



European CLO Index: 4Q18 Market Update

Issuance at Post-Crisis Record; Fundamentals Support Stable 2019 Outlook

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FitchRatings

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At a Glance

Executive Summary

- **Issuance at Post-Crisis Record:** 2018 issuance reached EUR27.3 billion from 66 transactions.
- **Wider Senior Spreads:** Senior spreads on new issue notes increased for the third consecutive quarter.
- **'AAA' C/E Remains in Narrow Band:** 'AAA' CE range between 44.6% and 38% in 2018, almost unchanged for more than three years.
- **Refinancing Slowdown:** Refinancing has become less attractive with the recent increase in senior spread.
- **Reset Expected to Continue:** Fitch expects transactions to continue to reset as they reach the end of their reinvestment period.
- **WAS Continues to Stabilise:** Average WAS remained stable at about 3.8% for the fourth consecutive quarter.
- **WARR Continues to Stabilise:** Average WARR remained stable at just above 65% for the fifth consecutive quarter.

Note: Simple average across deal sample
 Note: Market data for 4Q18 and 3Q18 are for the full quarter
 Note: Market data for 2017 are for the full year
 Source: Fitch Ratings, public domain

Primary market	4Q18		3Q18	2017
Average 'AAA' C/E (%)	38.8	↓	39.5	40.7
Average 'AAA' margin (bp)	98.5	↑	91.6	84.8
Issuance volume (EURbn)	6.5	↓	7.5	20

Refinancing & reset	4Q18		3Q18	2017
Average 'AAA' margin (bp)	96.2	↑	86.1	85.3
Average 'AAA' reduction (bp)	15.6	↓	39.2	46.6
Number of transaction	5	↓	12	70

Collateral quality test	4Q18		3Q18	4Q17
Average WAS (trustee) (%)	3.8	←	3.8	3.9
Average WARR (trustee) (%)	65.3	←	65.3	65.2
Average WARF (trustee) (%)	32.4	↓	32.5	32.8
Average WAL (trustee) (years)	5.3	↓	5.4	5.5

C/E: credit enhancement
 WAS: weighted average spread
 WARR: weighted average recovery rate
 WARF: weighted average rating factor
 WAL: weighted average life



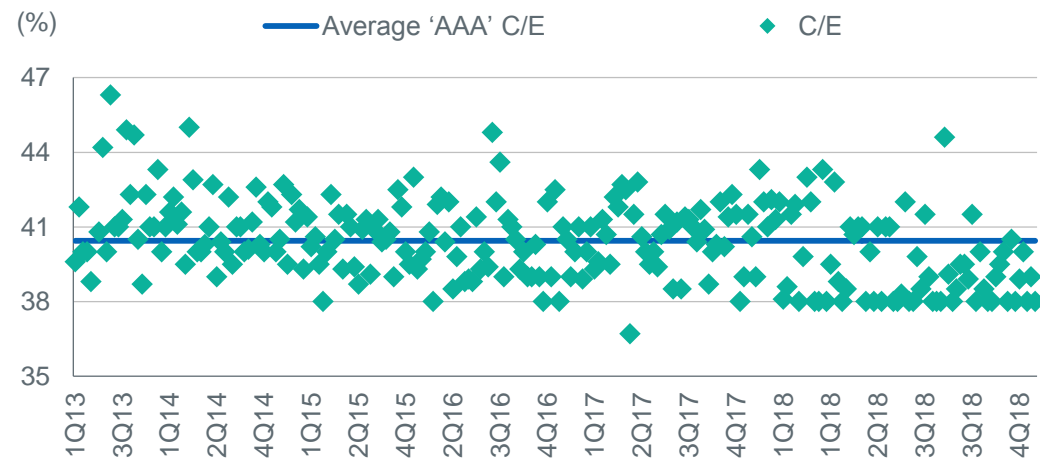
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European Primary Market Update

European Issuance at Post-Crisis Record

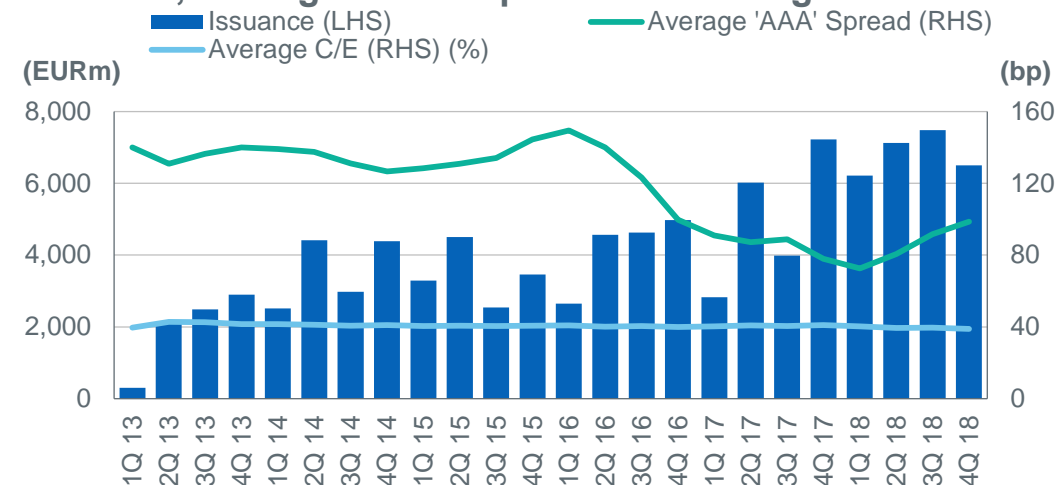
- European CLO issuance reached a post-crisis peak of EUR27.3 billion of notes in 2018 (66 transactions) versus EUR20 billion for 2017 (49 transactions).
- 'AAA' spreads widened for the third consecutive quarter to average 98.5bp over Euribor during the fourth quarter, well above the annual average of 86.1bp for 2018.

'AAA' C/E



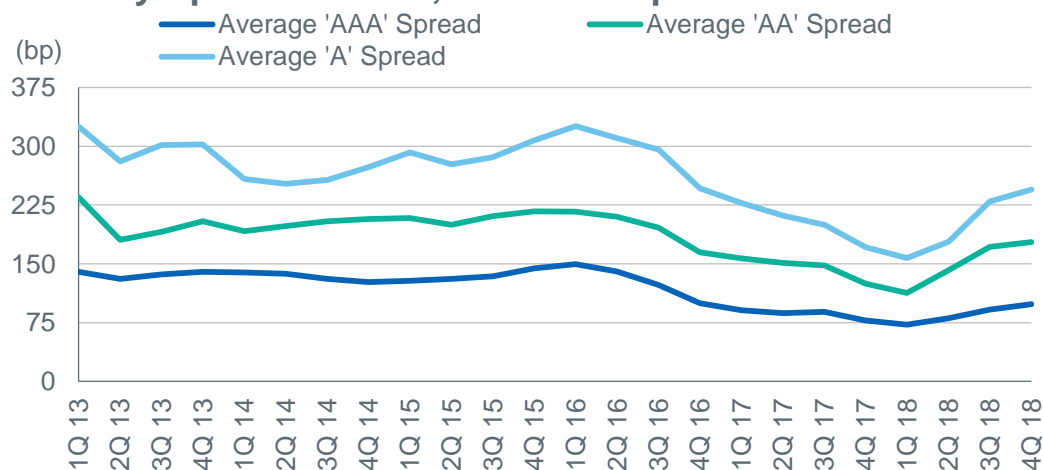
Source: Fitch Ratings, public domain

Issuance, Average 'AAA' Spread and Average C/E



Source: Fitch Ratings, public domain

Primary Spread – 'AAA', 'AA' & 'A' Spread



Source: Fitch Ratings, public domain

4Q18 European CLO Issuance

4Q18 European CLO Transactions

(as at 31 December 2018)

Deal Name	Deal Size Amount (EUR Mil.)	Collateral Manager	Structurer	Pricing Date	'AAA' CE	'AAA' Spread (bp)	Non-Call (yrs)	Reinvest-ment (yrs)	Max. WAL
Bain Capital Euro CLO 2018-2	385.8	Bain Capital Credit U.S. CLO Manager, LLC	Goldman Sachs	Oct/2019	38.0	100.0	2.0	4.3	8.5
Oak Hill European Credit Partners VII	411.7	Oak Hill Advisors (Europe), LLP	JP Morgan	Oct/2019	40.0	95.5	2.0	4.5	8.5
Harvest CLO XX	410.4	Investcorp Credit Management EU Limited	JP Morgan	Oct/2019	38.5	96.0	2.0	4.5	8.5
Contego CLO VI	414.3	Five Arrows Managers LLP	Bank of America	Oct/2019	38.0	98.0	2.0	4.5	8.5
Rockford Tower Europe CLO 2018-1	407.0	Rockford Tower Capital Management, L.L.C	Citigroup	Oct/2019	38.0	103.0	2.0	4.3	8.5
Jubilee CLO 2018-XXI	411.1	Alcentra Ltd	Morgan Stanley	Oct/2019	39.0	96.0	2.0	4.5	8.5
CVC Cordatus Loan Fund XII	409.6	CVC Credit Partners European CLO Management LLP	BNP Paribas	Nov/2019	39.5	96.0	2.0	4.5	8.5
BlackRock European CLO VII	411.3	BlackRock Investment Management (UK) Ltd	Barclays	Nov/2019	40.0	96.0	2.0	4.5	8.5
OZLME V CLO	412.0	Och-Ziff Europe Loan Management Limited	Credit Suisse	Nov/2019	38.0	100.0	2.0	4.5	8.5
Dryden 66 EUR CLO 2018	411.0	PGIM Limited	Credit Suisse	Nov/2019	40.5	96.0	2.0	4.5	8.5
Providus CLO II	361.3	Permira Debt Managers Group Holdings Limited	Morgan Stanley	Nov/2019	38.0	101.0	2.0	4.0	8.5
Invesco Euro CLO I	409.8	Invesco European RR LP	Barclays	Nov/2019	38.9	102.0	2.0	4.0	8.5
Golden Tree Euro CLO II	404.9	GoldenTree Loan Management, LP	Morgan Stanley	Nov/2019	40.0	96.0	2.0	4.5	8.5
Armada Euro CLO III	414.4	Brigade Capital Europe Management LLP	Citigroup	Nov/2019	38.0	101.0	2.0	4.0	8.5
Barings Euro CLO 2018-3 B.V.	408.0	Barings (U.K.) Limited	Credit Suisse	Nov/2019	39.0	98.0	2.0	4.5	8.5
Penta CLO V	413.9	Partners Group (UK) Management Ltd.	JP Morgan	Nov/2019	38.0	102.0	2.0	4.0	8.5
Q4 2018 Average	406.0				38.8	98.5	2.0	4.3	8.5
Q4 2018 Median	410.7				38.7	98.0	2.0	4.5	8.5
Q4 2018 Minimum	361.3				38.0	95.5	2.0	4.0	8.5
Q4 2018 Maximum	414.4				40.5	103.0	2.0	4.5	8.5
Total	6,496.4								

Non-Call, Reinvestment and WAL are rounded to the nearest 0.25

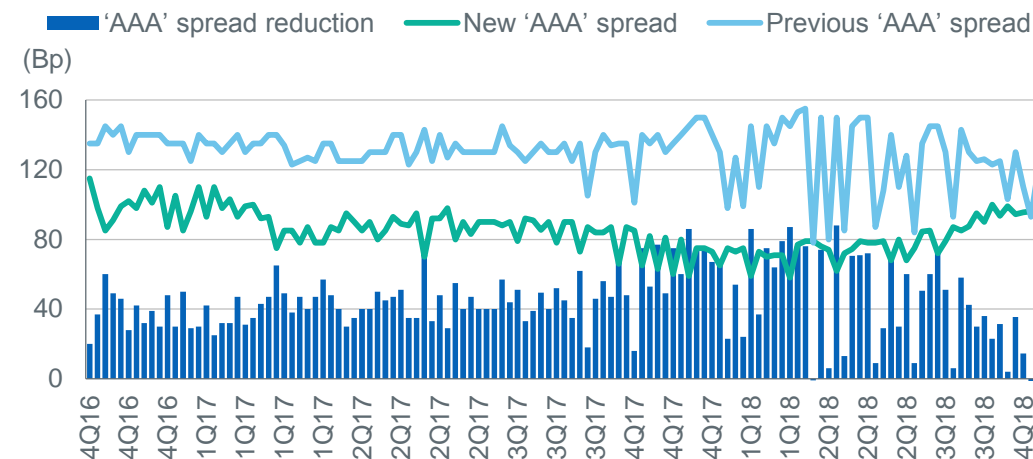
'AAA' CE and Spread are for the senior 'AAA' notes

Source: Fitch Ratings, public domain

Reset Continue, Refinancing Become Less Attractive

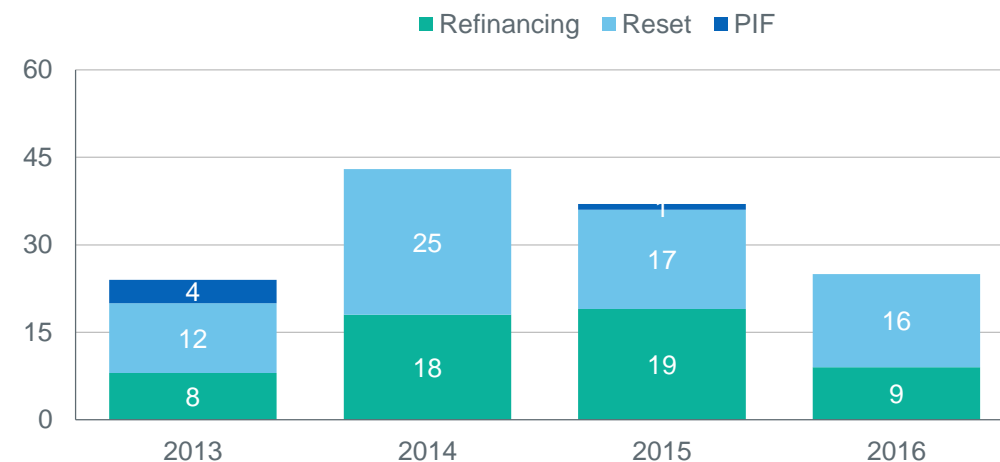
- Managers took advantage of the good financing conditions and extensively refinanced liabilities over the past 24 months.
- 40 transactions were refinanced, reset or reissued in 2018, compared with 70 transactions in 2017.
- The recent increase in senior spreads made refinancing less attractive, and only nine transactions refinanced in 2018, compared with 35 in 2017.
- Reset and reissuance activity continued to be strong in 2018, with 31 transactions compared with 35 in 2017.
- Fitch expects reset activity to continue as transactions reach the end of their reinvestment period, as the economics are similar to primary issuance.

'AAA' Spread & Refinancing



Source: Fitch Ratings, public domain

Refinancing & Reset by Vintage



Source: Fitch Ratings, public domain

Note: Number of refinancings and resets is higher than the total number of transactions as one transaction may refinance or reset more than once

Note: Re-issuances have been classified as reset

Note: The repricing of Bosphorus CLO II has been classified as refinancing

4Q18 European CLO Refinancing & Reset

4Q18 European CLO Refinancing

(as at 31 December 2018)

Vintage	Deal Name	Collateral Manager	Previous 'AAAsf' Spread	Current 'AAAsf' Spread	Pricing Date	Activity
2016	Halcyon Loan Advisors European Funding 2016	Halcyon Loan Advisors	103	99	Q4 2018	Reset
2016	Laurelin 2016-1 CLO	GoldenTree Loan Management, LP	130	94.5	Q4 2018	Reset
2014	Phoenix Park CLO	Blackstone/GSO Debt Funds Europe Limited	110	95.5	Q4 2018	Reset
2014	Carlyle GMSE CLO 2014-2 B.V.	CELf Advisors LLP	93	96	Q4 2018	Reset
2016	Griffith Park CLO	Blackstone/GSO Debt Funds Europe Limited	123	96	Q4 2018	Reset

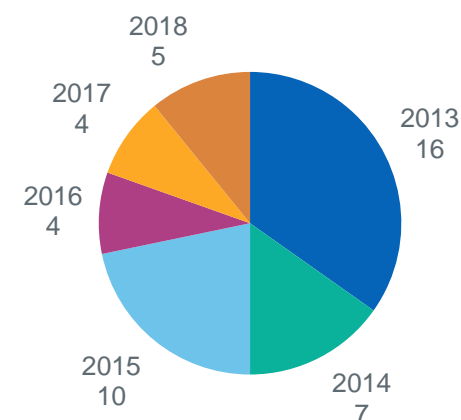
Note: Re-issuances are classified as “Reset”

Source: Fitch Ratings, public domain

Established Managers Dominate European Market

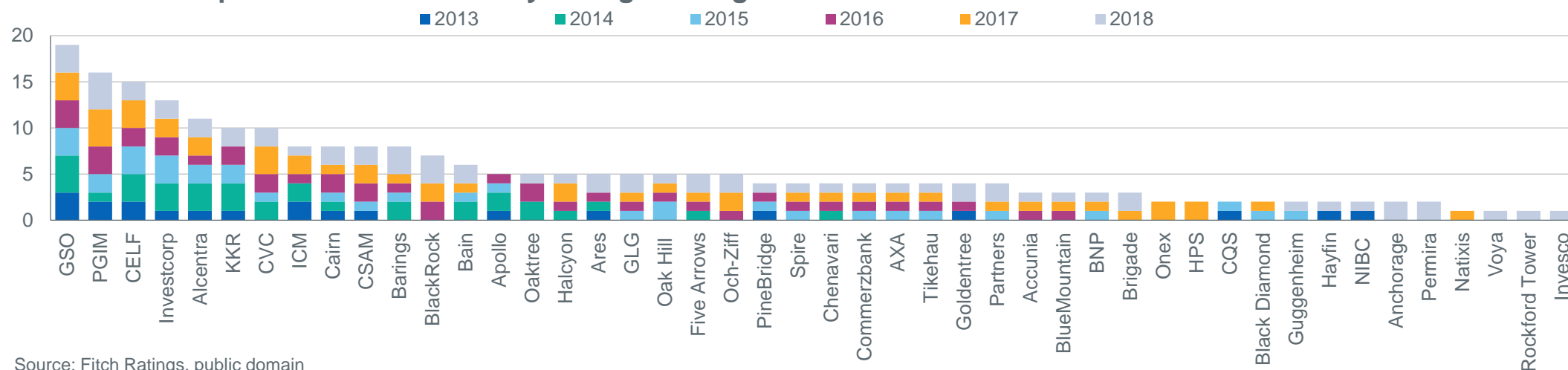
- European CLOs remain concentrated in large managers.
- The top four managers have issued about a quarter of all European post-crisis transactions, while the top 10 have issued around half.
- Fitch has identified 46 managers active in the European post-crisis market.
- Five new managers entered the European market in 2018: Permira Debt Managers, Voya Alternative Asset Management, Anchorage Capital Group, Rockford Tower Capital Management and Invesco European RR.
- Fitch expects additional managers active in the US market to continue to enter European markets.
- Additional information on CLO managers is available on the Fitch CLO Asset Manager Handbook.

Number of New Managers



Source: Fitch Ratings, public domain

Number of European Post-Crisis CLO by Vintage of Origination



Source: Fitch Ratings, public domain



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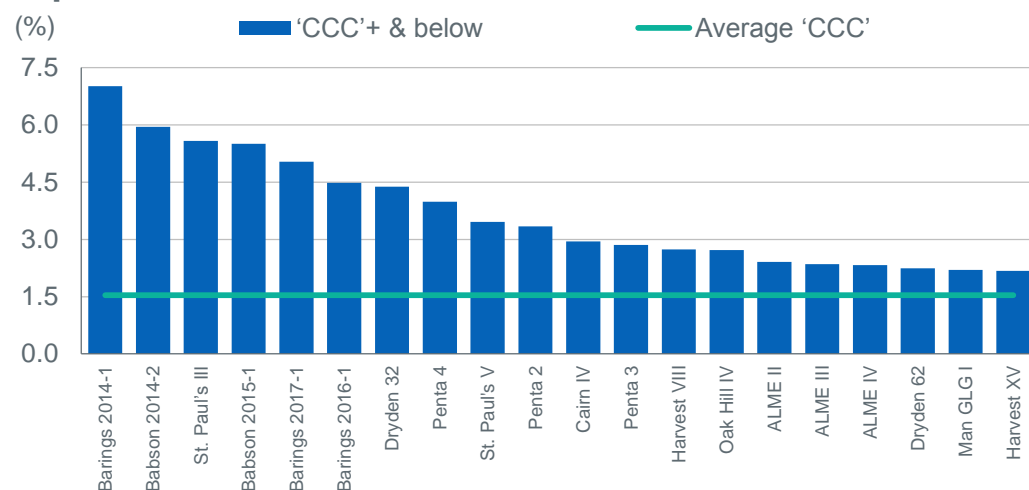
Fitch-Rated European CLO Performance

Defaulted and 'CCC' Assets Remain Limited

- There were two new defaulted assets in 4Q18.
- Six issuers were classified as defaulted by at least one manager at end-4Q18.
- Number of CLOs with exposure to defaults decreased to 20.7% (24 transactions) from 22.1% (21 transactions) as of end-3Q18. On average these CLOs have an exposure to default at 0.8%.
- 71.6% of CLOs held at least one 'CCC' rated asset as of end-4Q18. The average 'CCC' exposure for these transactions is 1.7% as of end-4Q18, well below the typical 7.5% limit.

Measure	4Q18	3Q18	4Q17
Number of defaulted Obligor	6 ↑	4	4
Transactions exposed to defaults (%)	20.7 ↓	22.1	25.9
Average exposure to default (%)	0.8 ↓	0.9	1.1
Transactions exposed to 'CCC' asset (%)	71.6 ←	71.6	81.5
Average exposure to 'CCC' assets (%)	1.7 ↓	2.2	2.0

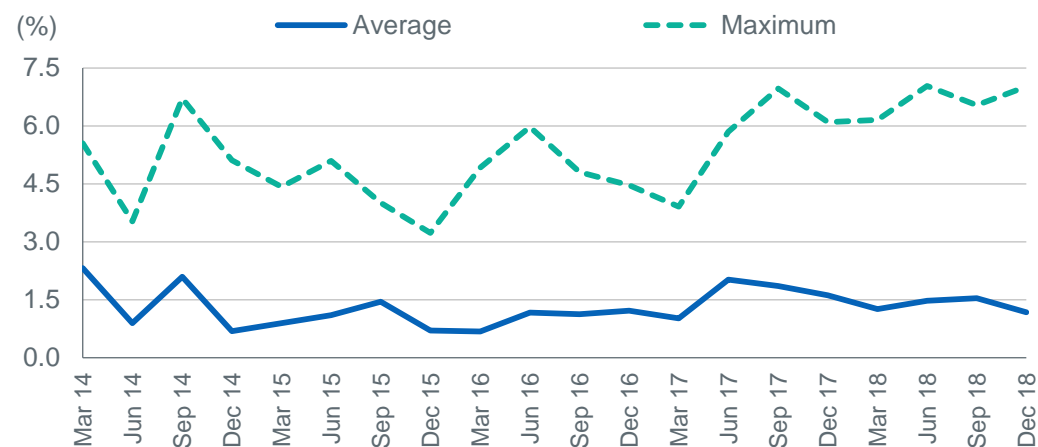
'CCC+' and Below Exposure Top 20 CLOs



Source: Fitch Ratings, Investor reports

Note: Assets without a Fitch rating or credit opinion and without a public rating from another agency are considered 'CCC'






'CCC+' and Below Exposure



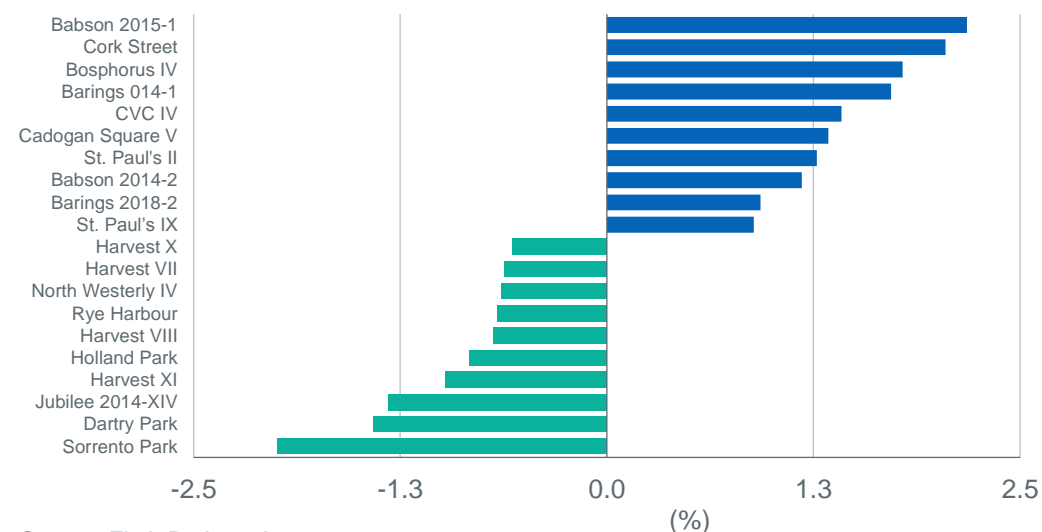
Source: Fitch Ratings, Investor reports

Net Portfolio Gains and OC Tests Cushion Largely Stable

- 75% of CLOs rated by Fitch have a net portfolio gain. 27 transactions have a net portfolio loss, up from 25 three months ago.
- Losses have remained low thanks to par built.
- Average excess par remains stable at 0.2% at end-4Q18.
- The chart on the right shows the CLOs rated by Fitch with the highest net portfolio gains and the highest net portfolio losses.
- In most cases, transactions with a net portfolio loss have been negatively affected by credit impaired or defaulted assets.
- Net portfolio losses may also be due to reinvestment at premium.
- The decrease in net portfolio gains may also be due to:
 - trading gains being transferred to the interest account;
 - the reset activity: some transactions may extract par building during a reset;
 - distribution to the interest account following closing/reset of a transaction.
- All transactions in Fitch's rated universe continue to pass their OC tests with a healthy cushion.

Measure	4Q18	3Q18	4Q17
Average gain/loss (%)	0.2 	0.2	0.3
Number of transactions with loss	27 	25	14
Transactions with loss (%)	23.3 	26.3	17.3
Average 'AA' OC test cushion (%)	9.6 	9.5	10
Average 'BB' OC test cushion (%)	4.9 	4.9	5.0

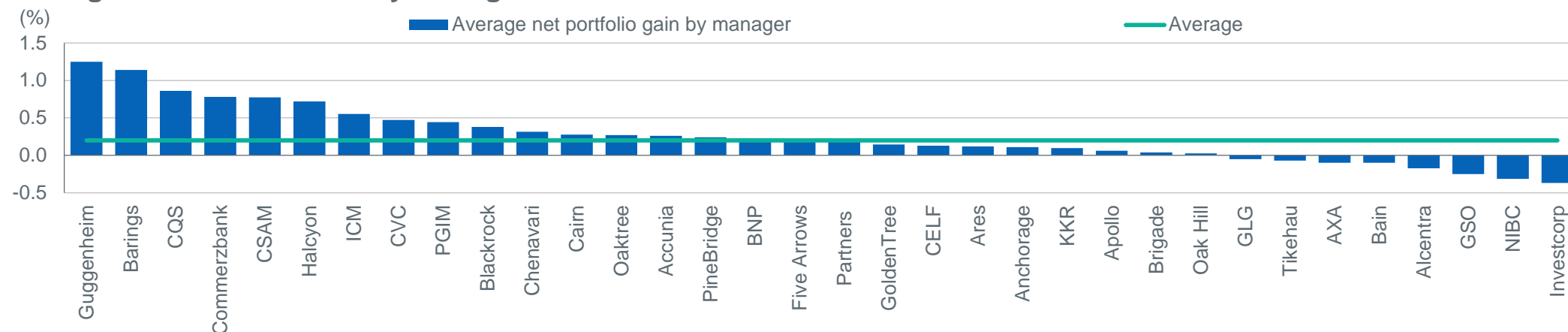
Net Portfolio Gain & Loss



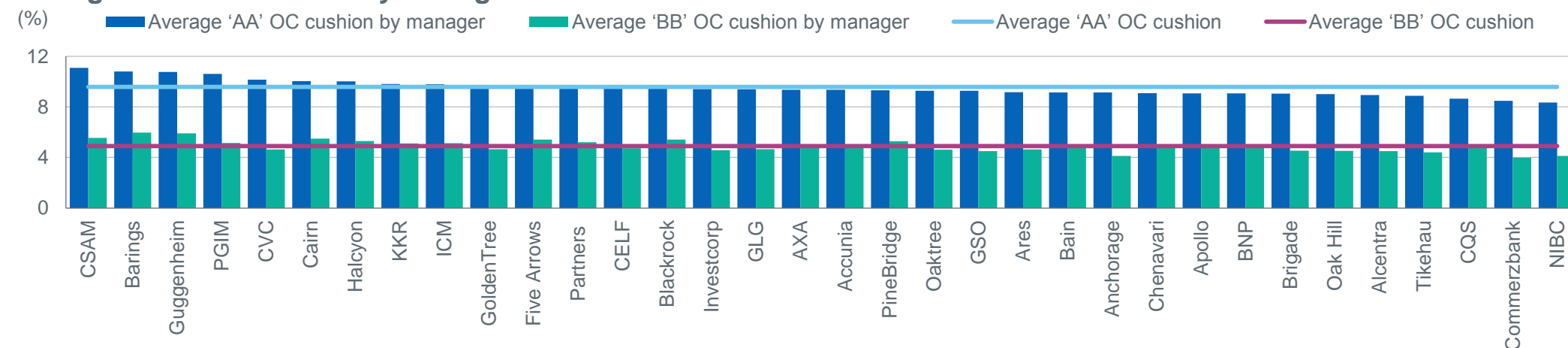
Note: In the absence of 'CCC' haircuts, the net portfolio gains reflect the difference between the current portfolio par and the target par

Net Portfolio Gains and OC Tests Cushion Comparison

Average Net Portfolio Gain by Manager



Average OC Test Cushion by Manager

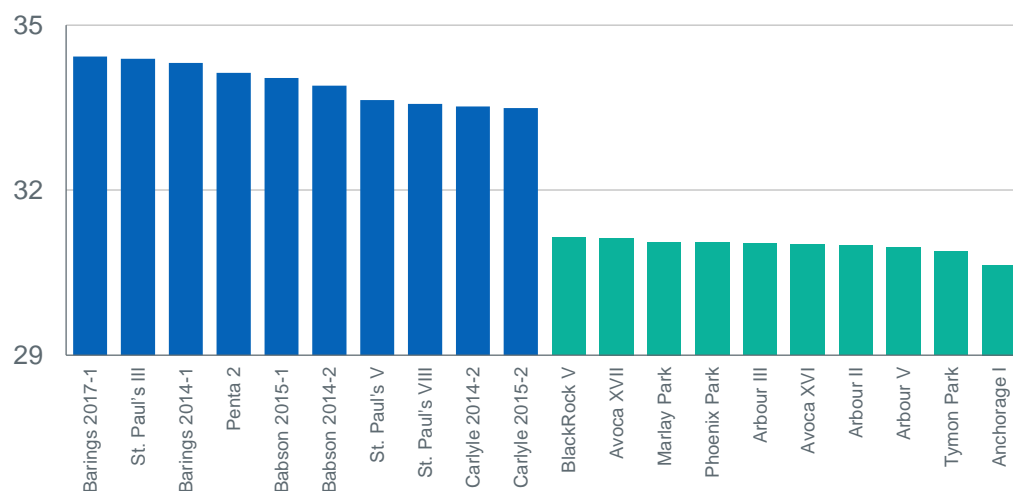


Fitch WARF Remains Relatively Stable

- The average Fitch WARF has remained relatively stable at around 32.5 over the past two years.
- Only one transaction was breaching the WARF covenant at end-4Q18.
- Rating distribution is concentrated in the 'B'/'B-' range and the at-risk portfolio ('B-/Negative and below) represents 3.5% of the portfolio.

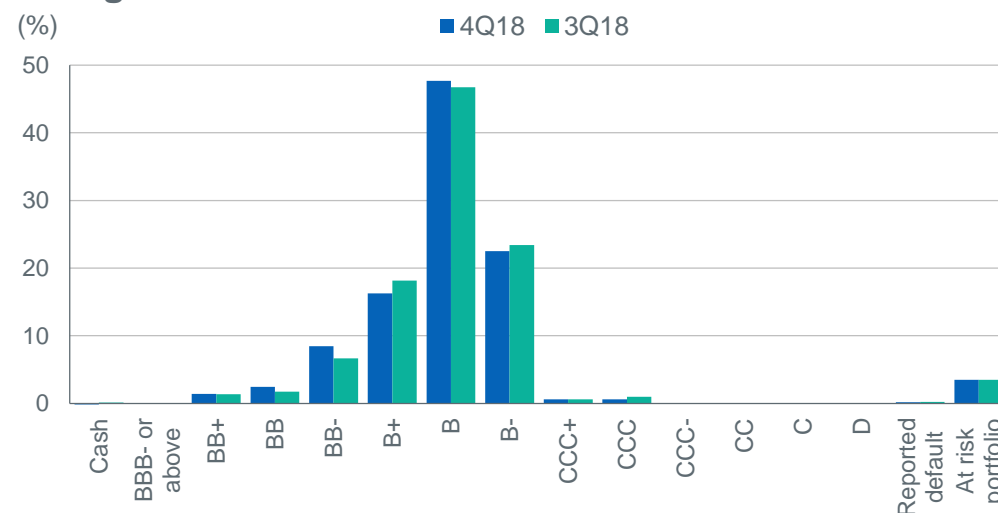
Measure	4Q18		3Q18	4Q17
Average WARF (trustee)	32.4	↓	32.5	32.8
Average WARF cushion	1.5	↑	1.3	0.8
WARF failing (% transaction)	0.0	↓	2.2	11.1
At-risk portfolio exposure (%)	3.5	←	3.5	2.5

Top 10 & Bottom 10 WARF



Source: Fitch Ratings, Investor reports





Rating Distribution



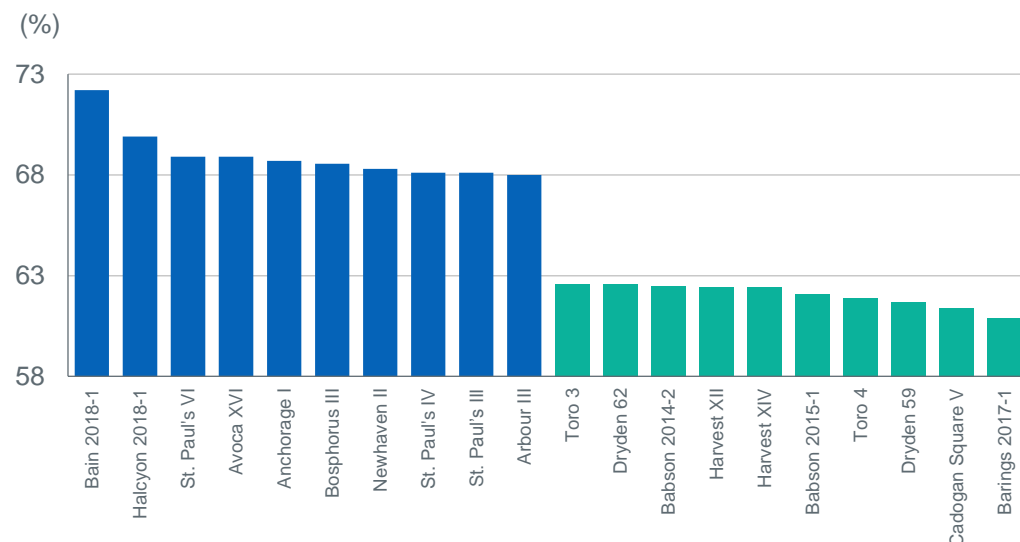
Source: Fitch Ratings, Investor reports

Recovery Expectations Continue to Stabilise

- The WARR has remained stable just above 65% for the fifth consecutive quarter.
- All transactions were passing their WARR covenant at end-4Q18.
- Non-senior-secured has remained stable at just over 2%.

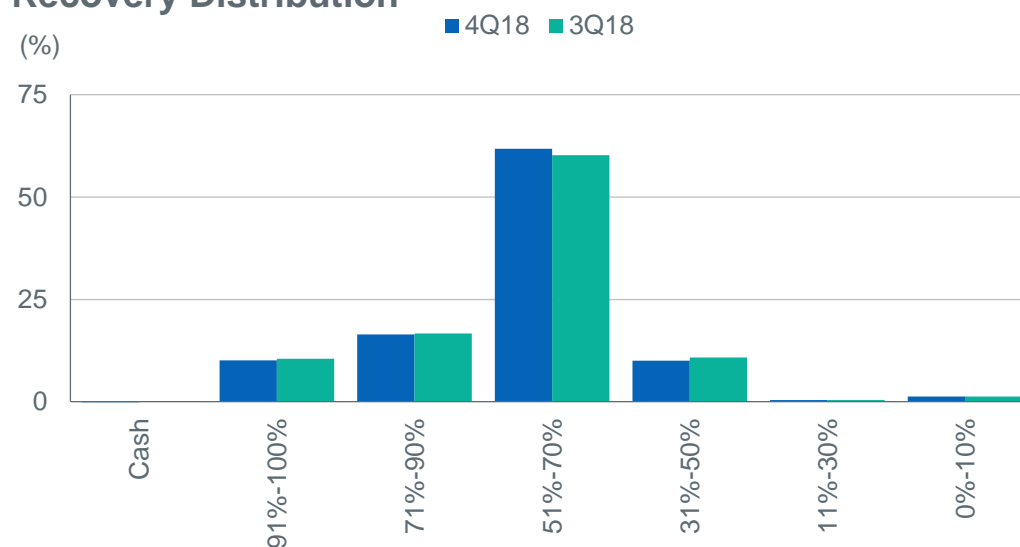
Measure	4Q18	3Q18	4Q17
Average WARR (trustee) (%)	65.3 	65.3	65.2
Average WARR cushion (%)	3.1 	2.8	1.4
WARR failing (% transaction)	0.0 	2.1	9.9
Average non-senior secured (%)	2.3 	2.1	1.9

Top 10 & Bottom 10 WARR



Source: Fitch Ratings, Investor reports

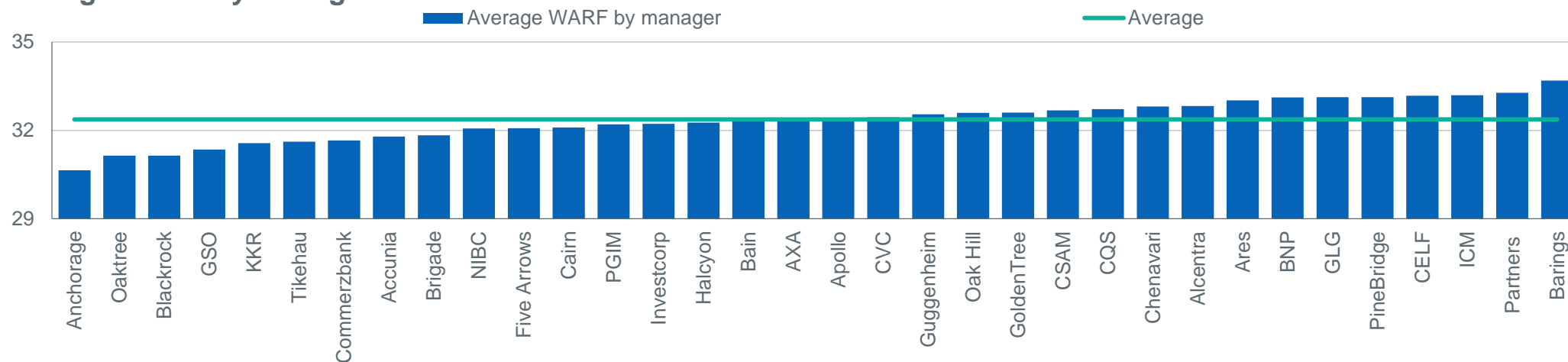
Recovery Distribution



Source: Fitch Ratings, Investor reports

WARF and WARR Comparison

Average WARF by Manager



Source: Fitch Ratings, Investor reports

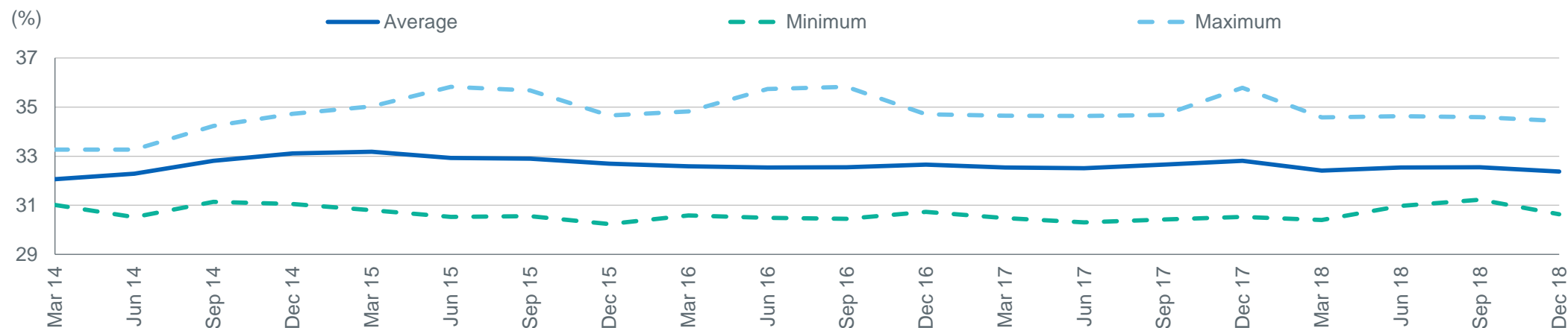
Average WARR by Manager



Source: Fitch Ratings, Investor reports

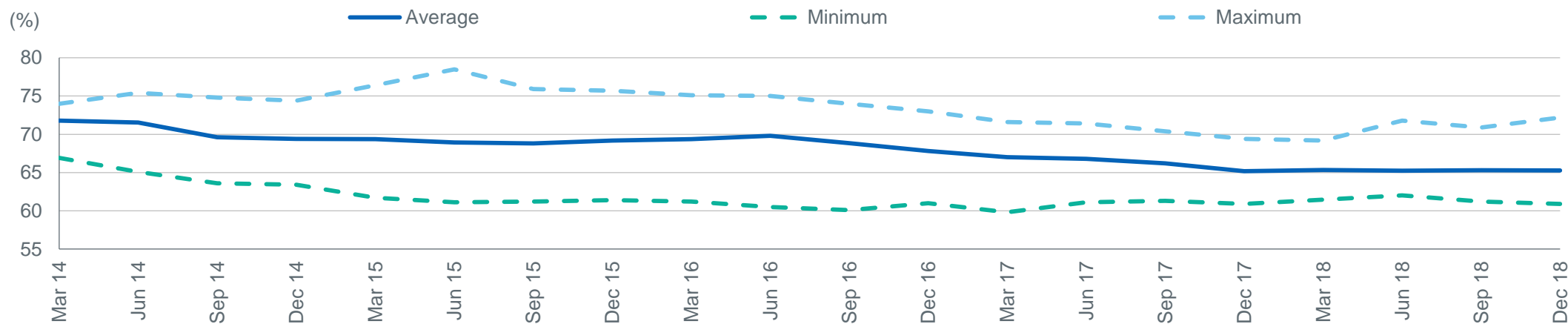
WARF and WARR Trend

Average WARF



Source: Fitch Ratings, Investor reports





Average WARR



Source: Fitch Ratings, Investor reports

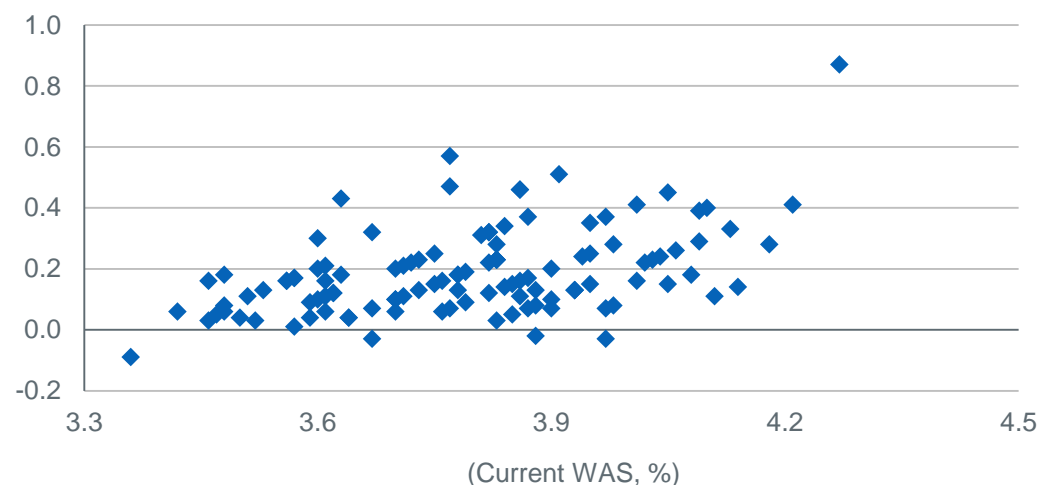
WAS Continues to Stabilise

- Average WAS remains stable at around 3.8% for the fourth consecutive quarter.
- Only four transactions were breaching the WAS covenant at end-4Q18.
- Fixed-rate exposures remain limited at around 6% on average, but a large dispersion exists among managers.

Measure	4Q18	3Q18	4Q17
WAS (trustee) (%)	3.8 	3.8	3.9
Average WAS cushion (%)	0.19 	0.18	0.11
WAS failing (% transaction)	3.4 	3.2	9.9
Average fixed rate exposure (%)	5.9 	5.0	4.7

Weighted Average Spread Cushion

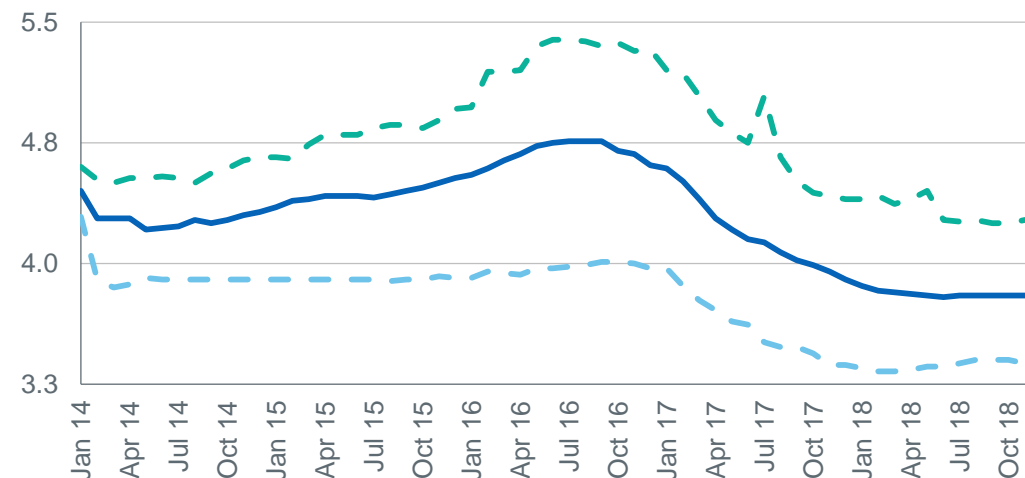
(WAS cushion,%)



Source: Fitch Ratings, Investor reports

Weighted Average Spread

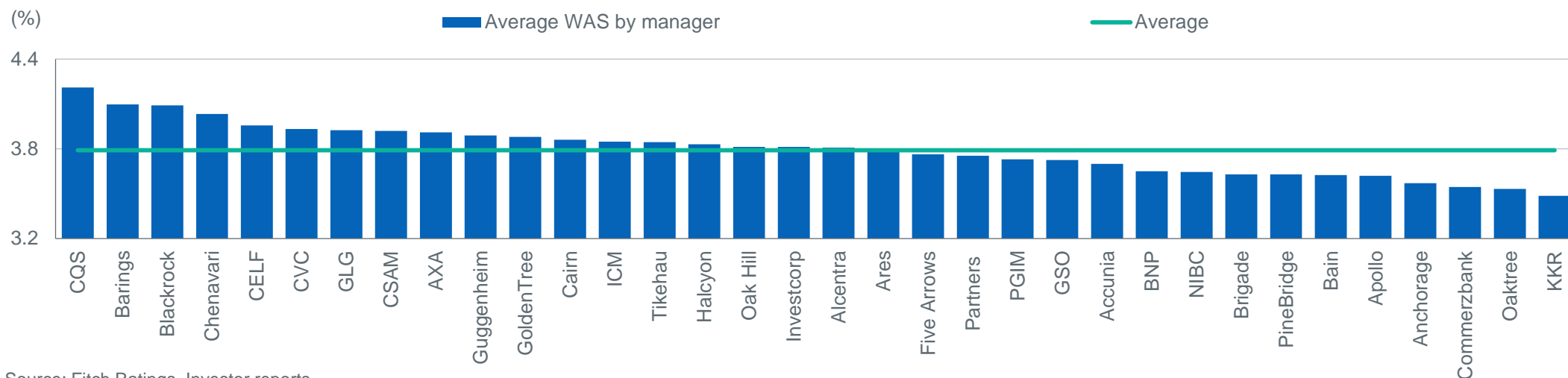
(%)



Source: Fitch Ratings, Investor reports

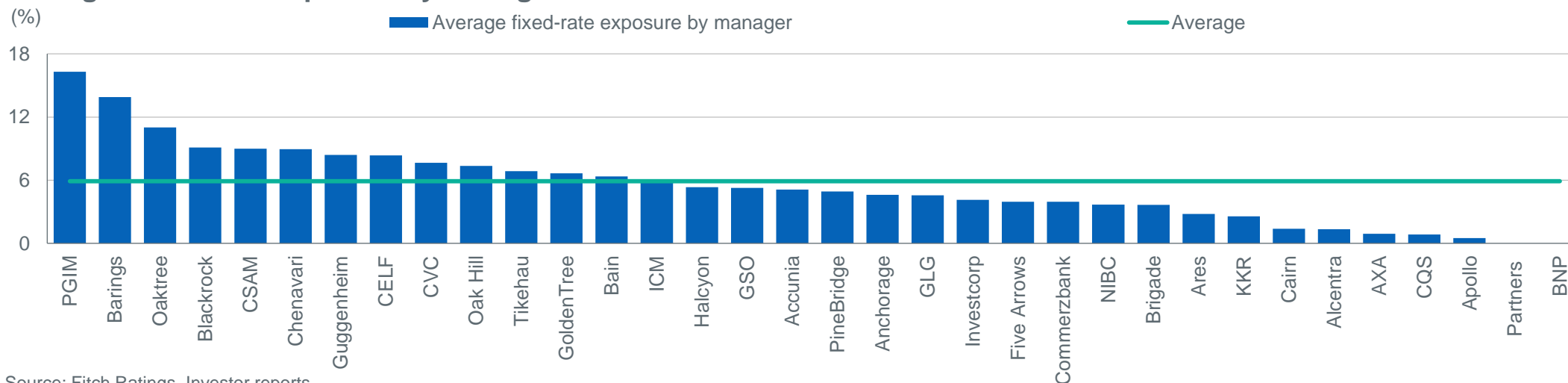
WAS and Fixed-Rate Exposure Comparison

Average WAS by Manager



Source: Fitch Ratings, Investor reports




Average Fixed Rate Exposure by Manager



Source: Fitch Ratings, Investor reports

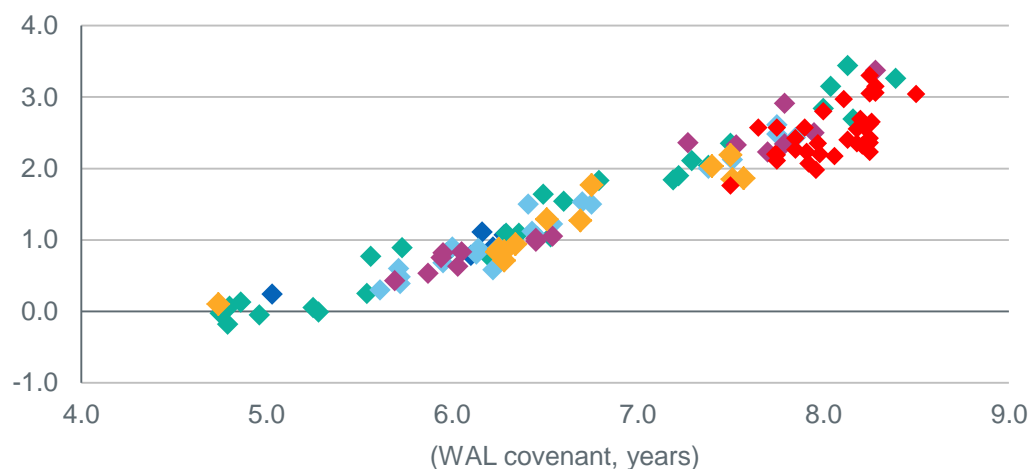
WAL Cushion Continues to Increase

- The WAL remains largely flat, just below 5.5 years.
- The WAL cushion continues to increase due to a combination of new deals and resets.
- Six transactions have exited their reinvestment period at end-4Q18 and five other transactions will exit their reinvestment period in January 2019.
- Other transactions originated in 2013 and 2014 have reset and extended their reinvestment period.

Measure	4Q18	3Q18	4Q17
Average WAL (trustee) (years)	5.3 	5.4	5.5
WAL failing (% transactions)	3.4 	5.3	9.9
Average WAL cushion (years)	1.7 	1.5	1.1

Weighted Average Life Cushion

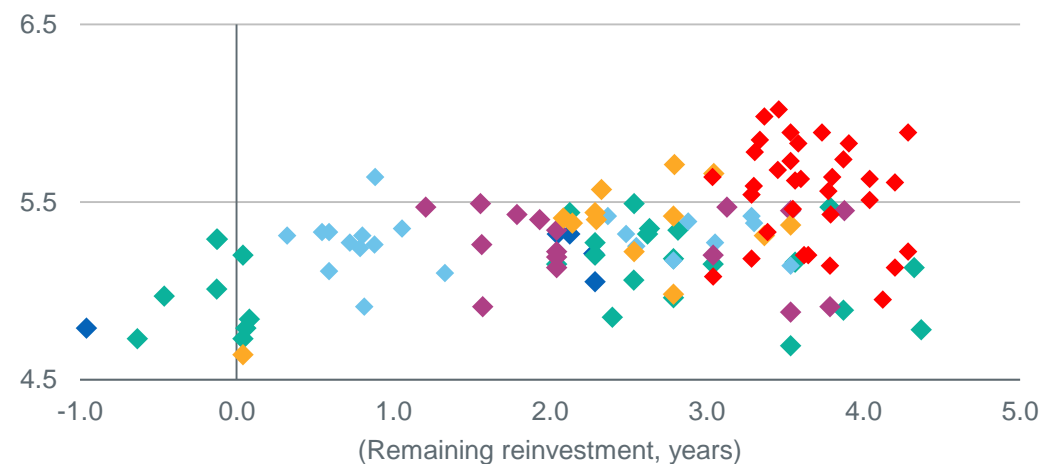
(WAL cushion, years) ◆ 2013 ◆ 2014 ◆ 2015 ◆ 2016 ◆ 2017 ◆ 2018



Source: Fitch Ratings, Investor reports

Weighted Average Life/Reinvestment Distribution

(WAL, years) ◆ 2013 ◆ 2014 ◆ 2015 ◆ 2016 ◆ 2017 ◆ 2018

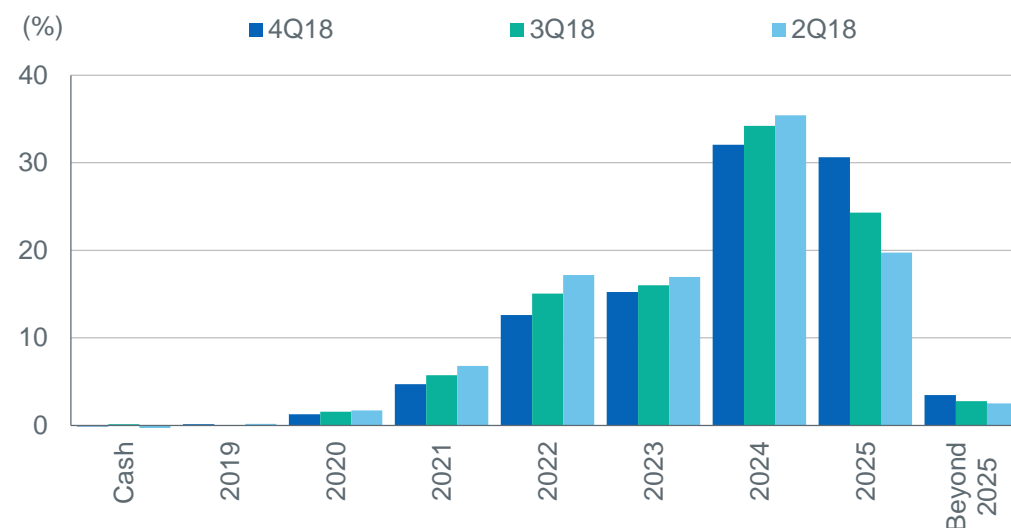


Source: Fitch Ratings, Investor reports

Maturity Wall Shift Towards 2024-2025

- The maturity wall continues to shift towards 2024 and 2025.
- Most borrowers have refinanced and locked in very low spreads while moving out loan maturities by several years.
- A slightly longer WAL appears to have become a new market standard:
 - Recent transactions continue to be structured or reset with an 8.5-year WAL.
 - Many managers have extended their WAL covenants to increase their reinvestment capacities.
- Some transactions also provide the manager with some additional flexibility regarding the WAL test covenant.
 - In some cases, the WAL test remains flat after the end of the reinvestment period.
 - In other cases, the CLO documentation allows the manager to exclude some assets from the WAL calculation if the transaction is above the target par.
 - In other cases, the WAL threshold may be extended by six months on the last day of the non-call period, if the transaction performs relatively well.





Weighted Average Loan Maturity Profile



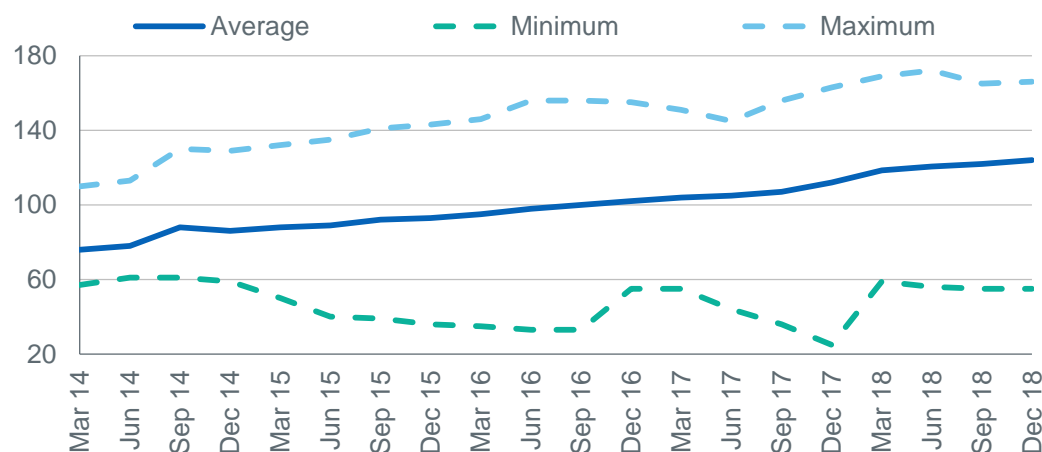
Source: Fitch Ratings, Investor reports

Obligor Diversification Continues to Increase

- Obligor diversification continues to increase as more transactions feature a portfolio profile test or collateral quality test, limiting the exposure to the top 10 obligors in the portfolio.
- A third of transactions rated by Fitch have top 10 obligors at or below 16%.
- All transactions rated by Fitch have more than 70 obligors, except Bosphorus CLO III.
- The chart on the right shows the CLOs rated by Fitch with the highest and lowest top 10 obligor concentrations.

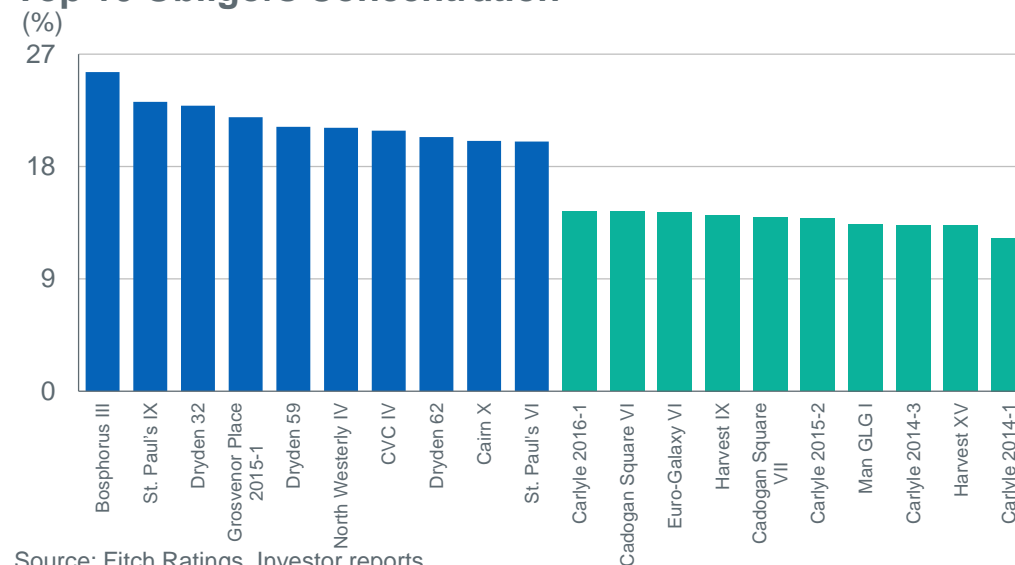
Measure (average)	4Q18	3Q18	4Q17
Number of obligors	124 	122	112
Top 1(%)	2.1 	2.2	2.3
Top 5 (%)	9.5 	9.6	10.2
Top 10 (%)	17.4 	17.7	18.8

Average Number of Obligators



Source: Fitch Ratings, Investor reports

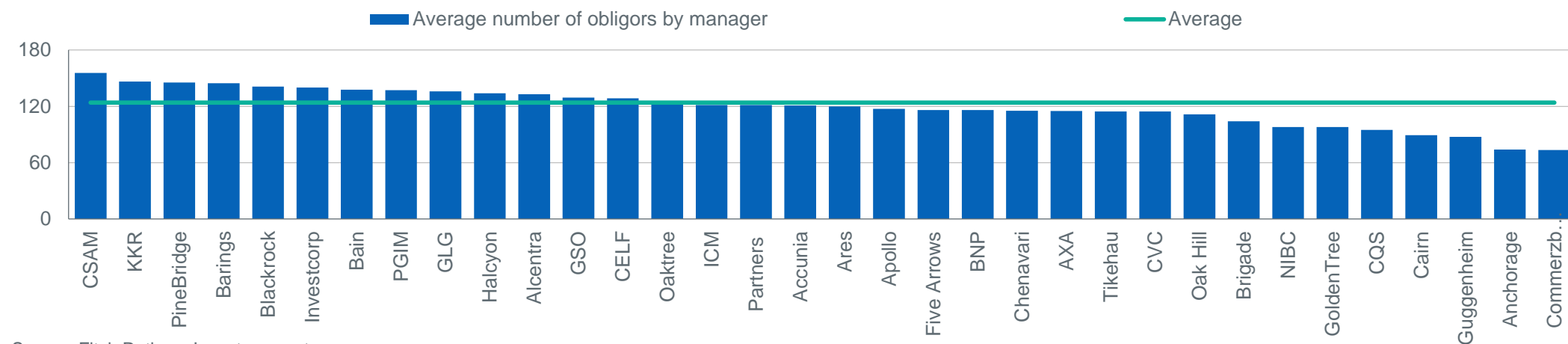
Top 10 Obligators Concentration



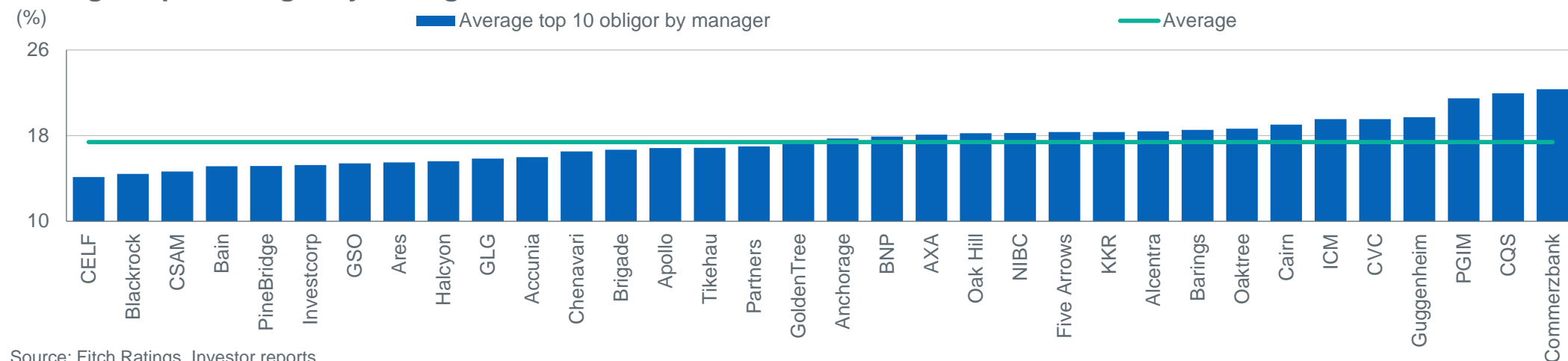
Source: Fitch Ratings, Investor reports

Obligor Diversification by Manager

Average Obligor Count by Manager



Average Top 10 Obligor by Manager



European CLOs: Most Referenced Issuers

Most referenced issuer no.	Issuer	% of CLOs referencing this issuer	Average CLO exposure to this issuer (%)	Fitch rating	Outlook
1	Verisure Holding AB	95.69	1.49		
2	Nidda BondCo GmbH	94.83	1.21	B	Stable
3	VodafoneZiggo Group B.V.	92.24	1.44	B+	Stable
4	Evergood 4 APS	91.38	1.06	B+	Stable
5	Eircom Holdings (Ireland) Limited	89.66	1.18	B+	Stable
6	Lux Midco S.a r.l.	88.79	1.01	B	Stable
7	Starfruit Topco Cooperatief U.A.	86.21	0.77	B+	Stable
8	Sigma Holdco BV	85.34	1.23	B+	Stable
9	ION Trading Technologies Limited	82.76	1.13		
10	SFR Group S.A.	81.90	1.50	*	
11	Unilabs Midholding AB	79.31	0.87	*	
12	Nord Anglia Education, Inc	79.31	0.95		
13	LSF10 XL Investments S.a.r.l	78.45	1.11	*	
14	Ineos Group Holdings S.A.	77.59	1.13	BB+	Stable
15	Oberthur Technologies Group S.A.S.	76.72	1.05	B	Stable
16	EG Group Limited	76.72	1.35	B	Stable
17	Blitz F18-674 GmbH	76.72	1.05	B	Stable
18	Paysafe Group PLC	75.00	1.20	*	
19	HomeVi S.A.S.	75.00	0.86	*	
20	Tele Columbus AG	73.28	0.95	B	Stable

* Fitch credit opinion
Source: Fitch Ratings

European CLOs: Manager Issuer Overlap Matrix

European CLOs Manager Issuer Overlap Matrix Based on Issuer Count	Issuer Count	Accunia	Alcentra	Anchorage	Apollo	Ares	AXA	Bain	Halcyon	Barings	Blackrock	GSO	BNP	Brigade	Cairn	CELF	Chenavari	Commerzbank	CQS	CSAM	CVC	Five Arrows	GLG	GoldenTree	Guggenheim	ICM	Investcorp	KKR	NIBC	Oak Hill	Oaktree	Partners	PGIM	PineBridge	Tikehau
Accunia	121	100%	55%	31%	36%	46%	44%	55%	44%	45%	50%	55%	37%	40%	49%	65%	47%	41%	26%	52%	45%	50%	51%	46%	38%	50%	61%	60%	37%	51%	50%	53%	61%	53%	43%
Alcentra	172	38%	100%	24%	42%	39%	41%	52%	42%	51%	42%	55%	44%	34%	50%	60%	42%	38%	27%	52%	48%	48%	48%	35%	33%	51%	60%	61%	43%	41%	45%	51%	58%	53%	41%
Anchorage	74	50%	57%	100%	46%	53%	46%	68%	46%	53%	58%	68%	53%	45%	59%	70%	49%	51%	35%	58%	54%	58%	50%	49%	45%	55%	64%	64%	50%	51%	53%	49%	64%	66%	50%
Apollo	123	36%	59%	28%	100%	44%	46%	54%	46%	63%	53%	64%	53%	37%	53%	64%	48%	41%	30%	59%	51%	56%	48%	38%	46%	61%	67%	68%	49%	52%	57%	50%	66%	62%	50%
Ares	120	47%	56%	33%	45%	100%	52%	61%	51%	51%	53%	62%	50%	39%	53%	75%	53%	51%	33%	56%	54%	54%	56%	43%	38%	59%	67%	64%	48%	49%	48%	55%	65%	67%	57%
AXA	115	46%	62%	30%	49%	54%	100%	60%	49%	57%	52%	59%	57%	45%	61%	70%	52%	51%	33%	62%	53%	52%	53%	46%	46%	66%	71%	72%	49%	58%	51%	58%	64%	63%	45%
Bain	166	40%	54%	30%	40%	44%	42%	100%	47%	53%	45%	60%	46%	37%	52%	68%	46%	40%	31%	58%	48%	48%	46%	37%	33%	54%	61%	58%	42%	46%	47%	50%	55%	58%	42%
Halcyon	134	40%	54%	25%	42%	46%	42%	58%	100%	58%	52%	57%	44%	41%	48%	69%	53%	40%	33%	60%	57%	46%	52%	39%	30%	54%	61%	61%	42%	45%	49%	40%	57%	60%	46%
Barings	189	29%	47%	21%	41%	32%	35%	47%	41%	100%	35%	53%	39%	31%	48%	60%	40%	34%	26%	51%	44%	38%	42%	34%	31%	52%	55%	54%	38%	40%	46%	38%	50%	48%	39%
Blackrock	141	43%	52%	31%	46%	45%	43%	53%	50%	48%	100%	57%	40%	40%	51%	62%	45%	42%	31%	54%	53%	45%	47%	43%	40%	54%	64%	60%	41%	46%	49%	40%	63%	57%	48%
GSO	198	34%	47%	25%	40%	37%	34%	50%	39%	51%	40%	100%	41%	34%	46%	63%	39%	38%	27%	55%	48%	45%	40%	37%	32%	50%	59%	58%	38%	43%	44%	43%	50%	55%	38%
BNP	125	36%	61%	31%	52%	48%	53%	61%	47%	59%	46%	66%	100%	41%	62%	71%	49%	52%	34%	56%	52%	58%	53%	41%	41%	63%	66%	69%	50%	50%	52%	61%	67%	64%	54%
Brigade	104	46%	57%	32%	44%	45%	50%	60%	53%	57%	55%	65%	49%	100%	55%	68%	45%	50%	33%	58%	58%	48%	50%	47%	38%	65%	59%	64%	45%	55%	57%	52%	62%	69%	46%
Cairn	146	40%	59%	30%	45%	43%	48%	60%	44%	62%	49%	63%	53%	39%	100%	66%	50%	45%	39%	60%	53%	55%	54%	42%	38%	57%	71%	67%	47%	49%	55%	51%	58%	64%	47%
CELF	214	37%	49%	24%	37%	42%	38%	53%	43%	53%	41%	58%	42%	33%	45%	100%	40%	38%	28%	52%	48%	45%	45%	33%	35%	53%	57%	56%	37%	43%	47%	46%	55%	58%	41%
Chenavari	139	41%	52%	26%	42%	46%	43%	55%	51%	54%	46%	55%	44%	34%	53%	61%	100%	42%	30%	61%	52%	45%	52%	42%	30%	53%	58%	55%	41%	46%	47%	37%	57%	59%	41%
Commerzbank	106	47%	61%	36%	48%	58%	56%	62%	51%	61%	56%	71%	61%	49%	61%	77%	56%	100%	33%	73%	63%	58%	56%	48%	40%	63%	66%	69%	51%	61%	58%	60%	64%	75%	60%
CQS	95	33%	48%	27%	39%	42%	40%	55%	46%	52%	45%	57%	45%	36%	60%	63%	43%	37%	100%	58%	49%	43%	47%	41%	28%	48%	64%	58%	40%	40%	40%	46%	53%	55%	38%
CSAM	185	34%	48%	23%	39%	36%	38%	52%	44%	52%	41%	59%	38%	32%	48%	61%	46%	42%	30%	100%	49%	42%	53%	39%	28%	51%	59%	54%	36%	46%	44%	39%	51%	56%	43%
CVC	150	36%	55%	27%	42%	43%	41%	53%	51%	55%	50%	63%	43%	40%	51%	69%	48%	45%	31%	60%	100%	49%	51%	41%	33%	51%	62%	58%	42%	46%	46%	42%	55%	59%	47%
Five Arrows	138	44%	59%	31%	50%	47%	43%	57%	44%	52%	46%	65%	53%	36%	59%	70%	45%	44%	30%	57%	54%	100%	49%	40%	43%	58%	70%	72%	49%	51%	52%	59%	62%	69%	49%
GLG	157	39%	52%	24%	38%	43%	39%	49%	45%	50%	42%	51%	42%	33%	50%	61%	46%	38%	29%	62%	48%	43%	100%	38%	31%	51%	55%	52%	38%	44%	39%	47%	56%	52%	51%
GoldenTree	117	48%	51%	31%	40%	44%	45%	53%	44%	56%	51%	62%	44%	42%	53%	60%	50%	44%	33%	62%	53%	47%	50%	100%	30%	50%	62%	65%	43%	56%	44%	42%	56%	54%	45%
Guggenheim	107	43%	52%	31%	52%	42%	50%	50%	37%	55%	52%	60%	48%	37%	51%	70%	39%	39%	25%	48%	47%	55%	45%	33%	100%	58%	58%	59%	38%	45%	56%	51%	64%	62%	45%
ICM	175	35%	50%	23%	43%	41%	43%	51%	42%	56%	43%	57%	45%	39%	47%	65%	42%	38%	26%	54%	43%	46%	46%	34%	35%	100%	60%	59%	35%	45%	44%	49%	59%	57%	38%
Investcorp	199	37%	52%	24%	42%	40%	41%	51%	41%	52%	45%	59%	42%	31%	52%	61%	40%	35%	31%	55%	47%	48%	44%	37%	31%	53%	100%	59%	39%	42%	43%	49%	53%	52%	41%
KKR	180	41%	58%	26%	47%	43%	46%	54%	46%	57%	47%	63%	48%	37%	54%	67%	43%	41%	31%	55%	48%	56%	46%	42%	35%	57%	65%	100%	43%	50%	52%	54%	58%	60%	48%
NIBC	123	37%	60%	30%	49%	46%	46%	56%	46%	58%	47%	61%	50%	38%	55%	64%	46%	44%	31%	54%	51%	54%	48%	41%	33%	50%	63%	63%	100%	50%	53%	54%	61%	62%	55%
Oak Hill	137	45%	52%	28%	47%	43%	49%	56%	44%	55%	47%	62%	46%	42%	52%	66%	47%	47%	28%	62%	50%	52%	50%	47%	35%	58%	61%	66%	45%	100%	50%	50%	58%	65%	45%
Oaktree	144	42%	54%	27%	49%	40%	41%	54%	45%	60%	48%	61%	45%	41%	56%	69%	45%	42%	26%	56%	48%	50%	42%	36%	42%	53%	60%	65%	45%	48%	100%	49%	60%	66%	49%
Partners	155	41%	56%	23%	40%	43%	43%	54%	35%	46%	36%	55%	49%	35%	48%	64%	33%	41%	28%	47%	41%	53%	48%	32%	35%	55%	63%	63%	43%	45%	45%	100%	57%	55%	40%
PGIM	197	38%	51%	24%	41%	40%	38%	46%	39%	48%	45%	50%	43%	32%	43%	59%	40%	35%	25%	48%	42%	43%	45%	34%	35%	53%	54%	53%	38%	41%	44%	45%	100%	52%	41%
PineBridge	166	39%	55%	30%	46%	48%	44%	58%	49%	55%	49%	66%	48%	43%	56%	75%	49%	48%	31%	62%	54%	57%	49%	38%	40%	60%	62%	65%	46%	54%	57%	51%	62%	100%	46%
Tikehau	131	40%	53%	28%	47%	52%	40%	53%	47%	56%	51%	58%	51%	37%	52%	67%	44%	49%	27%	61%	53%	52%	61%	40%	37%	51%	63%	66%	52%	47%	53%	47%	61%	59%	100%

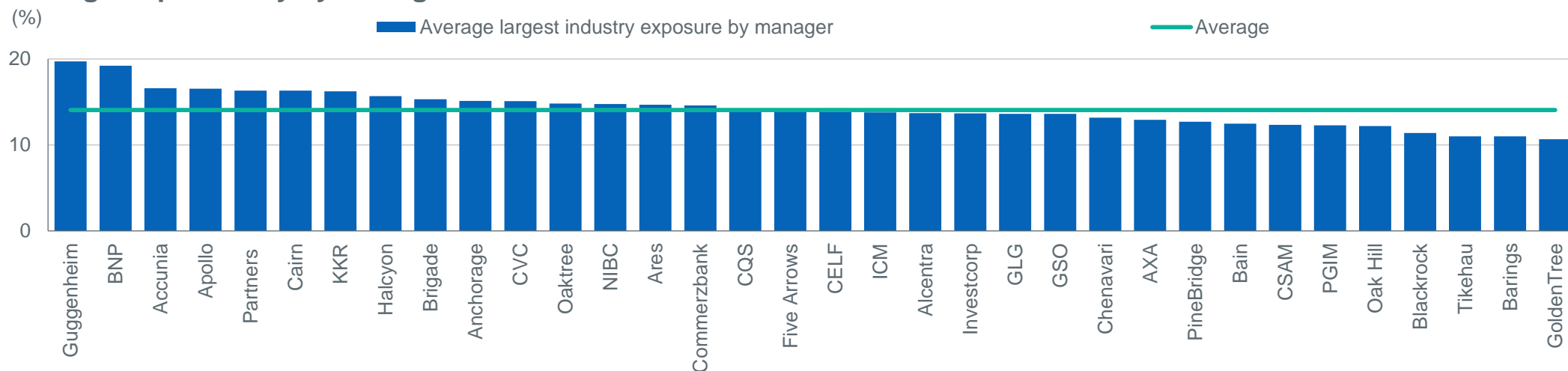
Source: Fitch Ratings

Industry Concentration Largely Stable, Portfolio Remains Diversified

- Portfolio remains well diversified across industries.
- Healthcare, business services and computers and electronics emerged as the largest three Fitch industries at end-4Q18.
- The largest industry represented on average 14% of the portfolio as end-4Q18.
- Managers do not use the full flexibility offered by the profile tests, which typically limit the largest and top three industries at 17.5% and 40%, respectively.

Measure (average)	4Q18		3Q18	4Q17
Largest industry exposure (%)	14.1	↑	14.0	13.2
Healthcare (%)	12.2	↑	12.0	9.8
Business services (%)	10.7	↑	9.6	5.9
Computers & electronics (%)	9.8	↓	10.4	9.5

Average Top Industry by Manager

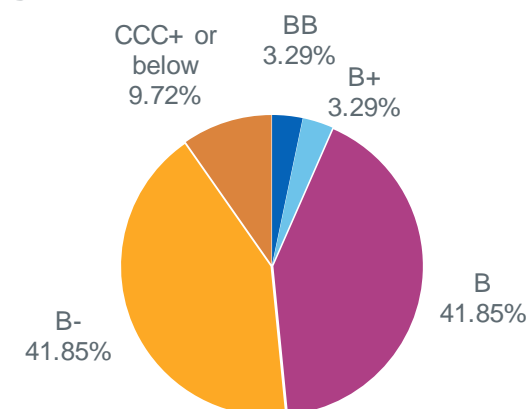


Source: Fitch Ratings, Investor reports

Retail Exposure Remains Limited

- Retail remains a challenged sector.
- Limited exposure in European CLOs but a large dispersion exists among transactions:
 - Average exposure: 5.3%
 - Minimum exposure: 0.7%
 - Maximum exposure: 10.4%
- Average ratings are in the 'B'/'B-' category.
- Three issuers were classified as defaulted by the managers among the 31 issuers identified by Fitch in the retail sector in European CLO.
- Retail issuers are concentrated in Germany (26%), the UK (23%), Netherlands (19%) and France (13%).

Rating Distribution



Source: Fitch Ratings, Investor reports

Retail Exposure in European CLO

Belk, Inc.	HEMA BV	LKQ Corporation	Salsa Retail Holding DebtCo1 S.a.r.l.
Blitz F14-232 GMBH (Christ)	Holland & Barrett International Ltd.	Maxeda DIY Holding B.V.	Scotch & Soda N.V.
CatLuxe S.a.r.l	Horizon Bidco Limited (Photobox Group)	Mobilux 2 SAS	Selecta Group BV
CBR Fashion GmbH (CBR)	HSE24 Holding GmbH	New Look Retail Group Ltd	Stargazer Holding GmbH (Jack Wolfskin)
CD&R Firefly Bidco Limited	Hunkemoller International BV	Novartex SAS	Tendam Brands, S.A.
Creatrade Holding GmbH	Iceland Topco Limited	Peer Holding III B.V.	Thom Europe SAS
EG Group Limited	Kirk Beauty One GmbH	Picard Bondco S.A.	ZF BIDCO
Fat Face World Borrowings Ltd (Fat Face)	Lion Adventure B.V.	PrestigeBidCo GmbH	

Source: Fitch Ratings, Investor reports

European CLOs: Industry Rating Map

Fitch Industry	Issuer Count	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	C	D	Default	CCC+ & Below	TOTAL CLO	CCC+ Ratio
Pharmaceuticals	15				0.02%		0.88%	1.63%	0.51%	0.24%						0.06%	0.30%	3.35%	8.99%
Broadcasting and media	21				0.13%	0.29%	0.64%	1.70%	0.72%	0.26%							0.26%	3.72%	6.85%
Food and beverage and tobacco	14					0.27%	1.41%	0.45%	1.24%	0.07%	0.16%						0.24%	3.60%	6.54%
Healthcare	41					0.73%	0.49%	8.62%	2.21%		0.10%						0.10%	12.16%	0.84%
Retail	29				0.04%		0.79%	2.76%	1.22%				0.01%			0.08%	0.09%	4.90%	1.86%
Packaging and containers	21			0.04%	0.15%	0.17%	0.11%	1.32%	1.06%		0.09%						0.09%	2.93%	3.00%
Industrial and manufacturing	39				0.25%	0.18%	0.77%	2.68%	2.07%	0.01%	0.08%						0.09%	6.04%	1.41%
Banking and finance	26				0.03%	0.36%	0.01%	2.20%	0.26%		0.05%						0.05%	2.92%	1.87%
Chemicals	37			0.88%	0.54%	0.79%	2.22%	1.74%	3.46%	0.04%							0.04%	9.68%	0.45%
Business services	45				1.10%	0.35%	2.04%	5.88%	1.32%		0.03%	0.01%					0.04%	10.73%	0.37%
Computer and electronics	31				0.02%	1.01%	0.01%	6.50%	2.25%		0.03%						0.03%	9.83%	0.34%
Lodging and restaurants	15						0.02%	0.78%	0.62%		0.02%					0.01%	0.02%	1.44%	1.69%
Building and materials	13				0.00%		0.16%	1.32%	1.81%							0.01%	0.01%	3.31%	0.42%
Transportation and distribution	10				0.01%	0.01%	0.65%	0.14%	0.55%			0.01%					0.01%	1.37%	0.95%
Energy oil and gas	5			0.01%					0.03%		0.00%	0.00%					0.01%	0.04%	15.95%
Automobiles	13			0.02%		0.73%	0.39%	0.43%	0.19%		0.00%						0.00%	1.76%	0.20%
Metals and mining	1										0.00%						0.00%	0.00%	100.00%
Aerospace and defence	4			0.00%			0.39%	0.20%	0.01%								0.00%	0.61%	0.00%
Cable	6					0.49%	1.69%	0.69%	0.26%								0.00%	3.13%	0.00%
Consumer products	20				0.03%	0.44%	0.10%	2.63%	0.98%								0.00%	4.17%	0.00%
Environmental services	5					0.26%		0.72%									0.00%	0.98%	0.00%
Farming and agricultural services	2							0.12%	0.19%								0.00%	0.31%	0.00%
Gaming and leisure and entertainment	27			0.45%	0.05%	0.12%	0.87%	3.40%	0.65%								0.00%	5.55%	0.00%
Paper and forest products	3						0.21%		0.19%								0.00%	0.41%	0.00%
Real estate	3				0.00%	0.00%			0.33%								0.00%	0.33%	0.00%
Retail food and drug	3							0.32%	0.04%								0.00%	0.35%	0.00%
Telecommunications	14		0.00%		0.09%	2.24%	2.27%	0.65%	0.18%								0.00%	5.44%	0.00%
Textiles and furniture	2						0.02%		0.16%								0.00%	0.17%	0.00%
Utilities power	3					0.02%	0.10%	0.80%									0.00%	0.92%	0.00%

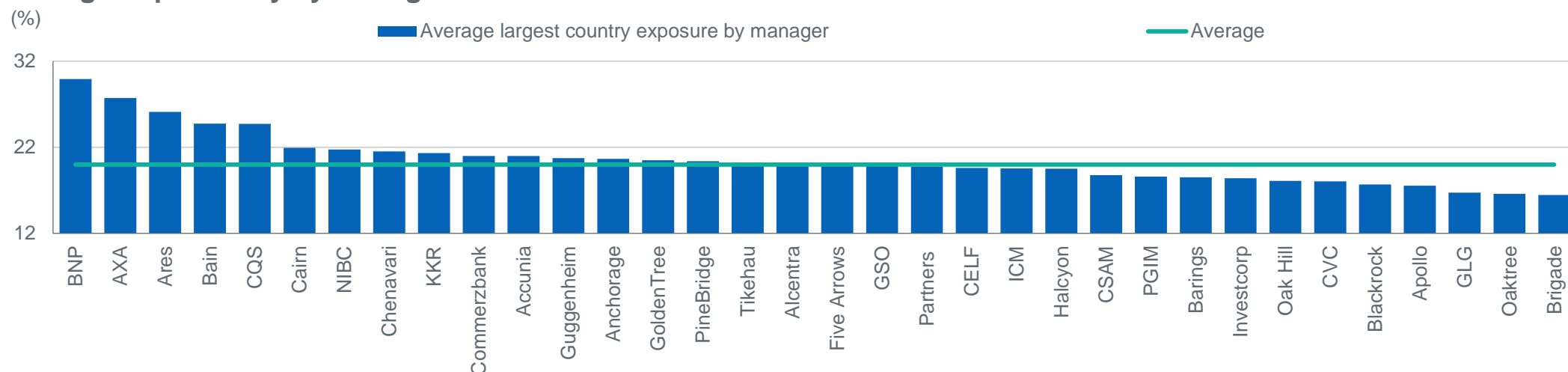
Source: Fitch Ratings

Country Concentration Largely Stable, Portfolio Remains Diversified

- Portfolio remains well diversified across countries.
- Germany, the US and France remain the largest countries in Fitch rated CLO.
- The US's exposure decreased to 15.6% at end-4Q18.
- The UK's exposure increased to 11.3% at end-4Q18.
- Exposure to peripheral eurozone (mainly Spain and Italy) remains relatively low and well below the typical 10% limit allowed under the transaction documents.

Measure (average)	4Q18		3Q18	4Q17
Largest country exposure (%)	20.0	↓	20.7	21.5
Germany (%)	15.4	↓	16.7	18.5
United States (%)	15.6	↓	15.7	17.9
France (%)	17.9	↑	17.6	17.2
United Kingdom (%)	11.3	↑	10.8	10.3
Italy & Spain (%)	7.5	↑	7.3	6.1



Average Top Country by Manager



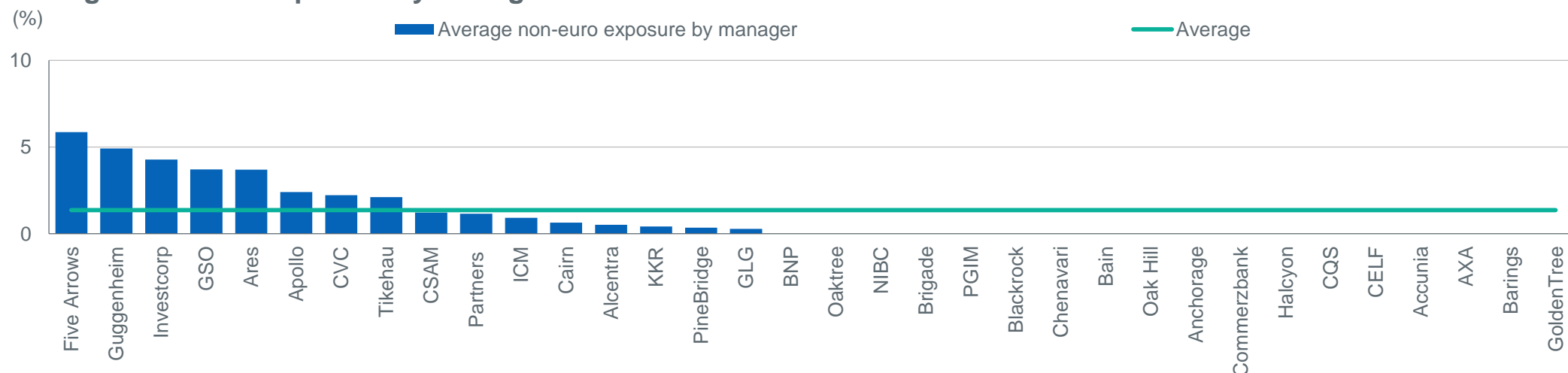
Source: Fitch Ratings, Investor reports

Non-Euro Exposure Remains Limited

- Most of the non-euro exposure is hedged via perfect asset swaps.
- Some transactions have a small bucket for unhedged or FX forward hedge obligations, but managers do not typically use this flexibility.
- BNP and JP Morgan are the largest currency swap counterparties.
- Interest in multicurrency structures has almost completely disappeared and most of the post-crisis multi-currency transactions have been reset to a single-currency structure.

Measure (average)	4Q18	3Q18	4Q17
Average non-euro exposure (%)	1.4 	1.5	2.3
% transactions with non-euro exposure	50.9 	54.7	59.3

Average Non-Euro Exposure by Manager



Source: Fitch Ratings, Investor reports

Related Research

- [CLOs and Corporate CDOs Rating Criteria](#)
- [European Leveraged Loan CLO 4Q18 Tracker Data File](#)
- [European CLO 2.0: Selected Transaction Features Explained from a Credit Perspective](#)
- [European Leveraged Loan Chart Book – 1H18](#)
- [Fitch Ratings: Investors Push Back on Weaker Terms in European CLOs](#)
- [Fitch Rtgs: Snr Secured Definitions May Change CLO Recovery Expectations](#)
- [Fitch Ratings: New Covenant Limits Maturity Risk in European CLOs](#)
- [Fitch Ratings: CLO Concentration a Potential Risk](#)
- [What Investors Want to Know: Topics in Leveraged Loans and CLOs](#)
- [Late Cycle Risk Building for CLOs & Leveraged Loans](#)
- [Fitch Ratings 2019 Outlook: Global CLO and Leveraged Loans \(Global Review\)](#)
- [Global CLO Market Trends Quarterly - 4Q18](#)
- [CLO Asset Manager Handbook \(Seventh Edition\)](#)
- [U.S. CLO Index: Issuance, Reset Activity Supports Stable Metrics](#)

Recent Presales and New Issue Reports

- [Penta CLO 5 Designated Activity Company](#)
- [Armada Euro CLO III Designated Activity Company](#)
- [GoldenTree Loan Management EUR CLO 2 Designated Activity Company](#)
- [Invesco Euro CLO I Designated Activity Company](#)
- [Providus CLO II Designated Activity Company](#)
- [Dryden 66 Euro CLO 2018 B.V.](#)
- [OZLME V Designated Activity Company](#)
- [BlackRock European CLO VII DAC](#)
- [CVC Cordatus Loan Fund XII Designated Activity Company](#)
- [Jubilee CLO 2018-XXI B.V.](#)
- [Rockford Tower Europe CLO 2018-1 DAC](#)
- [Contego CLO VI DAC](#)
- [Harvest CLO XX DAC](#)
- [Oak Hill European Credit Partners VII Designated Activity Company](#)
- [Bain Capital Euro CLO 2018-2 Designated Activity Company](#)
- [Halcyon Loan Advisors European Funding 2016 DAC](#)
- [Griffith Park CLO Designated Activity Company](#)
- [Carlyle Global Market Strategies Euro CLO 2014-2 Designated Activity Company](#)
- [Phoenix Park CLO Designated Activity Company](#)
- [Laurelin 2016-1 Designated Activity Company](#)

European CLO Index Assumptions

- “European Primary Market Update” statistics are based on the universe of post-crisis European CLOs. “Fitch Rated European CLO Performance” statistics are based on Fitch-rated European CLOs.
- 4Q18 data are as of 17 January 2019 and based on investor reports available at that time (31 October 2018 to 4 January 2019).
- All stratifications and bucket allocations reflect Fitch's rating methodology, detailed in CLOs and Corporate CDOs Rating Criteria. For example, industry stratification charts reflect Fitch's industry classification and 'CCC' buckets reflect Fitch's Equivalent Ratings. These calculations are consistent across all transactions and mirror the inputs into Fitch's PCM model. Consequently, they may not match the values used for operational tests.
- All portfolio statistics are based on asset balance and are calculated relative to the current outstanding balance of the portfolio, which includes cash and defaulted assets taken at par.
- The weighted-average life calculation excludes defaulted assets. The calculation is based on the legal final maturity dates of corporate assets.
- Defaulted assets refers to obligors that are reported as defaulted assets by the trustee.
- In the recovery stratification charts, the recovery rate of assets that do not have a Fitch asset-specific recovery rate assigned to them are based on Fitch's standard recovery rate assumptions as specified in Fitch's criteria.
- Transaction net gains/losses are calculated as the difference between the current portfolio par and the target par (initial target minus reduction in liabilities). The net gains/losses take into account the benefit of excess spread used to deleverage the transaction and offset portfolio losses, as well as par building through the purchase of discounted assets.
- Credit Enhancement calculation includes defaulted assets at Par.
- Manager overlap matrix is based on issuer count. The overlap is the number of issuers 2 CLO managers have in common and is measured relative to the number of issuers the managers referenced CLO (presented in the rows of the overlap table) have.

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