Sources: AFME/SIFMA Members, AFME, Bloomberg, Dealogic, Refinitiv, SIFMA

"In Q3 2019, EUR 40.4 billion of securitised product was issued in Europe, a decrease of 33.4% from Q2 2019 and a decrease of 25.8% from Q3 2018."

European Securitisation Placed Issuance



Sources: Bloomberg, AFME & SIFMA Member Firms, Dealogic, AFME, SIFMA

AFME's response (submitted in November 2019) was to argue that enhanced capital relief for an originator bank undertaking a STS synthetic should form part of this new framework. The EBA is expected to publish its advice to the Commission in 2020.

On 17 January 2020, ESMA published a consultation on the use of "no data" options in Securitisation Reporting. The draft Guidelines set out an initial calibration of thresholds to be applied by securitisation repositories when verifying the completeness and consistency of disclosure templates submitted to them under the RTS. The deadline to respond is 16 March.

"The implementation of the Level 2 legislation under the STS Framework is progressing.[...] However, some of the key elements of the Securitisation Framework are still pending the finalisation, such as the RTS on Risk Retention (expected adoption by the EC later in 2020)."

We also continue our engagement with ESMA via the Q&A tool on interpretation of various reporting requirements under the new disclosure templates.

Green Securitisation

In response to the increasing regulatory and policy focus on Sustainable Finance (including the environmental aspects) in September 2019 AFME has published a position paper on Green Securitisation in which we highlighted the key voluntary principles which policymakers and market participants should support to help propose green securitisation. Among those principles, defining green securitisation simply and clearly, as well as regulatory support and proportionate (non-duplicative) disclosures have been indicated as one of the most important factors.

Solvency II

In October 2019 EIOPA published a wide-ranging consultation for its 2020 review of Solvency II. The consultation was not securitisation-specific but in any event AFME responded restating our previously stated concerns about the heavy and disproportionate risk factors for securitisations, especially for mezzanine and subordinated tranches.

Libor and benchmark rates

AFME continued its engagement in the various IBOR Working Groups in London and the Eurozone.

SONIA is now the market norm for new issuance of sterling FRNs for supranationals, covered bonds and securitisations. GBP 6 billion has been issued so far in 2020 alone, and the total issued since 2018 is GBP 50 billion (of which GBP 21 billion comprises securitisations).

In the Eurozone we are also contributing to progress towards a reformed Euribor and work arising from the new €STR rate, which has been published daily since October 2019.

AFME's Model Wording to create uniform transitional language for new securitisation transactions continues to be widely used in the market; we are building on this to produce an adjusted version better suited for use in EUR transactions.

1 Issuance

€ BILLIONS

1.1 Issuance European Historical Issuance

	Q1	Q2	Q3	Q4	TOTAL
2010	75.5	32.6	110.7	159.2	378.0
2011	115.2	67.3	57.1	137.2	376.8
2012	64.3	67.7	62.0	63.9	257.8
2013	32.8	53.2	38.4	56.4	180.8
2014	20.0	99.5	37.8	59.8	217.1
2015	35.7	50.3	57.8	72.8	216.6
2016	57.0	75.8	46.6	60.1	239.6
2017	40.2	73.0	49.1	74.1	236.5
2018	58.5	68.1	54.5	88.6	269.7
2019	32.4	60.7	40.4		133.5

Sources: Bloomberg, Citigroup, Dealogic, Bank of America-Merrill Lynch, Deutsche Bank, JP Morgan, Macquarie, Refinitiv, Unicredit, AFME, SIFMA

1.2 US and Australia Historical Issuance

	US	AU
2010	1,245.9	15.5
2011	1,068.9	20.4
2012	1,609.0	14.8
2013	1,565.1	22.4
2014	1,190.9	22.1
2015	1,744.5	19.9
2016	1,860.4	16.4
2017	1,899.3	29.2
2018	1,670.3	19.5
2019	1,333.9	16.8

1.3 European Issuance by Collateral

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
ABS	5.0	11.9	14.0		31.0
CDO/CLO	7.3	9.7	11.9		28.8
CMBS	0.1	2.5	1.4		3.9
RMBS	20.1	34.2	12.9		67.1
SME		2.5	0.3		2.7
WBS/PFI					0.0
Total	32.4	60.7	40.4		133.5

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
13.0	18.5	9.1	28.1	68.7
12.6	15.2	14.2	9.5	51.6
0.4	2.4	1.1	2.1	5.8
29.3	29.5	28.2	26.3	113.3
3.1	2.5	1.9	22.0	29.5
			0.6	0.6
58.5	68.1	54.5	88.6	269.7

1.4 European Issuance by Retention

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
Placed	16.5	27.7	31.1		75.3
Retained	15.9	33.0	9.4		58.3
Total ²	32.4	60.7	40.4		133.5

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
32.2	38.3	30.4	35.2	136.2
26.2	29.8	24.1	53.4	133.5
58.5	68.1	54.5	88.6	269.7

1.5 Australia Issuance by Collateral

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
ABS	0.9		1.1		2.1
RMBS	3.5	7.5	3.7		14.7
CMBS					0.0
Total	4.5	7.5	4.9		16.8

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
0.3	0.6	0.3	1.0	2.2
3.1	5.0	4.4	4.3	16.8
		0.3	0.2	0.5
3.4	5.6	4.9	5.5	19.5

1.6 US Issuance by Collateral

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
ABS	51.6	58.7	50.1		160.5
CDO	16.8	27.1	19.1		63.0
Agency MBS	239.5	326.4	469.7		1,035.6
Non-Agency CMBS	13.1	6.7	10.5		30.4
Non-Agency RMBS	29.0	6.3	9.1		44.4
Total	350.1	425.3	558.6		1,333.9

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
54.0	51.3	44.7	41.7	191.7
26.7	47.2	35.7	21.1	130.6
253.2	283.4	308.2	272.7	1,117.6
18.8	19.0	19.2	18.2	75.3
20.5	40.4	54.6	39.7	155.1
373.2	441.3	462.4	393.4	1,670.3

Sources: Bank of America Merrill-Lynch, Bloomberg, Citigroup, Dealogic, Deutsche Bank, JP Morgan, Macquarie, Refinitiv, Unicredit, AFME, SIFMA

€ BILLIONS

1.7 Issuance by Country of Collateral

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
Belgium	7.0				7.0
Denmark					0.0
France	5.0	15.2	1.3		21.5
Germany	1.0	5.2	3.9		10.1
Greece					0.0
Ireland	0.6	0.8	1.1		2.5
Italy	2.5	7.0	3.0		12.5
Netherlands		7.4	2.4		9.8
Portugal					0.0
Spain		2.9	3.4		6.3
UK	8.5	12.1	13.5		34.0
Other EU	0.1				0.1
Other Europe	0.2	0.2			0.4
PanEurope	7.5	10.0	11.9		29.4
Multinational					0.0
European Total	32.4	60.7	40.4		133.5
Australia Total	4.5	7.5	4.9		16.8
US Total	350.1	425.3	558.6		1,333.9

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
0.2			9.3	9.5
				-
6.9	4.3	6.6	1.7	19.5
3.4	2.2	2.0	5.1	12.7
		0.1		0.1
0.4	4.4	3.8	6.0	14.5
3.1	12.9	13.2	18.2	47.4
15.9	8.0	1.5	5.3	30.8
2.3	0.7		0.1	3.0
1.0	4.2	0.8	7.2	12.9
9.1	15.3	11.9	22.4	58.7
	0.5	0.1	1.2	1.8
0.8	0.3	0.1	2.2	3.4
15.5	15.2	14.4	9.8	54.9
				-
58.5	68.1	54.5	88.4	269.4
3.4	5.6	4.9	5.5	19.5
373.2	441.3	462.4	393.4	1,670.3

1.8 Issuance by Collateral Type and Country of Collateral: 3Q 2019

	ABS	CDO/CLO	CMBS	RMBS	SME	WBS/PFI	TOTAL
Belgium							-
Denmark							-
France	1.3						1.3
Germany	3.9						3.9
Greece							-
Ireland				1.1			1.1
Italy	3.0						3.0
Netherlands				2.4			2.4
Portugal							-
Spain	3.4						3.4
UK	2.4		1.4	9.4	0.3		13.5
Other EU							-
Other Europe							-
PanEurope		11.9					11.9
Multinational							-
European Total	14.0	11.9	1.4	12.9	0.3	-	40.4

	ABS	CDO	AGENCY MBS	NON-AGENCY CMBS	NON-AGENCY RMBS	TOTAL
Australia Total	1.1				3.7	4.9
US Total	50.1	19.1	469.7	10.5	9.1	558.6

Sources: Bloomberg, Dealogic, Deutsche Bank, JP Morgan, Macquarie, Refinitiv, AFME, SIFMA

€ BILLIONS

1.9 European Issuance by Rating

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
AAA	24.3	41.9	25.6		91.8
AA	1.4	8.5	6.6		16.5
A	0.8	1.8	2.2		4.8
BBB & Below	1.4	3.2	3.1		7.6
Not Rated	4.6	5.3	2.8		12.7
European Total	32.4	60.7	40.4		133.5

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
39.2	33.6	28.6	42.4	143.8
6.9	8.1	14.1	9.4	38.5
4.6	6.7	1.5	12.9	25.7
2.8	5.3	3.7	6.2	18.0
5.1	14.3	6.6	17.6	43.7
58.5	68.1	54.5	88.6	269.7

1.10 Australia Issuance by Rating

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
AAA	3.9	6.8	4.1		14.7
AA	0.2	0.4	0.1		0.8
A	0.0	0.1	0.3		0.5
BBB & Below	0.1	0.1	0.2		0.4
Not Rated	0.3	0.0	0.2		0.5
US Total	4.5	7.5	4.9		16.8

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
3.0	5.3	4.4	4.7	17.3
0.3	0.2	0.3	0.4	1.1
0.1	0.1	0.1	0.1	0.4
0.1	0.1	0.1	0.1	0.4
0.0	0.0	0.1	0.2	0.3
3.4	5.6	4.9	7.6	19.5

1.11 US Issuance by Rating¹

	2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
AAA	60.4	52.3			112.7
AA	6.6	6.2			12.8
A	5.9	9.1			15.0
BBB & Below	10.7	8.6			19.3
Not Rated	23.9	10.9			34.8
Agency MBS	257.3	352.0			609.3
US Total	364.7	439.2			803.8

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
63.9	79.7	66.3	53.7	263.7
7.8	9.5	9.2	5.9	32.5
7.9	10.6	6.8	7.1	32.4
14.2	15.6	11.0	10.5	51.2
26.1	42.5	60.9	43.4	172.9
253.2	283.4	308.2	272.7	1,117.6
373.2	441.3	462.4	393.4	1,670.3

Sources: Bank of America-Merrill Lynch, Bloomberg, Citigroup, Dealogic, Deutsche Bank, JP Morgan, Macquarie, Refinitiv, Unicredit, AFME, SIFMA

¹ Data not yet available for Q3 2019.

1.12 Securitisation Issuance by Deal Size: 3Q 2019

INCLUDING RETAINED DEALS						
	EUROPE		Australia		US	
	# of Issues	€ Billions	# of Issues	€ Billions	# of Issues	€ Billions
Less than 0.01 Billion	0%	0%	0%	0%	0%	0%
0.01-0.1 Billion	0%	0%	15%	1%	4%	1%
0.1-1.0 Billion	95%	86%	69%	50%	62%	57%
More than 1.0 Billion	5%	14%	15%	49%	4%	10%
Agency MBS	N/A	N/A	N/A	N/A	30%	33%
Total	100%	100%	100%	100%	100%	100%

Sources: Dealogic, Macquarie

2 Outstanding

€ BILLIONS

2.1 European Outstandings by Collateral

	2019:Q1	2019:Q2	2019:Q3	2019:Q4
ABS	220.5	232.6	217.9	
CDO/CLO	130.1	137.3	137.7	
CMBS	50.5	50.2	52.4	
RMBS	649.6	683.9	646.5	
SME	77.8	80.3	74.2	
WBS/PFI	62.9	61.7	62.1	
Total	1,191.3	1,246.0	1,190.7	

2018:Q1	2018:Q2	2018:Q3	2018:Q4
215.2	221.3	218.3	248.3
107.1	117.8	125.9	129.6
50.2	49.8	50.3	50.8
675.9	673.9	668.7	667.2
78.2	75.7	69.9	82.5
63.8	63.4	63.2	63.2
1,189.0	1,199.3	1,193.5	1,238.9

2.2 Australia Outstandings by Collateral

	2019:Q1	2019:Q2	2019:Q3	2019:Q4
ABS	6.5	5.5	5.1	
CMBS	1.0	0.9	0.8	
RMBS	54.1	56.9	56.6	
Total	61.6	63.4	62.5	

2018:Q1	2018:Q2	2018:Q3	2018:Q4
6.6	6.4	6.1	6.0
0.6	0.6	0.5	1.0
51.5	51.8	50.1	51.4
58.7	58.8	56.7	58.4

2.3 US Outstandings by Collateral²

	2019:Q1	2019:Q2	2019:Q3	2019:Q4
ABS	1,391.9	1,445.8		
Agency MBS	6,529.3	6,503.5		
Non-Agency RMBS	744.3	740.4		
Non-Agency CMBS	487.2	487.3		
Total	9,152.7	9,176.9		

2018:Q1	2018:Q2	2018:Q3	2018:Q4
1,199.2	1,330.4	1,363.6	1,462.7
5,674.9	6,049.5	6,173.7	6,339.8
631.4	673.0	702.4	711.0
419.1	450.1	459.3	464.9
7,924.5	8,502.9	8,699.0	8,978.4

Sources: Bloomberg (US & Europe), Fannie Mae (US), Federal Reserve (US), Freddie Mac (US), Ginnie Mae (US), Loan Performance (US), Dealogic (US), Macquarie (Australia), Refinitiv (US), AFME & SIFMA Estimates (US & Europe)

² Data not yet available for 3Q'19

€ BILLIONS

2.4 Outstandings by Country of Collateral: 2017-2018

	2018:Q1	2018:Q2	2018:Q3	2018:Q4
Austria	1.6	1.5	1.5	2.0
Belgium	60.7	57.8	56.7	60.9
Finland	1.4	1.3	1.2	1.8
France	101.0	102.4	105.7	106.1
Germany	55.5	54.7	46.9	63.6
Greece	18.9	18.7	18.6	18.5
Ireland	27.5	25.6	28.5	28.6
Italy	135.9	136.9	143.0	151.2
Netherlands	182.8	186.9	175.2	170.0
Portugal	27.2	27.6	25.8	27.4
Russia	1.8	1.6	1.5	3.1
Spain	162.9	159.8	154.4	153.1
Turkey	1.5	1.4	1.4	1.4
UK	303.4	306.9	308.5	321.4
Other	5.7	5.5	6.1	5.9
PanEurope	87.9	99.9	108.3	114.6
Multinational	14.8	13.3	12.9	12.3
European Total	1,190.4	1,202.0	1,196.3	1,241.7
Australia Total	58.7	58.8	56.7	58.4
US Total	7,924.5	8,502.9	8,699.0	8,978.4

	2017:Q1	2017:Q2	2017:Q3	2017:Q4
	1.8	1.7	1.7	1.6
	60.8	66.4	65.8	64.5
	1.3	1.2	1.1	1.6
	85.0	95.8	102.5	100.9
	75.9	73.5	73.6	76.0
	19.3	19.2	17.5	18.6
	30.3	27.4	26.3	28.6
	145.8	137.9	134.0	142.6
	201.1	194.4	179.0	173.1
	27.7	26.6	25.9	25.8
	1.4	1.4	1.1	1.9
	168.6	165.2	161.1	166.8
	1.1	1.1	1.1	1.3
	307.0	315.9	304.2	305.1
	5.2	4.7	5.1	5.3
	70.3	74.9	77.5	85.2
	27.0	24.2	20.7	18.3
	1,229.7	1,231.6	1,198.2	1,217.2
	61.3	59.7	61.1	62.6
	8,810.3	8,274.8	8,076.3	8,077.2

2019³

	2019:Q1	2019:Q2	2019:Q3	2019:Q4
Austria	1.9	1.9	1.7	
Belgium	63.6	63.7	61.6	
Finland	1.5	1.5	1.3	
France	104.6	119.7	115.8	
Germany	45.7	50.9	49.5	
Greece	18.4	18.4	17.3	
Ireland	26.6	27.4	25.8	
Italy	141.9	149.7	135.4	
Netherlands	163.4	170.8	162.4	
Portugal	24.2	24.2	20.8	
Russia	2.8	2.8	3.3	
Spain	146.1	148.9	139.8	
Turkey	1.4	1.4	1.3	
UK	316.2	324.0	314.5	
Other	5.5	5.6	7.3	
PanEurope	117.0	125.5	122.1	
Multinational	10.4	9.4	10.9	
European Total	1,191.3	1,246.0	1,190.7	
Australia Total	61.6	63.4	62.5	
US Total	9,152.7	9,176.9		

Sources: Bloomberg (US & Europe), Fannie Mae (US), Federal Reserve (US), Freddie Mac (US), Ginnie Mae (US), Loan Performance (US), Dealogic (US), Macquarie (Australia), Refinitiv (US), AFME & SIFMA Estimates (US & Europe)

³ US data not yet available for Q3 2019.

2.5 European Outstandings by Moody's Investors Service Ratings

(as a percentage of total Moody's rated securitisations)

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	2018:Q1	2018:Q2	2018:Q3	2018:Q4
Aaa/AAA	50.82%	51.84%	52.51%		49.38%	50.33%	50.16%	50.26%
Aa/AA	31.76%	31.17%	31.59%		29.81%	30.74%	30.94%	32.06%
A/A	9.95%	9.45%	8.57%		12.66%	11.15%	11.11%	9.99%
Baa/BBB	3.07%	3.67%	3.59%		3.41%	3.13%	2.99%	2.91%
Ba/BB	2.01%	1.62%	1.56%		1.95%	2.19%	2.28%	2.34%
B/B	1.28%	1.19%	1.13%		1.28%	1.20%	1.24%	1.28%
Caa/CCC	0.61%	0.60%	0.59%		0.93%	0.69%	0.69%	0.67%
Ca/CC	0.25%	0.25%	0.26%		0.33%	0.33%	0.33%	0.25%
C/C	0.24%	0.22%	0.21%		0.25%	0.25%	0.25%	0.24%
Total	100.00%	100.00%	100.01%		100.00%	100.00%	100.00%	100.00%

2.6 Australia Outstandings by S&P Global Ratings

(as a percentage of total S&P rated securitisations)

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	2018:Q1	2018:Q2	2018:Q3	2018:Q4
Aaa/AAA	87.01%	87.18%	87.31%		87.32%	87.23%	86.72%	86.89%
Aa/AA	5.50%	5.63%	5.43%		5.33%	5.44%	5.76%	5.59%
A/A	2.36%	2.27%	2.22%		2.50%	2.54%	2.59%	2.51%
Baa/BBB	1.03%	1.03%	1.02%		0.95%	1.00%	1.06%	1.07%
Ba/BB	0.56%	0.56%	0.55%		0.47%	0.51%	0.56%	0.58%
B/B	0.17%	0.19%	0.18%		0.21%	0.21%	0.23%	0.24%
Caa/CCC	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%	0.00%
Ca/CC	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%	0.00%
C/C	0.02%	0.02%	0.02%		0.02%	0.02%	0.02%	0.02%
D	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%	0.00%
NR	3.35%	3.12%	3.27%		3.21%	3.05%	3.05%	3.09%
Total	100.00%	100.00%	100.00%		100.00%	100.00%	100.00%	100.00%

2.7 US Outstandings by Moody's Investors Service Ratings

(as a percentage of total Moody's rated securitisations)

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	2018:Q1	2018:Q2	2018:Q3	2018:Q4
Aaa/AAA	39.43%	40.44%	40.93%		31.95%	32.35%	33.07%	38.46%
Aa/AA	5.31%	5.34%	5.32%		4.85%	4.78%	4.75%	5.24%
A/A	5.42%	5.39%	5.35%		5.57%	5.68%	5.66%	5.51%
Baa/BBB	6.61%	6.56%	6.56%		8.02%	8.07%	7.87%	6.73%
Ba/BB	4.19%	3.96%	3.81%		5.63%	5.45%	5.26%	4.29%
B/B	4.37%	4.38%	4.49%		5.26%	5.24%	5.16%	4.45%
Caa/CCC	17.10%	16.63%	16.36%		20.39%	20.43%	20.20%	17.45%
Ca/CC	11.11%	10.99%	10.97%		11.91%	11.79%	11.79%	11.21%
C/C	6.45%	6.32%	6.21%		6.42%	6.20%	6.25%	6.66%
Total	100.00%	100.00%	100.00%		100.00%	100.00%	100.00%	100.00%

Sources: Macquarie, Moody's Investors Service, S&P Global Ratings

€ BILLIONS

2.8 Australian Outstandings by Vintage

	2019:Q1	2019:Q2	2019:Q3	2019:Q4
2019	3.8	10.7	13.4	
2018	14.9	13.8	13.1	
2017	17.9	16.5	15.6	
2016	6.3	5.4	4.9	
2015	5.8	5.0	4.7	
2014	4.9	4.4	4.1	
2013	3.1	2.9	2.8	
2012	1.4	1.2	1.2	
2011	1.7	1.6	1.4	
2010	0.7	0.6	0.4	
2009	0.3	0.3	0.1	
2008	0.0	0.0	0.0	
2007	0.2	0.2	0.2	
2006	0.3	0.3	0.3	
2005	0.1	0.1	0.1	
2004	0.1	0.1	0.1	
2003	0.0	0.0	0.0	
Prior	0.0	0.0	0.0	
Total	61.5	63.1	62.2	

2018:Q1	2018:Q2	2018:Q3	2018:Q4
N/A	N/A	N/A	N/A
2.9	6.0	8.9	14.3
22.5	21.5	20.0	18.2
8.5	8.0	7.3	6.6
7.7	7.2	6.7	6.1
6.7	6.1	5.7	5.0
4.1	3.9	3.5	3.2
1.7	1.6	1.5	1.4
2.2	2.1	1.9	1.7
1.1	1.0	0.9	0.7
0.4	0.4	0.4	0.3
0.0	0.0	0.0	0.0
0.2	0.2	0.2	0.2
0.4	0.3	0.3	0.3
0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1
58.7	58.7	57.7	58.3

2.9 European Outstandings by Vintage

	2019:Q1	2019:Q2	2019:Q3	2019:Q4
2019	16.6	77.3	121.6	
2018	247.0	245.6	233.3	
2017	184.9	185.0	168.6	
2016	150.2	150.2	127.4	
2015	84.6	84.5	73.5	
2014	72.2	72.2	56.2	
2013	36.9	37.6	31.8	
2012	20.7	20.7	17.5	
2011	26.6	25.1	26.0	
2010	80.2	80.2	76.9	
Prior	271.6	267.7	257.8	
Total	1,191.3	1,246.0	1,190.7	

2018:Q1	2018:Q2	2018:Q3	2018:Q4
N/A	N/A	N/A	N/A
56.3	120.9	171.8	276.2
215.3	209.3	201.1	192.4
186.2	177.7	166.2	155.7
110.3	102.9	95.0	88.3
94.7	90.7	82.7	80.5
57.9	55.6	49.9	41.7
32.3	30.1	28.9	20.1
31.4	30.5	29.1	27.6
89.9	84.1	83.0	80.6
316.1	300.3	288.7	278.6
1,189.0	1,199.3	1,193.5	1,238.9

Sources: Bloomberg, Macquarie, AFME, SIFMA

€ BILLIONS

2.10 European Outstandings by Country and Collateral:

2Q 2019

	ABS	CDO/CLO	CMBS	RMBS	SME	WBS/PFI	TOTAL
Austria	0.8			1.1			1.9
Belgium	0.4		0.1	41.6	21.6		63.7
Finland	1.0					0.5	1.5
France	22.2	0.07	0.2	97.3	0.0		119.7
Germany	40.9	0.2	1.0	2.9	5.8	0.0	50.9
Greece	8.4	1.8	0.2	1.1	6.9		18.4
Ireland	0.72		0.4	26.1	0.19		27.4
Italy	68.2	0.5	3.3	57.0	20.3	0.3	149.7
Netherlands	2.0		0.8	168.0			170.8
Portugal	3.3		0.53	16.3	4.0		24.2
Russia				2.8			2.8
Spain	24.0	0.2	0.3	109.5	14.9		148.9
Turkey	1.4						1.4
UK	53.9	5.6	39.1	159.3	5.8	60.4	324.0
Other	4.1	0.2	0.14	0.7	0.46		5.6
PanEurope	1.1	119.8	4.0	0.1	0.3	0.1	125.5
Multinational	0.1	8.9				0.4	9.4
European Total	232.6	137.3	50.2	683.9	80.3	61.7	1246.0

3Q 2019

	ABS	CDO/CLO	CMBS	RMBS	SME	WBS/PFI	TOTAL
Austria	0.65			1.07			1.72
Belgium	0.21		0.09	40.18	21.14		61.62
Finland	0.76					0.50	1.26
France	21.05	0.13	2.50	92.12	0.00		115.79
Germany	39.79	0.30	0.93	2.87	5.62	0.02	49.53
Greece	7.79	1.75		1.01	6.79		17.34
Ireland	1.18	0.05	0.37	24.05	0.19		25.83
Italy	61.11	0.52	2.49	52.58	18.37	0.33	135.39
Netherlands	1.30	0.18	0.76	160.15			162.39
Portugal	3.35		0.44	13.07	3.98		20.83
Russia				3.26	0.00		3.26
Spain	22.46	0.22	0.71	103.32	13.08		139.79
Turkey	1.26			0.00			1.26
UK	51.32	7.09	40.27	150.44	4.59	60.75	314.46
Other	4.22	0.27	0.13	2.25	0.40		7.27
PanEurope	1.21	117.23	3.38	0.11	0.03	0.13	122.08
Multinational	0.22	9.98	0.34			0.36	10.90
European Total	217.89	137.72	52.39	646.47	74.19	62.08	1190.73

Sources: Bloomberg, AFME, SIFMA

3 Credit Quality – Rating Changes

Upgrades/Downgrades by Country

3.1 DBRS

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
France	1/0	1/0	3/0		5/0
Germany	6/0	3/0	5/0		14/0
Italy	11/2	20/0	22/1		53/3
Netherlands	1/0	16/0	1/0		18/0
Spain	6/0	23/0	5/0		34/0
UK	2/2	2/0	8/0		12/2
Multinational	3/0	6/0	6/0		15/0
European Total	30/4	71/0	50/1		151/5
US	433/16	575/14	701/6		1709/36

	2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
France	1/0	3/0	6/2	16/2	26/4
Germany	15/0	1/0	8/0	3/0	27/0
Italy	12/0	19/9	21/1	13/0	65/10
Netherlands	4/0	6/0	0/0	0/0	10/0
Spain	4/0	49/0	1/0	31/0	85/0
UK	1/1	1/21	1/0	16/1	19/23
Multinational	12/0	7/0	6/0	6/1	31/1
European Total	49/1	86/30	43/3	85/4	263/38
US	480/23	442/16	364/8	277/2	1563/49

3.2 Fitch Ratings⁴

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
France	0/0	4/9			4/9
Germany	0/1	2/0			2/1
Italy	12/0	1/2			13/2
Netherlands	11/6	3/0			14/6
Spain	66/2	19/1			85/3
UK	79/4	27/4			106/8
Multinational	0/0	7/0			7/0
European Total	187/14	64/17			251/31
US	2,684/351	1,079/146			3763/497

	2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
France	3/3	4/7	4/0	4/0	15/10
Germany	3/4	2/3	0/0	4/2	9/9
Italy	26/0	18/4	1/0	8/0	53/4
Netherlands	46/6	4/0	4/0	8/9	62/15
Spain	137/8	83/5	18/0	51/7	289/20
UK	39/3	21/15	70/3	56/4	186/25
Multinational	0/0	0/0	4/0	0/0	4/0
European Total	279/28	164/34	107/134	151/151	701/347
US	847/260	1184/732	473/61	453/137	2957/1190

3.3 Moody's Investors Service

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
France	5/0	5/1	5/1		15/2
Germany	1/0	6/0	7/1		14/1
Italy	1/71	3/71	6/72		10/214
Netherlands	0/0	9/1	13/1		22/2
Spain	18/5	31/8	31/8		80/21
UK	17/2	26/2	47/3		90/7
Multinational	49/3	12/0	22/0		41/0
European Total	91/79	136/85	183/89		410/253
US	773/164	1131/221	1279/258		3183/643

	2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
France	0/0	0/0	1/0	0/0	1/0
Germany	0/0	4/1	4/0	0/0	8/1
Italy	4/0	0/0	1/0	1/70	6/70
Netherlands	2/3	0/0	5/0	0/0	7/3
Spain	0/0	151/0	7/2	17/0	175/2
UK	24/1	7/3	0/12	9/1	40/17
Multinational	13/1	10/0	12/1	5/0	23/0
European Total	72/8	172/4	30/15	6/71	280/98
US	568/86	518/68	360/130	453/110	1899/394

3.4 S&P Global Ratings

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
France	2/0	1/0	2/0		5/0
Germany	0/0	8/0	1/0		9/0
Italy	0/0	29/4	14/0		43/4
Netherlands	4/0	3/0	4/0		11/0
Spain	0/0	64/0	12/0		76/0
UK	0/0	14/0	136/0		150/0
Multinational	1/4	2/1	4/9		7/14
European Total	7/4	121/5	173/9		301/18
US	208/237	212/170	227/171		647/578

	2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
France	0/0	1/0	0/0	13/0	14/0
Germany	0/0	5/0	2/0	1/1	8/1
Italy	9/1	0/0	2/0	0/0	11/1
Netherlands	3/5	1/0	2/1	0/0	6/6
Spain	22/3	134/0	51/5	2/0	209/8
UK	39/4	33/8	32/0	17/1	121/13
Multinational	7/2	8/11	21/11	2/9	38/33
European Total	80/15	182/19	110/17	35/11	407/62
US	857/241	793/1141	496/326	377/178	2523/1886

Sources: DBRS, Fitch Ratings, Moody's Investors Service, S&P Global Ratings

⁴ Data not yet available for Q3 2019.

Upgrades/Downgrades by Collateral

3.5 DBRS - Europe

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
Auto	6/2	5 / 0	14 / 0		25/2
CDO	8/0	8 / 0	5 / 0		21/0
CMBS	3/0	0 / 0	0 / 0		3/0
Credit Card	5/0	7 / 0	12 / 0		24/0
RMBS (prime)	6/2	41 / 0	9 / 1		56/3
RMBS (non-prime)	0/0	7 / 0	6 / 0		13/0
Other ABS	2/0	3 / 0	4 / 0		9/0
Total	30/4	71 / 0	50 / 1		151/5

	2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
Auto	8/0	4/26	13/0	3/0	28/26
CDO	5/0	5/4	7/0	13/0	30/4
CMBS	16/1	1/0	1/0	0/1	18/2
Credit Card	1/0	15/0	6/2	14/0	36/2
RMBS (prime)	15/0	23/0	13/1	31/0	82/1
RMBS (non-prime)	1/0	2/0	3/0	21/0	27/0
Other ABS	2/0	36/0	0/0	3/3	41/3
Total	48/1	86/30	43/3	85/4	262/38

3.6 Fitch Ratings - Europe⁵

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
Auto	2/0	1/9			3/9
Credit Card	0/0	0/0			0/0
Other ABS ²	1/0	5/3			6/3
CDO	14/1	12/1			26/2
CMBS	0/1	2/4			2/5
RMBS (prime)	80/10	23/0			103/10
RMBS (non-conforming)	71/2	14/0			85/2
Other RMBS	19/0	7/0			26/0
Total	187/14	64/17			251/31

	2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
Auto	2/0	12/1	5/2	3/0	22/3
Credit Card	0/0	3/0	0/0	0/0	3/0
Other ABS ²	33/0	7/0	11/128	7/129	58/257
CDO	14/1	16/2	49/3	16/3	95/6
CMBS	0/6	7/3	0/1	9/4	16/14
RMBS (prime)	178/17	106/8	17/0	85/15	386/40
RMBS (non-conforming)	42/4	11/0	15/0	25/0	93/4
Other RMBS	10/0	2/0	10/0	6/0	28/0
Total	279/28	164/34	107/134	151/151	701/347

3.7 Moody's Investors Service - Europe

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
Auto	1/4	11 / 6	11 / 6		23/16
CDO	7/0	12 / 0	22 / 0		41/0
CMBS	1/1	8 / 1	11 / 3		20/5
Credit Card	0/0	0 / 0	1 / 0		1/0
RMBS (prime)	67/64	88 / 68	108 / 70		263/202
RMBS (non-conforming)	15/10	17 / 10	30 / 10		62/30
Total	91/79	136 / 85	183 / 89		410/253

	2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
Auto	0/1	7/0	11/1	0/4	18/6
CDO	10/0	5/0	3/0	5/0	23/0
CMBS	0/1	1/2	0/12	1/0	2/15
Credit Card	0/0	0/0	0/0	0/0	0/0
RMBS (prime)	43/4	143/0	11/2	38/58	235/64
RMBS (non-conforming)	19/2	16/2	5/0	6/9	46/13
Total	72/8	172/4	30/15	50/71	324/98

3.8 S&P Global Ratings - Europe

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
Auto	0/0	2/0	5/0		7/0
CDO	3/4	2/1	4/9		9/14
CMBS	0/0	0/4	6/0		6/4
Credit Card	0/0	1/0	0/0		1/0
RMBS (prime)	0/0	102/0	34/0		136/0
RMBS (subprime / non-conforming)	4/0	14/0	124/0		142/0
Total	7/4	121/5	173/9		301/18

	2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
Auto	2/0	12/0	2/0	2/0	18/0
CDO	7/3	8/7	25/4	16/9	56/23
CMBS	0/4	9/12	0/7	2/2	11/25
Credit Card	0/0	0/0	0/0	0/0	0/0
RMBS (prime)	33/3	128/0	53/6	2/0	216/9
RMBS (subprime / non-conforming)	38/5	25/0	30/0	13/0	106/5
Total	80/15	182/19	110/17	35/11	407/62

Sources: DBRS, Fitch Ratings, Moody's Investors Service, S&P Global Ratings

⁵ The European totals may not match the constituent parts as a small number of European RMBS transactions are not categorised as either Prime or Non-conforming. Data not yet available for Q3 2019.

Upgrades/Downgrades by Collateral

3.9 DBRS - US

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
Auto	78/0	33 / 2	52 / 0		163/2
CDO	13/3	10 / 0	13 / 1		36/4
CMBS	100/10	23 / 3	6 / 5		129/18
Credit Card	2/0	1 / 0	20 / 0		23/0
RMBS	222/3	486 / 9	599 / 0		1307/12
Other ABS	18/0	22 / 0	11 / 0		51/0
Total	433/16	575 / 14	701 / 6		1709/36

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
112/1	30/0	48/0	38/0	228/1
12/0	15/0	3/0	42/1	72/1
18/3	15/13	16/7	34/0	83/23
26/0	1/0	3/0	13/0	43/0
302/19	299/3	272/0	134/0	1007/22
10/0	82/0	22/1	16/1	130/2
480/23	442/16	364/8	277/2	1563/49

3.10 Fitch Ratings - US⁶

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
Auto	25/0	40/0			65/0
Credit Card	1/0	0/0			1/0
Other ABS	11/3	10/0			21/3
CDO	12/21	55/11			67/32
CMBS	61/51	28/62			89/113
RMBS (prime)	344/120	0/0			344/120
RMBS (subprime)	1,467/46	17/6			1484/52
Other RMBS	763/110	929/67			1692/177
Total	2,684/351	1,079/146			3763/418

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
24/0	33/0	34/0	28/0	119/0
0/0	0/0	0/0	0/0	0/0
14/34	6/0	19/0	10/39	49/73
24/10	57/29	29/4	14/2	124/45
44/55	102/46	31/42	53/29	230/172
91/0	98/380	56/4	2/0	247/384
15/9	544/140	0/0	28/4	587/153
635/152	344/137	304/11	318/63	1601/363
847/260	1184/732	473/61	453/137	2957/1190

3.11 Moody's Investors Service - US

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
Auto	68/0	139 / 0	179 / 0		386/0
CDO	51/42	81 / 52	104 / 58		236/152
CMBS	62/33	81 / 49	99 / 59		242/141
Credit Card	0/0	0 / 0	7 / 0		7/0
RMBS	592/89	829 / 120	890 / 141		2311/350
Total	773/164	1130 / 221	1279 / 258		3182/643

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
41/0	22/0	54/0	56/0	173/0
18/6	14/8	16/6	19/36	67/56
42/17	28/12	31/9	21/20	122/58
0/0	0/0	0/0	0/0	0/0
467/63	454/48	259/115	453/54	1633/280
568/86	518/68	360/130	549/110	1995/394

3.12 S&P Global Ratings - US

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
Auto	108/1	83/0	77/4		268/5
CDO	41/14	1/2	24/19		66/35
CMBS	29/48	31/21	9/24		69/93
Credit Card	0/0	0/0	0/0		0/0
RMBS (prime)	16/91	33/37	41/71		90/199
RMBS (subprime / nonconforming)	14/83	64/110	76/53		154/246
Total	208/237	212/170	227/171		647/578

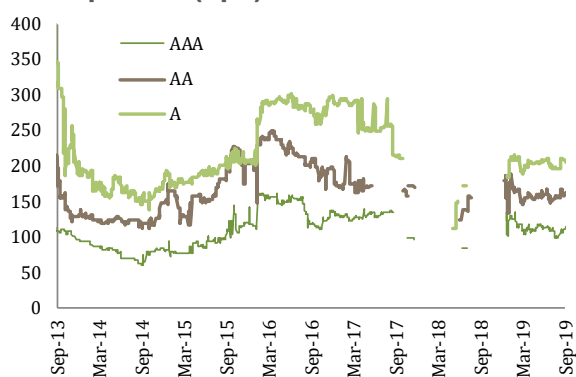
2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
67/0	115/0	47/1	115/1	344/2
16/6	24/5	17/9	29/13	86/33
24/33	50/36	29/13	51/17	154/99
0/0	17/0	0/0	0/0	17/0
284/120	143/117	207/191	90/82	724/510
466/82	444/983	196/112	92/65	1198/1242
857/241	793/1141	496/326	377/178	2523/1886

Sources: DBRS, Fitch Ratings, Moody's Investors Service, S&P Global Ratings

⁶ Data not yet available for Q3 2019.

4 CMBS Spreads

4.1 European 3-5 Yr AAA, AA, A CMBS Spreads (bps)



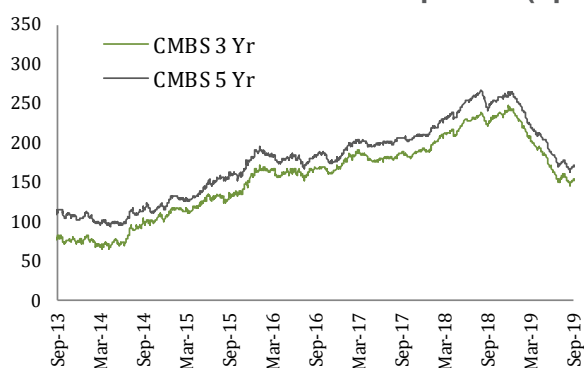
Sources: IHS Markit

4.2 European 3-5 Yr BBB CMBS Spreads (bps)



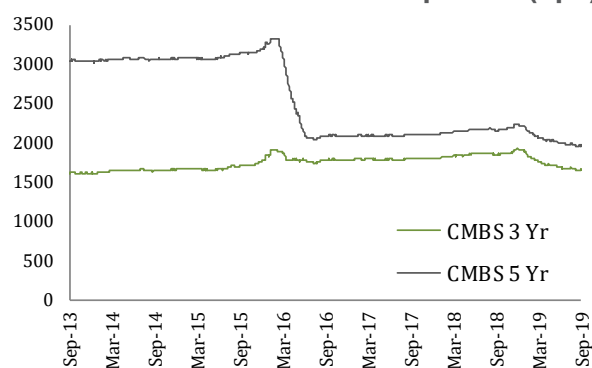
Sources: IHS Markit.

4.3 US 3 & 5 Yr AAA CMBS Spreads (bps)



Sources: Trepp LLC

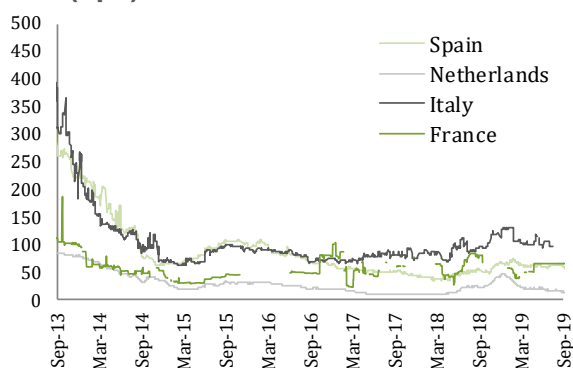
4.4 US 3 & 5 Yr BBB CMBS Spreads (bps)



Sources: Trepp LLC

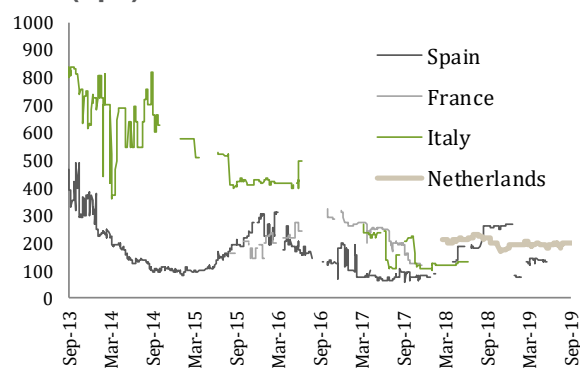
5 RMBS Spreads

5.1 European 3-5 Yr AAA RMBS Spreads (bps)



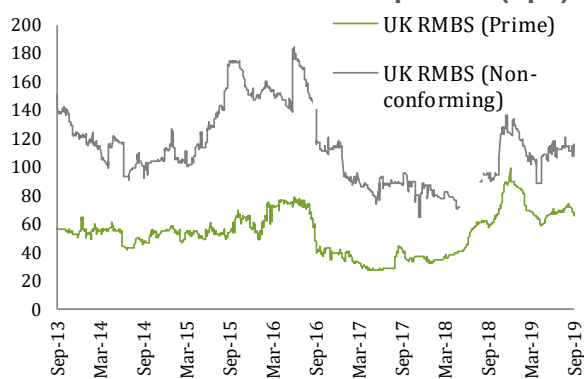
Sources: IHS Markit

5.2 European 3-5 Yr BBB RMBS Spreads (bps)



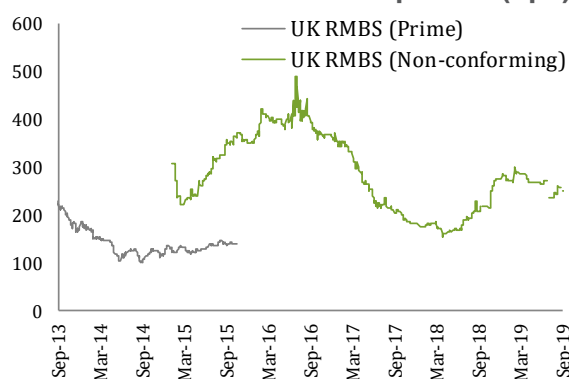
Sources: IHS Markit

5.3 UK 3-5 Yr AAA RMBS Spreads (bps)



Sources: IHS Markit

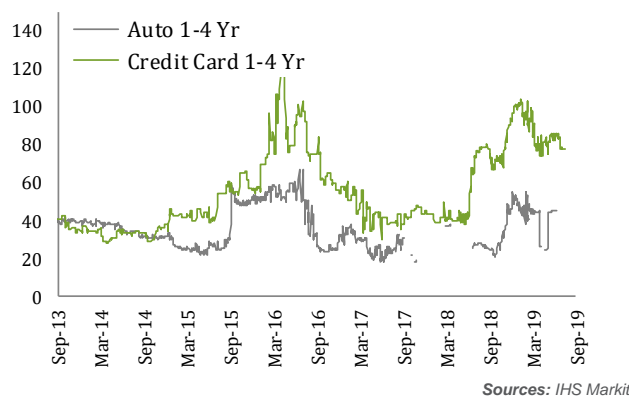
5.4 UK 3-5 Yr BBB RMBS Spreads (bps)



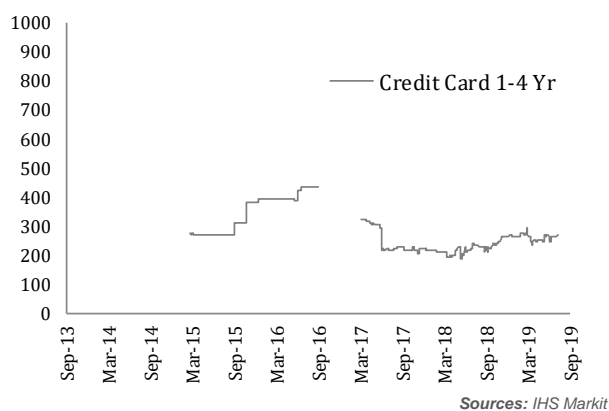
Sources: IHS Markit

6 ABS Spreads

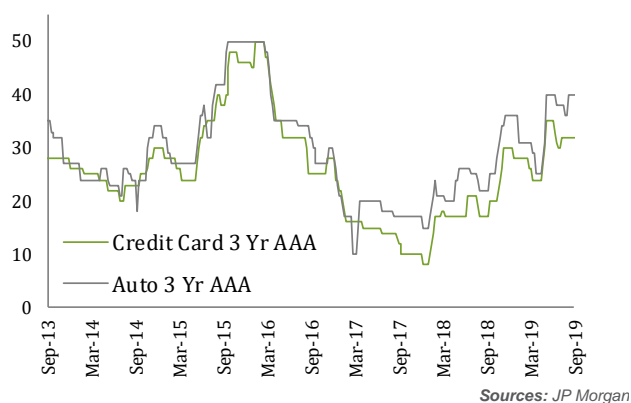
6.1 European 1-4 Yr AAA ABS Spreads (bps)



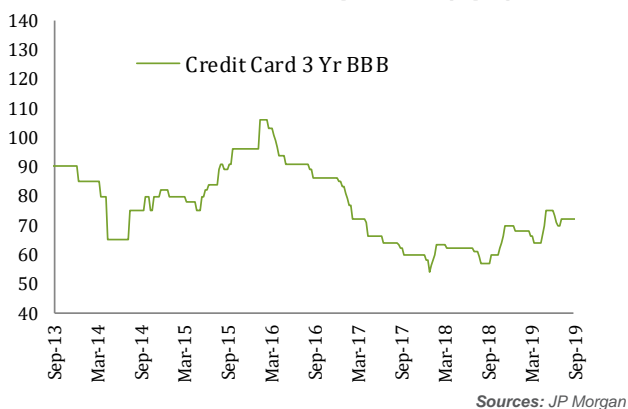
6.2 European 1-4 Yr BBB Spreads (bps)



6.3 US 3 Yr AAA ABS Spreads (bps)

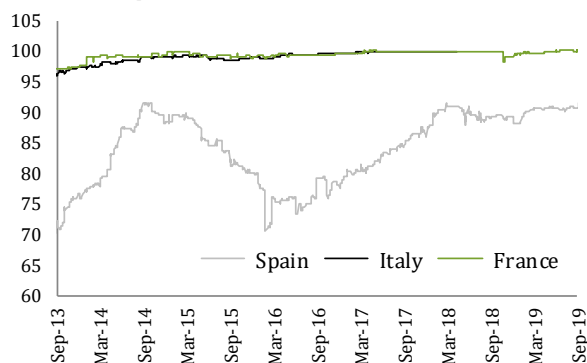


6.4 US 3 Yr BBB ABS Spreads (bps)



7 RMBS Prices

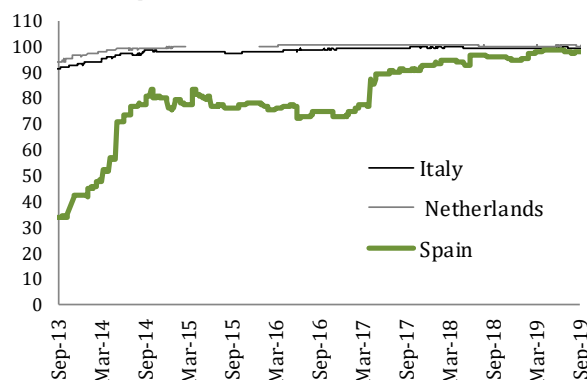
7.1 European 3-5 Yr AAA RMBS Prices



Sources: IHS Markit

1. Spanish AAA RMBS provided: IM Pastor 3, Fondo de Titulizacion Hipotecaria, Class A, Series 3. ISIN# ES0347862007. EUR-denominated.
2. Italian AAA RMBS provided: Vela Home S.r.l. 3, Class A, Series 3. ISIN# IT0003933998. EUR-denominated.
3. French AAA RMBS provided: FCC Loggias Compartment 2003, Class A, Series 1. ISIN# FR0010029231. EUR-denominated.

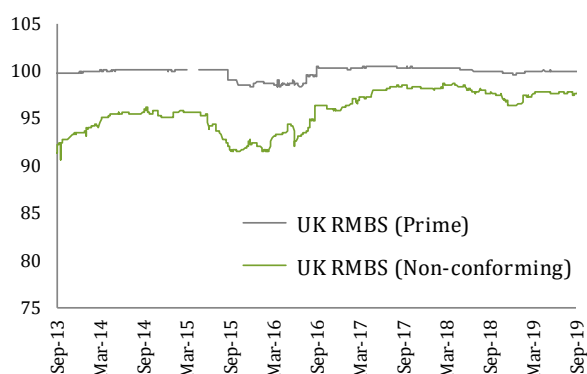
7.2 European 3-5 Yr BBB RMBS Prices



Sources: IHS Markit

1. Dutch BBB RMBS provided: Holland Mortgage-Backed Securities (HERMES) X B.V., Class C, Series 10. ISIN# XS0228806831. EUR-denominated. From 2016 onwards: Storm 2016-I B.V., Class A2, Series 2016-I, ISIN# XS1336738221.
2. Italian BBB RMBS provided: Vela Home S.r.l. 4, Class A2, Series 4, ISIN# IT0004102007. EUR-denominated.
3. Spanish BBB RMBS provided: Tarragona 2007-1 C (TARRA 2007-1 C) ISIN # ES0347566004. EUR denominated

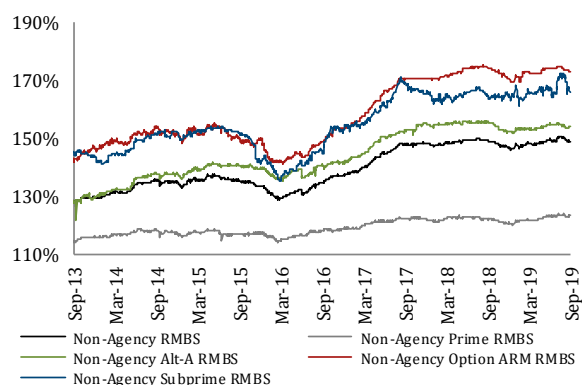
7.3 UK 3-5 Yr AAA RMBS Prices



Sources: IHS Markit

1. UK AAA prime RMBS provided: Gosforth Funding 2015-1 plc, A2, 2015-1. ISIN#: XS1234353032. GBP-denominated.
2. UK AAA non-conforming RMBS provided: Great Hall Mortgages No1 plc, 2007-02, Aa, GBP-denominated. ISIN#: XS0308354504

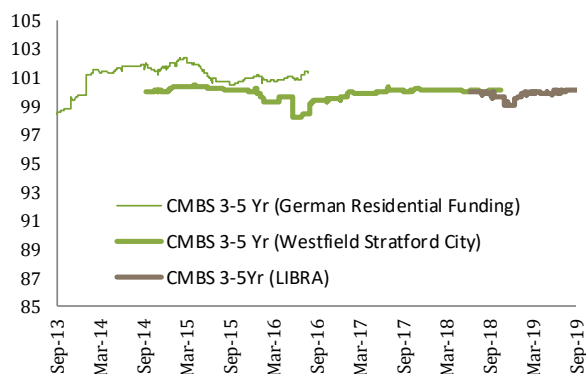
7.4 Markit RMBS iBoxx



Sources: IHS Markit

8 CMBS and ABS Prices

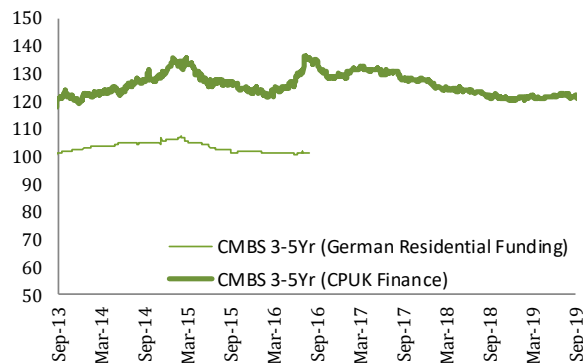
8.1 Pan-European 3-5 Yr AAA CMBS Prices



Sources: IHS Markit

1. Pan-European AAA CMBS provided: German Residential Funding, Class A, Series 2013-1. ISIN# XS0944452563 (paid off in 2H 16, kept in the chart for reference), EUR-denominated. Westfield Stratford City Finance PLC, WSCF14 1 Note, GBP-denominated, ISIN# XS1093970751 (paid off in 2H 18, kept in the chart for reference). LIBRA (EUROPEAN LOAN CONDUIT NO. 31) DAC, ISIN XS1844171204, EUR-denominated

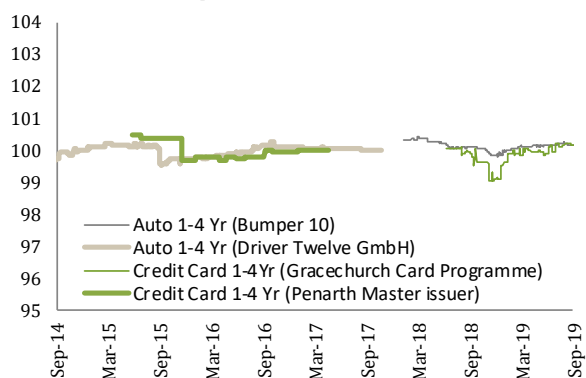
8.2 Pan-European 3-5 Yr BBB CMBS Prices



Sources: IHS Markit

1. Pan-European BBB CMBS provided: German Residential Funding, Class D, Series 2013-1. ISIN# XS0944454858 (paid off in 2H 16, kept in the chart for reference). EUR-denominated, and CPIUK Finance Limited, Class A2, GBP-denominated, ISIN# XS0749350798.

8.3 Pan-European 1-4 AAA ABS Prices

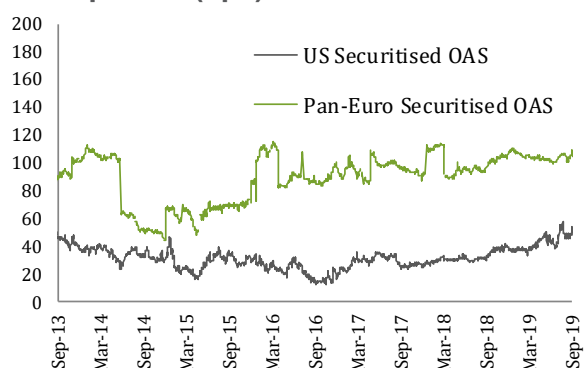


Sources: IHS Markit

1. Pan-European AAA Auto ABS provided: Bumper 10 Class A, EUR denominated ISIN: FR0013313145 and Driver Twelve GmbH, DRV12 12 A, Class A, Series 12. EUR denominated, ISIN# XS1055190950.
2. Pan-European AAA Credit Card ABS provided: Purple Master Credit Cards Note Series 2018-1, ISIN: FR0013358603 and Penarth Master Issuer PLC Series 2015-2, Class A1, ISIN# XS1237348823.

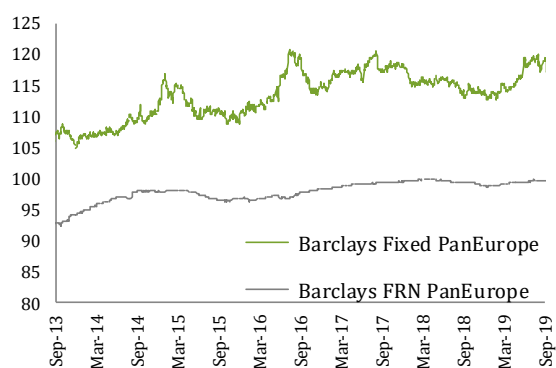
9 Indices Data

9.1 Securitised Index Option-Adjusted Spreads (bps)



Sources: Barclays Capital

9.2 Barclays PanEurope Fixed and Floating Prices



Sources: Barclays Capital

9.3 Australia AAA (tranche margin for WAL >1.9 & 2.1 yrs) (bps)



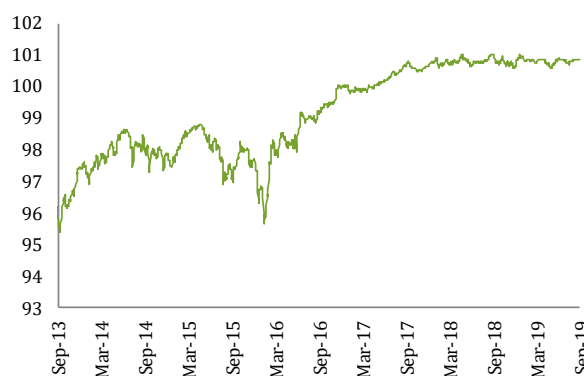
Sources: Macquarie

9.4 Australia AA (tranche margin for WAL >4.75 & 5.3 yrs) (bps)



Sources: Macquarie

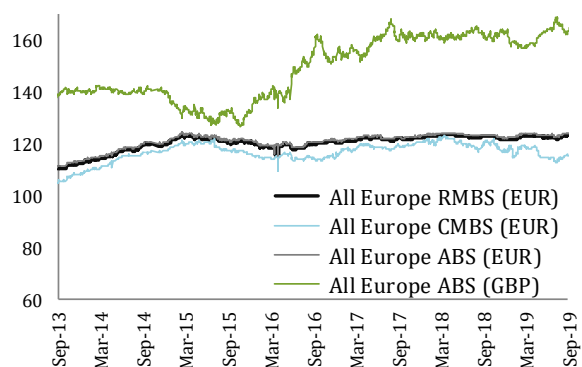
9.5 CMBX 6 AAA Prices



Sources: IHS Markit

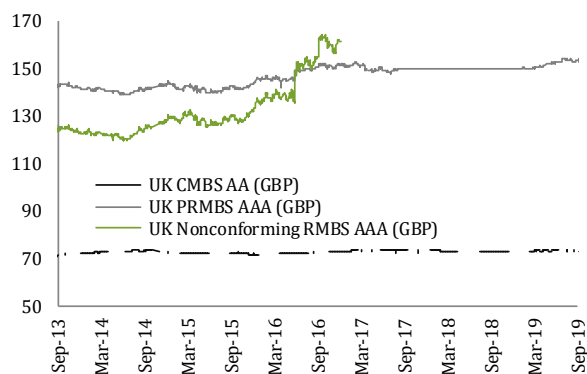
10 Total Return Benchmark Data

10.1 European Total Return



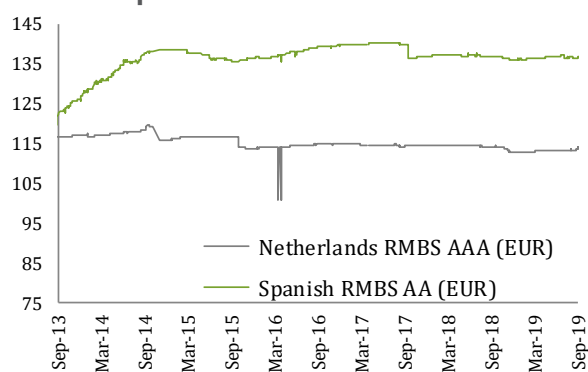
Sources: IHS Markit

10.2 UK Total Return



Sources: IHS Markit. Benchmark price not available for 2017 onwards for UK nonconforming RMBS AAA

10.3 Europe ex UK RMBS AAA



Sources: IHS Markit

11 Asset-Backed Commercial Paper⁷

€ BILLIONS

11.1 European ABCP Historical Issuance

	Q1	Q2	Q3	Q4	TOTAL
2010	32.1	35.7	38.8	38.8	145.4
2011	35.4	38.6	56.7	100.0	230.7
2012	117.0	106.1	80.3	53.8	357.2
2013	45.4	50.2	54.0	38.1	187.7
2014	53.9	62.6	68.7	81.8	267.2
2015	82.3	102.9	100.1	114.3	399.5
2016	95.8	120.1	135.8	94.1	445.9
2017	82.3	68.4	67.2	75.0	293.1
2018	68.2	109.4	129.1	97.6	404.3
2019	158.5	149.9			308.4

11.2 European ABCP Issuance by Nationality of Issuer

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
France	108.4	102.0			210.4
Germany	2.1	0.0			2.1
Ireland	44.6	44.1			88.8
Luxembourg	3.3	3.7			7.0
UK					0.0
Total	158.5	149.9			308.4

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
56.2	70.6	84.5	67.8	279.1
4.7	4.5	3.0	1.5	13.7
3.3	30.4	37.7	25.5	97.0
4.0	3.9	3.9	2.7	14.5
				0.0
68.2	109.4	129.1	97.6	404.3

11.3 European ABCP Issuance by Programme Type

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
Hybrid	0.9	0.0			0.9
Multi-Seller Conduits	157.1	149.0			306.1
Unspecified	0.5	0.9			1.4
Total	158.5	149.9			308.4

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
0.8	0.8	0.6	0.5	2.6
66.5	108.1	127.9	97.1	399.6
1.0	0.5	0.6	0.1	2.2
68.2	109.4	129.1	97.6	404.3

11.4 ABCP Outstandings by Nationality of Issuer⁸

	2019:Q1	2019:Q2	2019:Q3	2019:Q4
France	11.7	11.3		
Germany	0.9	0.0		
Ireland	6.7	7.3		
Luxembourg	1.2	1.3		
UK				
European Total	20.4	19.9		
US Total	229.5			

2018:Q1	2018:Q2	2018:Q3	2018:Q4
9.6	9.1	8.8	8.0
1.6	1.3	1.1	0.7
3.4	6.1	5.9	5.1
1.7	1.4	1.3	1.3
16.4	17.9	17.0	15.3
215.2	216.7	213.1	213.1

Sources: Dealogic, Moody's Investors Service

⁷ Data not yet available for Q3 2019.⁸ US data not yet available for Q2 2019.

11.5 European ABCP Outstandings by Programme Type

	2019:Q1	2019:Q2	2019:Q3	2019:Q4
Hybrid	0.8	0.0		
Multi-Seller	19.5	19.1		
Unspecified	0.1	0.8		
Total	20.4	19.9		

2018:Q1	2018:Q2	2018:Q3	2018:Q4
0.8	0.7	0.5	0.5
14.9	16.7	16.1	14.4
0.7	0.5	0.5	0.4
16.4	17.9	17.0	15.3

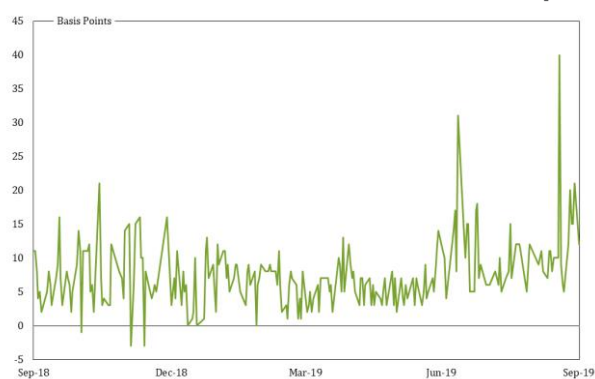
11.6 US ABCP Outstandings by Programme Type⁹

	2019:Q1	2019:Q2	2019:Q3	2019:Q4
Loan-Backed				
SIVs				
Single-Seller	6.9	7.5		
Multi-Seller	164.9	201.5		
Other	42.1	49.7		
Total	213.8	258.6		

2018:Q1	2018:Q2	2018:Q3	2018:Q4
7.8	7.9	7.6	7.3
165.9	167.0	165.7	176.4
41.5	41.7	39.8	41.9
215.2	216.7	213.1	213.1

Sources: Dealogic, Moody's Investors Service

11.7 US ABCP to AA Non-financial CP Spread



Sources: US Federal Reserve

⁹ Data not yet available for Q3 2019.

12 Global Comparative Data

€ BILLIONS

12.1 Global High-Grade Corporate Bond Issuance

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
US	209.1	186.7	220.7		616.5
Europe	196.9	170.8	164.0		531.7
Asia	272.1	272.8	325.5		870.4
Total	678.1	630.3	710.2		2018.6

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
192.6	171.8	144.0	118.2	626.6
200.4	174.7	157.1	97.0	629.3
213.6	234.3	271.6	281.1	1000.6
606.6	580.8	572.7	496.3	2256.5

12.2 Global Government Bond Issuance

	2019:Q1	2019:Q2	2019:Q3	2019:Q4	TOTAL
US	63.1	76.0	97.8		236.9
Europe	227.1	107.8	90.5		425.4
Asia	42.3	49.0	37.5		128.8
Total	332.4	232.9	225.8		791.1

2018:Q1	2018:Q2	2018:Q3	2018:Q4	TOTAL
53.1	48.3	41.9	49.3	192.6
185.5	107.3	74.8	81.1	448.8
43.5	41.6	47.4	45.8	178.3
282.1	197.2	164.1	176.3	819.6

Summary of the Methodologies Adopted for this Report

1. Issuance

1.1. – 1.2. European, Australian, and US Historical Issuance

The tables covering historical issuance in Europe and the US are denominated in EUR billions. Historical issuance volumes are calculated by adding all transactions in different asset classes including, among others, asset-backed securities (ABS), collateralised debt obligations/collateralised loan obligations (CDOs/CLOs), commercial mortgage-backed securities (CMBS), and residential mortgage-backed securities (RMBS). Please note that numbers may not add due to independent rounding and that historical or prior period numbers are revised to reflect changes in classification, refined selection methodology, or information submitted to our data sources after the prior period cut-off dates.

Australian data are contributed by Macquarie.

1.3. -1.6. Issuance by Collateral

The European issuance volumes are determined based on the review of several data sources: Bloomberg, JP Morgan, Refinitiv, and UniCredit starting from Q1 2009; and Deutsche Bank starting from Q1 2010; Citigroup from Q2 2010; and Dealogic from Q1 2011. In prior quarters our sources were Bloomberg, JP Morgan, Merrill Lynch, RBS, and Refinitiv. RMBS, CMBS and ABS are defined as European by having underlying assets located in a European country. European securities included in the calculation are the ones for which there is a specific match in terms of size, name, country of collateral and collateral type from at least two sources. Securities that fail to meet these criteria are excluded. With respect to CDOs/CLOs, securities are designated as European if they are issued in any European currency, regardless of their country of collateral. A substantial percentage of CDOs/CLOs are backed by multi-jurisdictional collateral. Historical CDO/CLO issuance totals have been revised due to periodic updates of the sector.

European ABS issuance includes auto, credit card, leases, loans, receivables and other.

European whole business securitisation ("WBS") are securitisations where cashflows derive from the whole operating revenues generated by an entire business or segmented part of a larger business. Certain WBS deals may be bucketed in the ABS or CMBS class based on deal specifics. As of 2013 Q4, certain public finance initiatives ("PFI") have been

moved from ABS to WBS and the category renamed "PFI/WBS".

Placed and retained European issuance collateral are sourced from AFME and/or SIFMA dealer member research, Dealogic, Bloomberg, and Refinitiv. Placed issuance includes all tranches placed in the public market, private placements, and preplacements. Partial issuance of a tranche is considered to be placed if half or more by euro amount of the tranche is reported placed. Placed and retained issuance will not retroactively consider securities originally issued retained and then placed in the marketplace, and are estimates.

The US non-agency RMBS, CMBS, ABS and CDO/CLO issuance data sources are Bloomberg, Dealogic and Refinitiv. Agency mortgage-backed securities (MBS) are defined as securities issued by Fannie Mae, Freddie Mac, and Ginnie Mae and are acquired from company statements. US issuance data are generally based on the sum of securities with US collateral; agency issuance numbers do not include securitisations of existing agency securities. US CDO/CLO data are defined as USD-denominated CDOs/CLOs regardless of the country of collateral.

Australian securitisation volumes are contributed by Macquarie.

The US and Australia issuance data are converted to Euros based on the exchange rate at each quarter-end indicated below.

Quarter	USD to EUR	AUD to EUR
Q3 2016	0.8901	0.6813
Q4 2016	0.9506	0.6843
Q1 2017	0.9385	0.7160
Q2 2017	0.8752	0.6727
Q3 2017	0.8464	0.6631
Q4 2017	0.8330	0.6506
Q1 2018	0.8114	0.6235
Q2 2018	0.8558	0.6337
Q3 2018	0.8617	0.6224
Q4 2018	0.8722	0.6147
Q1 2019	0.8194	0.6326
Q2 2019	0.8793	0.6172
Q3 2019	0.9176	0.6193

These same conversion rates, sourced from Bloomberg, are used on all US issuance and outstanding volume data.

US ABS issuance includes auto, credit card, home equity, student loan, equipment leases, manufactured housing, and other. Historical ABS issuance totals have been revised due to periodic updates of the sector.

US CDO issuance numbers only include US-denominated issuance regardless of the country of collateral and may include European transactions which are denominated in US dollars. Historical CDO issuance totals have been revised due to periodic updates of the sector.

1.7. Issuance by Country of Collateral

The tables covering issuance in the US and Europe are presented in EUR billions. For Europe the information is segmented by country of collateral.

The European issuance is segmented by country to the extent that a determination can be made. Securities with the underlying collateral originating from more than one jurisdiction are categorised as Multinational. Almost all CDOs/CLOs are classified under this Multinational group due to the complexity involved in identifying origin of collateral for each specific tranche. The European issuance volumes are determined based on the review of multiple data sources: Deutsche Bank and Bank of America-Merrill Lynch as of Q1 2010, Bloomberg, JP Morgan, Refinitiv and UniCredit starting from Q1 2009; and RBS starting from Q3 2009. In prior quarters the sources were Bloomberg, JP Morgan, Refinitiv and Merrill Lynch.

US CDO/CLO data are defined as USD-denominated issues regardless of country of collateral.

Other includes countries with outstanding securities that are too small to be displayed, such as Georgia, Iceland, Ukraine, Switzerland, Sweden, and Hungary.

PanEurope has been pulled out of the Multinational parent category and will be retroactively displayed for European outstandings.

Multinational includes all deals in which assets originate from a variety of jurisdictions. This includes the majority of CDOs/CLOs denominated in a European currency.

Australian data are contributed by Macquarie.

1.8. Issuance by Collateral Type and Country of Collateral

Issuance information is further specified by country of collateral for European issuance only and by asset class. CDO/CLO classification is the same as above.

1.9. – 1.11. Issuance by Rating

Issuance is presented by credit rating classification (AAA; AA; A; BBB and below; and Not Rated) on a quarterly basis. The credit rating assigned is the lowest of the ratings provided by Fitch Ratings, Moody's Investors Service and/or S&P Global

Ratings. These ratings are intended to represent their corresponding equivalent at each agency; e.g., an AAA rating is equal to an Aaa Moody's rating, AA equal to Aa1, etc. Securities are classified 'Not Rated' if none of the credit rating agencies have provided an opinion on the underlying credit quality of a particular tranche, or if the ratings are unknown. US agency MBS issues are generally not rated and therefore grouped separately under Agency MBS.

Australian securitisation data are contributed by Macquarie.

1.12. Issuance by Deal Size

European and US securitisation issuance volume is segmented by transaction size based on data provided by Dealogic. The European data covers all asset classes and EUR-denominated CDOs/CLOs. US non-Agency data includes ABS, non-agency CMBS and RMBS, and USD-denominated CDOs/CLOs. US agency MBS, which includes agency CMBS and RMBS, is shown separately.

All data, except for CDOs/CLOs, are included according to the country of collateral. The number of issues refers to the number of deals, not the number of tranches within each deal.

Australian securitisation issuance volumes are contributed by Macquarie.

2. Balances Outstanding

2.1. – 2.3. Outstandings by Collateral

The outstanding volumes are reported by asset class. Subtotals may not add to totals due to independent rounding and historical or prior period numbers are continuously revised to reflect changes in classification, refined selection methodology, or information submitted to our data sources after the prior period cut-off dates. For Europe, balances outstanding are calculated by the principal balance outstanding on structured product transactions including public, private, rated, unrated, listed and unlisted securities provided by Bloomberg. Balances outstanding are determined by multiplying eligible securities by their pool factor for the quarter and sorted accordingly. Tranches that are non-EUR-denominated are converted to EUR by Bloomberg based on the exchange rate at the time of the pricing date (as specified by the lead manager/arranger), or, if missing, the issue date as specified in each security's original offering documentation. Securities included in the calculations, except for CDOs/CLOs, have collateral originated from at least one European country to the extent that a determination can be made. However, for ABS and

MBS securities with collateral originated in multiple countries, or where the origin of the underlying collateral is undefined, the following selection criteria apply: securities are considered eligible as European only if they are denominated in a European currency, as defined below, and the country of issuer (considered to be the country in which the issuing SPV is incorporated) is within Europe. In certain limited cases, the Channel Islands and the Cayman Islands are considered eligible as European jurisdictions for ABS and MBS products if underlying collateral is derived from a variety of jurisdictions and the original currency of issue is EUR only.

For our selection criteria, European currencies include the euro (EUR) and all predecessor currencies, as well as the Turkish lira (TRY), the Danish kroner (DKK), the Swedish krona (SEK), the Swiss franc (CHF), the Polish zloty (PLN), the British pound (GBP), and the Russian ruble (RUB).

Furthermore, our selection criteria consider Europe to include all European Economic Area (EEA) countries and certain non-EEA countries located on the geographic European continent. We have included Turkey, Kazakhstan, Iceland, Georgia and the Russian Federation in these criteria.

European ABS outstanding collateral types include auto loans, credit cards, loans (consumer and student), and other.

For the CDO/CLO sector, only issuance denominated in a European currency (as specified above) is included, regardless of the country of collateral.

Beginning in Q2 2010, the CDO/CLO asset class has been further broken down into the CDO/CLO and SME asset classes. SME securities follow the same criteria application as non-CDOs/CLOs. Revisions during this quarter were retroactively applied and balances outstanding from prior quarters have all been restated accordingly.

The US outstanding calculations are based on information derived from Bloomberg for ABS, non-agency RMBS, and non-agency CMBS; agency balance statements for agency MBS. The following asset classes are segmented: agency MBS, non-agency RMBS, non-agency CMBS, and ABS. The agency MBS figures include both agency RMBS and agency CMBS (i.e., multifamily). US ABS outstanding collateral types include auto loans, credit cards, loans (equipment and student loans), CDOs, and other. CDOs outstanding are included in ABS outstandings and represents dollar-denominated tranches. As of 2013 Q4 home equity and certain

other mortgage-related debt has been moved into Non-Agency RMBS.

Australian outstanding figures are contributed by Macquarie. Reverse mortgages are included in RMBS figures, while small balance CMBS are included in CMBS figures.

2.4. Outstandings by Country of Collateral

The European outstanding volumes are segmented by country of collateral based on the above methodology. For our selection criteria, Europe is considered to include all European Economic Area (EEA) countries and certain non-EEA countries located on the geographic European continent (Georgia, Iceland, Turkey, Kazakhstan and the Russian Federation). In certain limited cases, the Channel Islands and the Cayman Islands are considered eligible for ABS and MBS products if underlying collateral is derived from a variety of jurisdictions and the original currency of issue is European. CDOs/CLOs issued in a European currency with either collateral from multiple jurisdictions or for which the underlying location of collateral is undefined are categorized under 'Multinational' for the purpose of determining outstanding balances by country. Collateral from multiple European countries is now categorised under 'PanEurope' unless collateral is predominantly (over 90%) from one country.

The US outstandings include both agency and non-agency securities.

2.5. – 2.7. Outstandings by Moody's Rating

The percentage rating distribution for Europe and the US is based on Moody's Investors Service data for balances outstanding, and from Standard and Poor's for Australian data. The data provides current ratings as of the end of the quarter. The data presented are based on original issuance volumes for European, US, and Australian securities, and therefore do not reflect amortised balances. Information on current ratings by outstanding volumes is not currently available. Moody's and Standard and Poor's data have been converted to percentages based on the original issuance size to make it easily comparable with the outstanding volumes provided in this report. Defaulted and unrated issues are excluded from these data.

2.8. - 2.9. Outstandings by Vintage

Outstanding volumes by vintage are determined by year of original pricing date. Restructurings are counted from original pricing date rather than remarketed date.

2.10. Outstandings by Country and Collateral

European outstanding volumes are segmented by country and collateral based on above methodology.

3. Credit Quality – Rating Changes

3.1. – 3.4. Upgrades/Downgrades by Country

These tables present the aggregate number of upgrades and downgrades for securitisation (including CDOs/CLOs) by country of collateral for European deals and in total for US deals. The information is based on data provided by DBRS, Fitch Ratings, Moody's Investors Service and S&P Global Ratings. The upgrade number is shown first followed by the downgrade number. The upgrades and downgrades of each of credit rating agency is shown in separate tables and presented as the number of rating changes. Because the credit rating agencies track different securities and apply different credit rating methodologies, these numbers are not directly comparable.

According to Moody's Investors Service, a security is classified as European or American based on if it is monitored out of Moody's office in Europe or the US. More specifically, European securities are classified within a particular country if all of its assets are located within that country.

Fitch's US category may contain non-US issues (e.g., Canada) from the North American continent.

The Multinational category includes CDOs/CLOs and all other cross-jurisdictional securitisations for both Moody's Investors Service and S&P Global Ratings. The Fitch Ratings Multinational classification includes cross-jurisdictional CMBS as well as the aggregated sum of rating actions in other countries including Austria, Belgium, Greece, Ireland, Portugal and the Russian Federation. Fitch Ratings assigns CDO issues to the country in which the majority of the underlying assets are located.

DBRS' "ABS Other" category may include student loans, equipment lease and other securities.

3.5. – 3.12. Upgrades/Downgrades by Collateral

These tables present aggregate upgrades and downgrades for securitisation and CDO/CLO issues by securitised product type for Europe and the US. The upgrade number is shown first followed by the downgrade number. The upgrades and downgrades of each agency are shown in separate tables and presented by number rating changes. For Fitch Ratings, the category Other RMBS includes other categories of RMBS transactions such as ALT-A, reverse mortgage, government RMBS, etc. The

category 'Other ABS' may include student loans and the whole business securitisations/public finance initiatives (WBS/PFI). For Moody's Investors Service and S&P Global Ratings, the total number of European upgrades/downgrades reported by collateral type are not always comparable with the upgrades/downgrades presented by country because there may be securities that experience rating migrations that are backed by collateral originated from a country outside of those specified and will not be captured under the "Multinational" category.

4 - 6 Spreads

4.1. - 4.4. CMBS Spreads

These graphs present credit spread data for European and US AAA and BBB 3-5 Yr CMBS. European 3-5 year AAA & BBB CMBS data are provided by Markit. Composite spread levels are calculated from dealer contributions which have been subjected to multiple cleaning algorithms. Spread levels are equivalent to the discount margin. The discount margin is defined as the effective spread to maturity of a floating rate security after discounting the yield value of a price other than par over the life of the security. The spread calculation is based on data provided by dealer trading desks.

US CMBS 3 and 5 year spreads are provided by Trepp LLC. US CMBS spreads are quoted as fixed rate bonds based on the yield of US treasury bonds with the same average life.

5.1. - 5.4. RMBS Spreads

European RMBS credit spreads are provided for 3-5 year AAA and BBB securities based on data provided by Markit. European credit spreads cover Spain, Netherlands, Italy, Germany and France. UK RMBS spreads are provided for both prime and non-conforming transactions. Markit spread calculations are based on data provided by dealer trading desks.

As of April 2012, Italian AAA has been replaced with Italian AA due to downgrades. Spanish RMBS 3-5 year AAA and BBB spreads have been replaced with AA 3-5 years and BBB 5-8 years respectively due to lack of bonds.

As of November 2012, UK non-conforming AAA has been replaced with non-conforming AA due to downgrades, while BBB UK Prime RMBS are no longer available.

6.1. - 6.4. ABS Spreads

European ABS credit spreads are provided for 1-4 year AAA and BBB securities based on data

provided by Markit based on the same calculations described above.

US spreads reflect levels for AAA autos, AAA credit cards, and BBB credit cards; spreads are fixed against swaps and are provided by JP Morgan. US 3 Yr Auto ABS BBB spreads are not available.

7 - 8 Prices

7.1. – 7.4. RMBS Prices

These graphs represent price data for specific European and UK RMBS selected as benchmarks in the respective jurisdictions. The price calculations are provided by Markit and are based on data provided by dealer trading desks.

8.1. – 8.3. CMBS and ABS Prices

The graphs represent price data for specific pan-European CMBS and ABS selected as benchmarks. The price calculations provided by Markit and are based on data provided by dealer trading desks.

9.1. - 9.5. Indices Data

The first graph presents daily option-adjusted spreads provided by Barclays Capital for Europe from a cross-section of securitised products. The second graph, provided by Barclays Capital, presents daily fixed and floating prices of pan-European deals.

The third and fourth graphs present daily tranche margins, quoted in bps, provided by Macquarie for the Australian AAA and AA securitised market.

The fifth graph present daily prices provided by Markit for the US synthetic CMBS indices.

10 Total Return Benchmark Data

10.1. – 10.3. Total Return Data

These graphs represent historical return composites generated by tracking the aggregate asset value on an underlying portfolio of single name bonds. Data are provided by Markit and are preliminary.

11. Asset-Backed Commercial Paper (ABCP)

11.1. – 11.2. ABCP Historical Issuance; ABCP Issuance by Nationality of Issuer

European issuance is provided by Dealogic, which identifies the issuer's nationality as the country in which the SPV is domiciled. These data do not represent the seller-servicers of the underlying assets or the bank conduits for the ABCP deals. The US data are provided by Moody's Investors Service. The volumes are converted from dollar to euro based on the end-of-quarter exchange rate.

11.3. European ABCP Issuance by Programme Type

ABCP data by programme type is provided by Dealogic. The programme type classifications included are: SIVs, single-seller conduit, multi-seller conduit and 'unspecified'.

Dealogic provides the issuer's nationality as the country in which the SPV is domiciled. This data does not represent the seller-servicers of the underlying assets or the bank conduits for ABCP deals.

11.4. ABCP Outstandings by Nationality of Issuer

The European outstanding is provided by country through the Dealogic database, and the US data are provided by Moody's Investors Service. Dealogic identifies the issuer's nationality as the country in which the SPV is domiciled. The dollar volumes were converted to euro based on the end-of-quarter exchange rate.

US ABCP figures are based on programmes rated by Moody's NY office ABCP Program Index, regardless of market; some euro-denominated ABCP may be included in volume totals.

11.5. – 11.6. ABCP Outstandings by Programme Type

Outstanding quarterly data are provided for Europe and the US by, respectively, Dealogic and Moody's Investor Service. The volumes are converted from dollars to euro based on the end-of-quarter exchange rate. The programme type classifications included are: loan-backed, SIVs, single-seller conduit, multi-seller conduit and 'unspecified'.

Unspecified programme types within the US data contain both arbitrage and hybrid programme types.

11.7. ABCP Spreads

The US ABCP spread information is based on data collected and developed by the Federal Reserve. The spread is defined as the difference between AA ABCP and AA nonfinancial CP.

12. Global Comparative Data

12.1. - 12.2. Global Corporate Bond and Government Bond Issuance

These statistics are provided by Dealogic and present issuance volumes for corporate bonds and government bonds in Asia, the US and Europe. Government bond and corporate bond figures represent gross, not net issuance. In terms of geographical description, Europe represents the European, the Middle East and African (EMEA)

countries while Asia includes the Pacific countries and Japan.

Global corporate bond issuance is for investment grade bonds, public placements only. Global government bond issuance includes all agency and non-agency issuances and does not include supranationals.

Annex

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