



## European CLO Index: 1Q19 Market Update

Refinancing and Reset Slowdown; Some Transactions Start to Amortise

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**Fitch**Ratings

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# 1

At a Glance

# Executive Summary

- **Primary Issuance Remains Strong:** 16 European CLOs issued EUR6.9 billion of notes in 1Q19.
- **Wider Senior Spreads:** Senior spreads on new issue notes increased for the fourth consecutive quarter.
- **'AAA' C/E Remains in Narrow Band:** 'AAA' C/E range between 44% and 38% in 1Q19, almost unchanged for more than five years.
- **Refinancing and Reset Slowdown:** Only two transactions were reset in 1Q19. The recent increase in senior spreads made refinancing and reset less attractive.
- **Transactions Start to Amortise:** 10 transactions are currently outside their reinvestment period.
- **WAS Continues to Stabilise:** Average WAS remained stable at about 3.8%, almost unchanged since 1Q18.
- **WARR Continues to Stabilise:** Average WARR remained stable at just above 65%, almost unchanged since 4Q17.

Note: simple average across deal sample  
 Note: market data for 1Q19 and 4Q18 are for the full quarter  
 Note: market data for 2018 are for the full year  
 Source: Fitch Ratings, public domain

| Primary market            | 1Q19  |   | 4Q18 | 2018 |
|---------------------------|-------|---|------|------|
| Average 'AAA' C/E (%)     | 39.8  | ↑ | 38.8 | 39.5 |
| Average 'AAA' margin (bp) | 110.2 | ↑ | 98.5 | 86.1 |
| Issuance volume (EURbn)   | 6.9   | ↑ | 6.5  | 27.3 |

| Refinancing & reset          | 1Q19 |   | 4Q18 | 2018 |
|------------------------------|------|---|------|------|
| Average 'AAA' margin (bp)    | 96.0 | ↓ | 96.2 | 79.7 |
| Average 'AAA' reduction (bp) | 14.5 | ↓ | 15.6 | 45   |
| Number of transaction        | 2    | ↓ | 5    | 40   |

| Collateral quality test       | 1Q19 |   | 4Q18 | 1Q18 |
|-------------------------------|------|---|------|------|
| Average WAS (trustee) (%)     | 3.8  | ← | 3.8  | 3.8  |
| Average WARR (trustee) (%)    | 65.4 | ↑ | 65.3 | 65.2 |
| Average WARF (trustee) (%)    | 32.3 | ↓ | 32.4 | 32.4 |
| Average WAL (trustee) (years) | 5.2  | ↓ | 5.3  | 5.5  |

C/E: Credit Enhancement  
 WAS: Weighted Average Spread  
 WARR: Weighted Average Recovery Rate  
 WARF: Weighted Average Rating Factor  
 WAL: Weighted Average Life



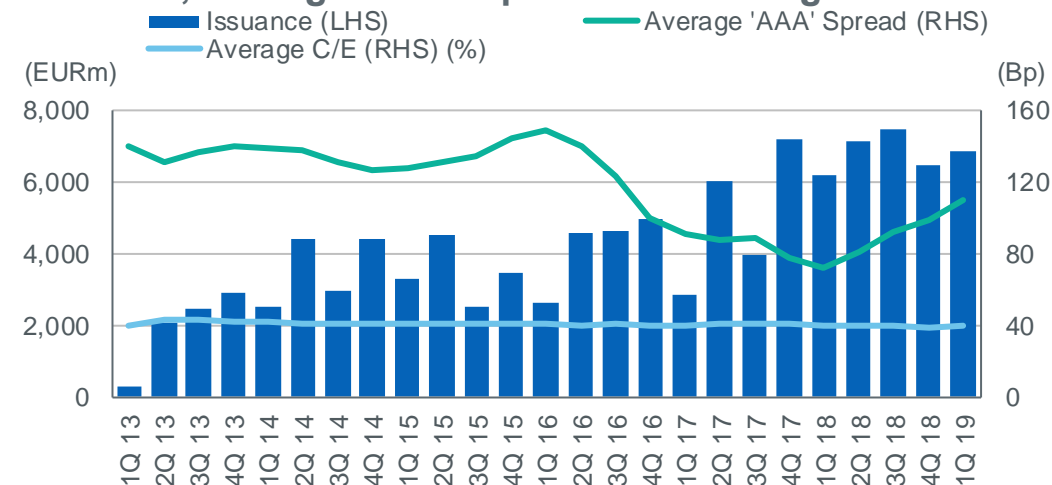
# 2

## European Primary Market Update

# European Issuance Remains Strong, Spread Continues to Increase

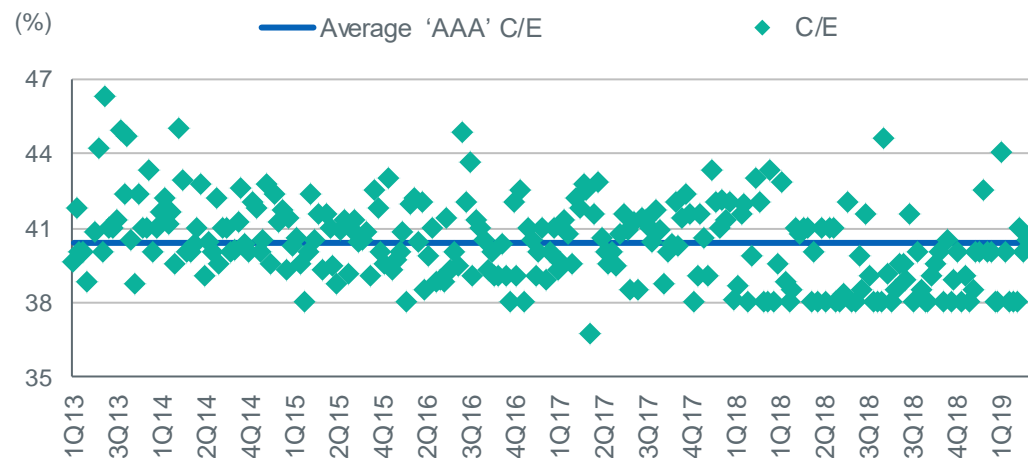
- European CLO issuance reached EUR6.9 billion of notes in 1Q19 (16 transactions) versus EUR6.2 billion for 1Q18 (15 transactions).
- 'AAA' spreads widened for the fourth consecutive quarter to average 110.2bp over Euribor during the first quarter, well above the annual average of 86.1bp for 2018.

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



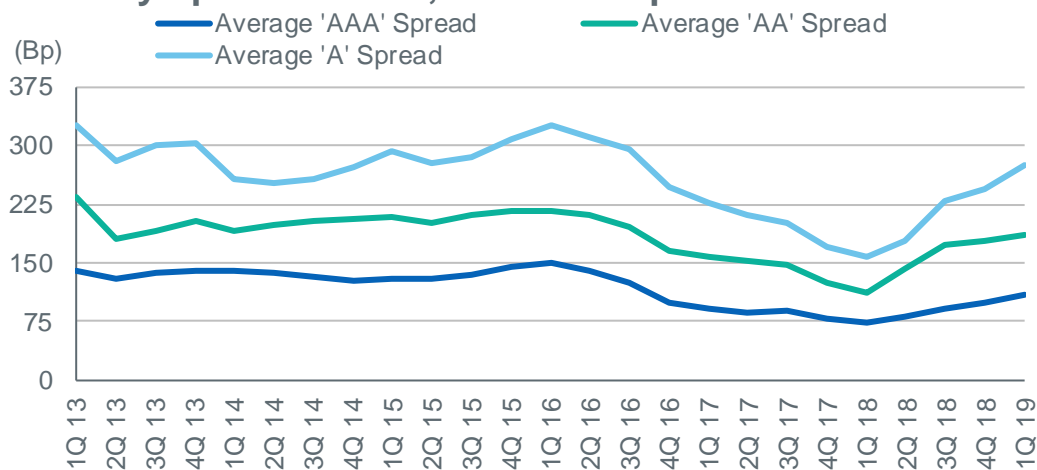
Source: Fitch, public domain

## 'AAA' C/E



Source: Fitch Ratings, public domain

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



Source: Fitch Ratings, public domain

# 1Q19 European CLO Issuance

## 1Q19 European CLO Transactions (as at 31 March 2019)

| Deal Name                        | Deal Size Amount (EUR Mil.) | Collateral Manager                       | Structurer         | Pricing Date | 'AAA' CE | 'AAA' Spread (bp) | Non-Call (yrs) | Reinvestment (yrs) | Max. WAL |
|----------------------------------|-----------------------------|--|--------------------|--------------|----------|-------------------|----------------|--------------------|----------|
| Cadogan Square CLO XIII DAC      | 509.0                       | Credit Suisse Asset Management           | Barclays           | Jan-2019     | 38.5     | 108.0             | 2.0            | 4.5                | 8.5      |
| Crosthwaite Park CLO DAC         | 513.0                       | Blackstone/GSO Debt Funds Europe Limited | Greensledge / Natw | Feb-2019     | 40.0     | 108.0             | 2.0            | 4.5                | 8.5      |
| Carlyle Euro CLO 2019-1 DAC      | 409.1                       | CELF Advisors LLP                        | BNP Paribas        | Feb-2019     | 40.0     | 108.0             | 2.0            | 4.5                | 8.5      |
| BlueMountain Fuji EUR CLO IV DAC | 360.3                       | BlueMountain Fuji Management, LLC        | Deutsche Bank      | Feb-2019     | 42.5     | 108.0             | 2.0            | 4.5                | 8.5      |
| Aqueduct European CLO 3-2019 DAC | 411.6                       | HPS Investment Partners CLO (UK) LLP     | Citigroup          | Feb-2019     | 40.0     | 108.0             | 2.0            | 4.5                | 8.5      |
| Harvest CLO XXI DAC              | 409.5                       | Investcorp Credit Management EU Limited  | Barclays           | Feb-2019     | 40.0     | 108.0             | 2.0            | 4.5                | 8.5      |
| Aurium CLO V DAC                 | 447.8                       | Spire Partners                           | Bank of America    | Feb-2019     | 38.0     | 114.0             | 2.0            | 4.5                | 8.5      |
| St. Paul's CLO X DAC             | 410.1                       | Intermediate Capital Managers Limited    | Goldman Sachs      | Feb-2019     | 38.0     | 114.0             | 2.0            | 4.5                | 8.5      |
| RRE 1 Loan Management DAC        | 451.8                       | Redding Ridge Asset Management           | BNP Paribas        | Mar-2019     | 44.0     | 108.5             | 2.0            | 4.5                | 8.5      |
| Ares European CLO XI B.V.        | 461.6                       | Ares Management                          | Citigroup          | Mar-2019     | 40.0     | 108.5             | 2.0            | 4.5                | 8.5      |
| Bilbao CLO II DAC                | 409.8                       | Guggenheim Partners Europe Limited       | Citigroup          | Mar-2019     | 38.0     | 114.0             | 2.0            | 4.5                | 8.5      |
| Hayfin Emerald CLO II DAC        | 407.9                       | HayFin Capital Management                | Goldman Sachs      | Mar-2019     | 38.0     | 116.0             | 2.0            | 4.5                | 8.5      |
| Euro Galaxy VII CLO DAC          | 412.8                       | PineBridge Investments Europe Limited    | Credit Suisse      | Mar-2019     | 38.0     | 114.0             | 2.0            | 4.5                | 8.5      |
| CVC Cordatus Loan Fund XIV DAC   | 412.2                       | CVC Credit Partners Group Limited        | Goldman Sachs      | Mar-2019     | 41.0     | 108.5             | 2.0            | 4.5                | 8.5      |
| Arbour CLO VI DAC                | 410.5                       | Oaktree Capital Management (UK) LLP      | Barclays           | Mar-2019     | 40.0     | 108.5             | 2.0            | 4.5                | 8.5      |
| Avoca CLO XX DAC                 | 456.3                       | KKR Credit Advisors (Ireland)            | Morgan Stanley     | Mar-2019     | 40.5     | 108.5             | 2.0            | 4.5                | 8.5      |
| Q1 2019 Average                  | 430.8                       |  |                    |              | 39.8     | 110.2             | 2.0            | 4.5                | 8.5      |
| Q1 2019 Median                   | 411.9                       |  |                    |              | 40.0     | 108.5             | 2.0            | 4.5                | 8.5      |
| Q1 2019 Minimum                  | 360.3                       |  |                    |              | 38.0     | 108.0             | 2.0            | 4.5                | 8.5      |
| Q1 2019 Maximum                  | 513.0                       |  |                    |              | 44.0     | 116.0             | 2.0            | 4.5                | 8.5      |
| <b>Total</b>                     | <b>6,893.2</b>              |  |                    |              |          |                   |                |                    |          |

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

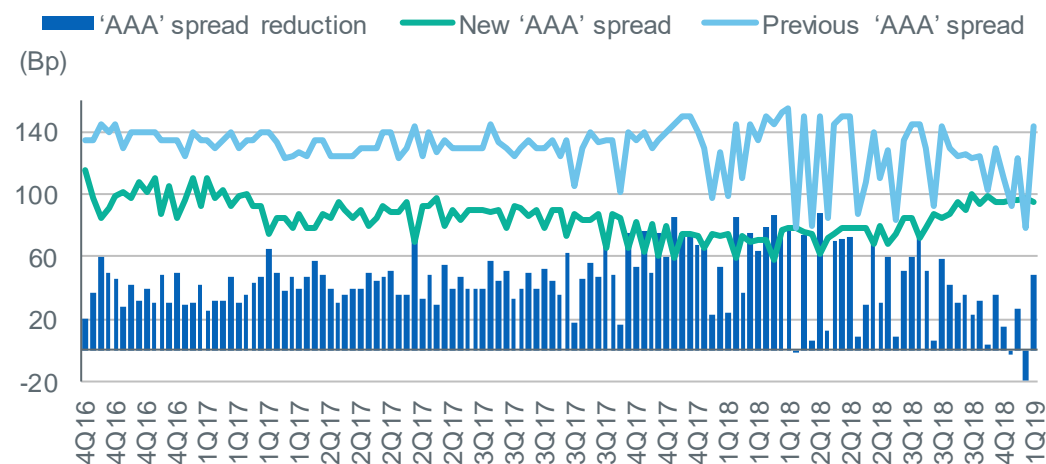
'AAA' CE and Spread are for the senior 'AAA' notes

Source: Fitch Ratings, public domain

# Refinancing and Reset Slowdown

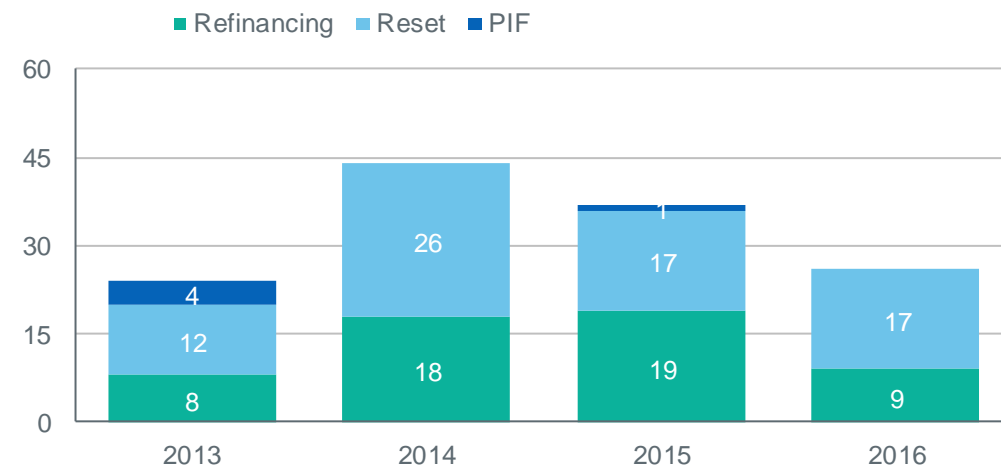
- Managers took advantage of the good financing conditions and extensively refinanced liabilities between 4Q16 and 4Q18.
- 40 transactions were refinanced, reset or reissued in 2018, compared with 70 transactions in 2017.
- Given the recent increase in cost of funding, refinancing, reset and re-issue became less attractive.
- Only two transactions reset or re-issue in 1Q19.
- More transactions are starting to exit their reinvestment period.

## '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



# 1Q19 European CLO Refinancing & Reset

## 1Q19 European CLO Refinancing

(as of March 31, 2019)

| Vintage | Deal Name                      | Collateral Manager                | Previous 'AAAsf'<br>Spread | Current 'AAAsf'<br>Spread | Pricing Date | Activity |
|---------|--------------------------------|-----------------------------------|----------------------------|---------------------------|--------------|----------|
| 2014    | CVC Cordatus Loan Trust IV DAC | CVC Credit Partners Group Limited | 78                         | 97                        | Q1 2019      | Reset    |
| 2016    | Accunia European CLO I DAC     | Accunia Credit Management         | 143                        | 95                        | Q1 2019      | Reset    |

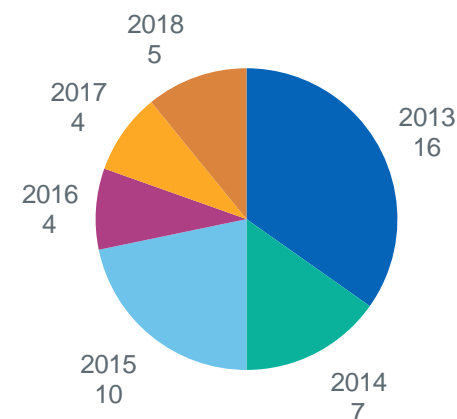
Note: re-issuances are classified as "Reset"

Source: Fitch Ratings, public domain

# Established Managers Dominate European Market

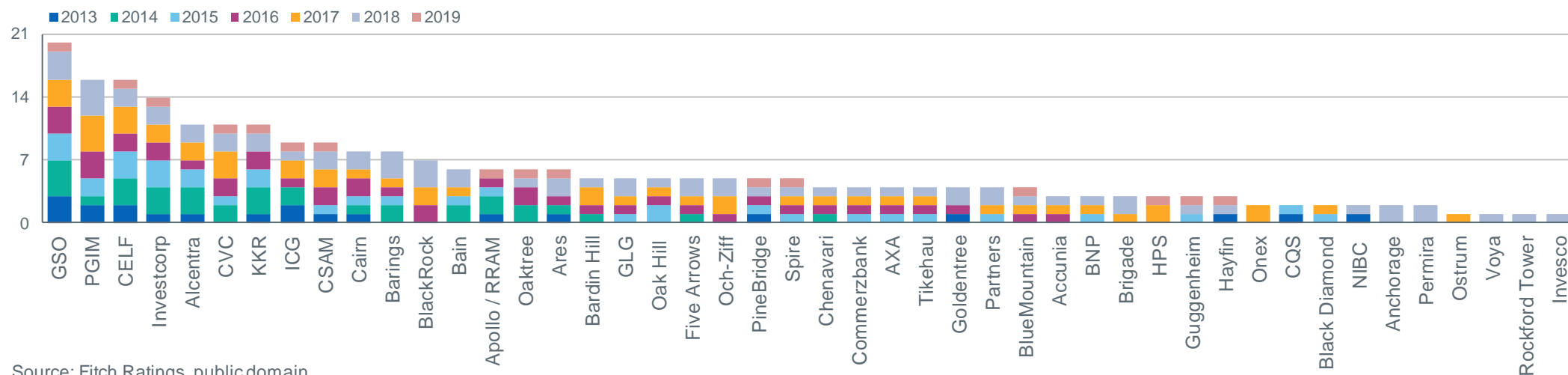
- European CLOs remain concentrated in large managers.
- The top four managers have issued about a quarter of all European post-crisis transactions, while the top 10 have issued around half.
- Fitch has identified 46 managers active in the European post-crisis market.
- Five new managers entered the 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 in 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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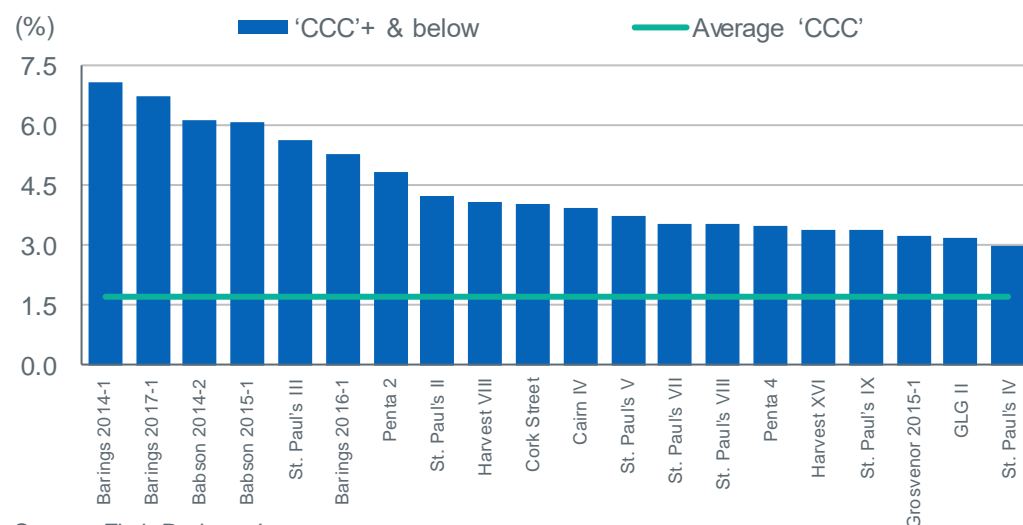
## Fitch-Rated European CLO Performance

# Defaulted and 'CCC' Assets Remain Limited

- There were two new defaulted assets in 1Q19.
- Eight issuers were classified as defaulted by at least one manager at end-1Q19.
- Number of CLOs with exposure to defaults decreased to 15% (20 transactions) from 20.7% (20 transactions) as of end-4Q18. On average, these CLOs have an exposure to default at 0.7%.
- 93.2% of CLOs held at least one 'CCC' rated or unrated asset as of end-4Q18. The average 'CCC' exposure for these transactions is 1.8% as of end-1Q19, well below the typical 7.5% limit.

| Measure                                 | 1Q19                                      | 4Q18 | 1Q18 |
|---|---|------|------|
| Number of defaulted Obligor             | 8 <span style="color: red;">↑</span>      | 6    | 4    |
| Transactions exposed to defaults (%)    | 15.0 <span style="color: green;">↓</span> | 20.7 | 28.6 |
| Average exposure to default (%)         | 0.7 <span style="color: green;">↓</span>  | 0.8  | 1.2  |
| Transactions exposed to 'CCC' asset (%) | 93.2 <span style="color: red;">↑</span>   | 71.6 | 82.1 |
| Average exposure to 'CCC' assets (%)    | 1.8 <span style="color: red;">↑</span>    | 1.7  | 1.5  |

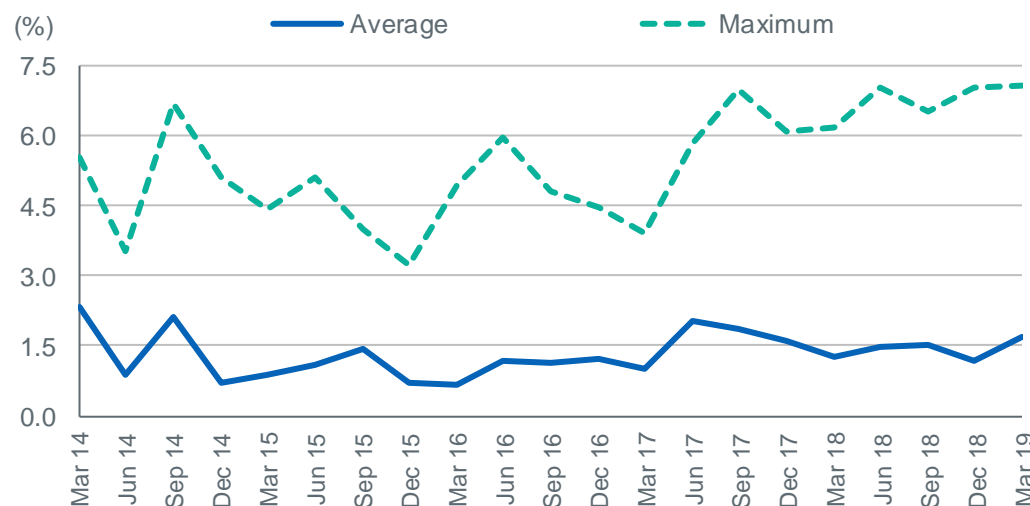
## 'CCC+' and Below Exposure Top 20 CLOs



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



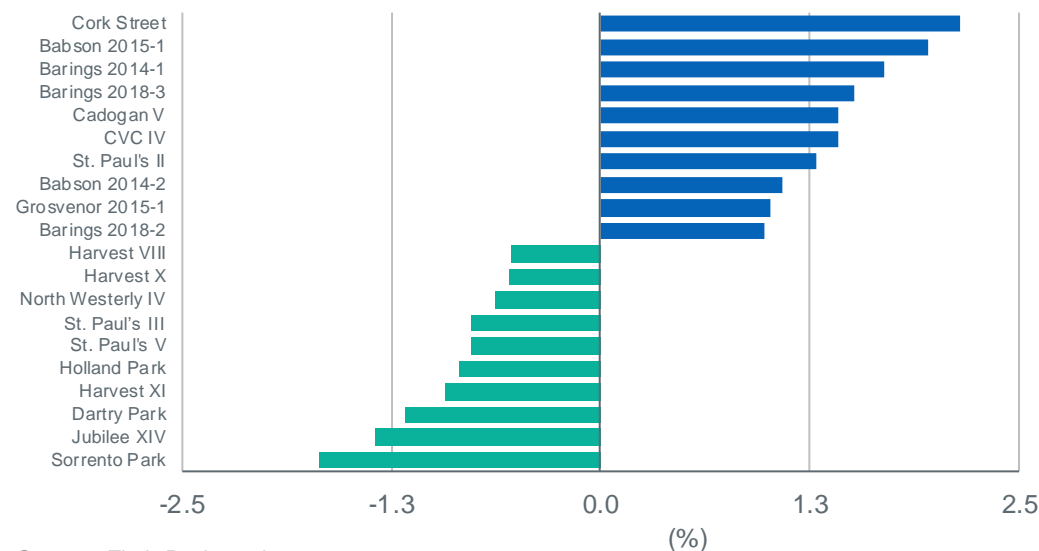
Source: Fitch Ratings, Investor reports

# Net Portfolio Gains and OC Tests Cushion Largely Stable

- 75% of CLOs rated by Fitch have a net portfolio gain. 32 transactions have a net portfolio loss, up from 27 three months ago.
- Losses have remained low thanks to par built.
- Average excess par remains stable at 0.2% at end-1Q19.
- 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                          | 1Q19   | 4Q18 | 1Q18 |
|----------------------------------|--|------|------|
| Average gain/loss (%)            | 0.2   | 0.2  | 0.2  |
| Number of transactions with loss | 32    | 27   | 25   |
| Transactions with loss (%)       | 24.1  | 23.3 | 29.8 |
| Average 'AA' OC test cushion (%) | 9.6   | 9.6  | 9.5  |
| Average 'BB' OC test cushion (%) | 4.9   | 4.9  | 4.9  |

## Net Portfolio Gain & Loss

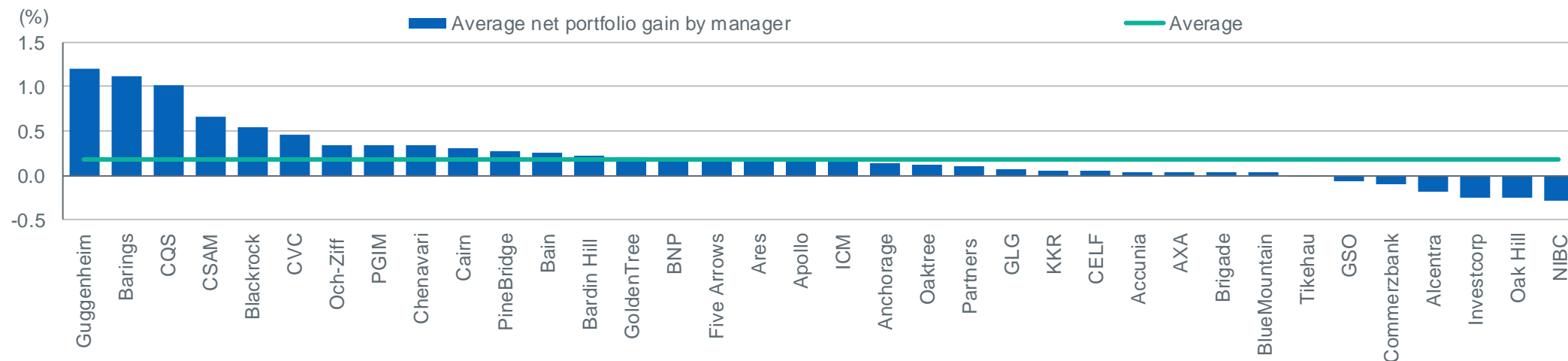


Note: in the absence of 'CCC' haircuts, the net portfolio gains reflect the difference between the current portfolio par and the target par

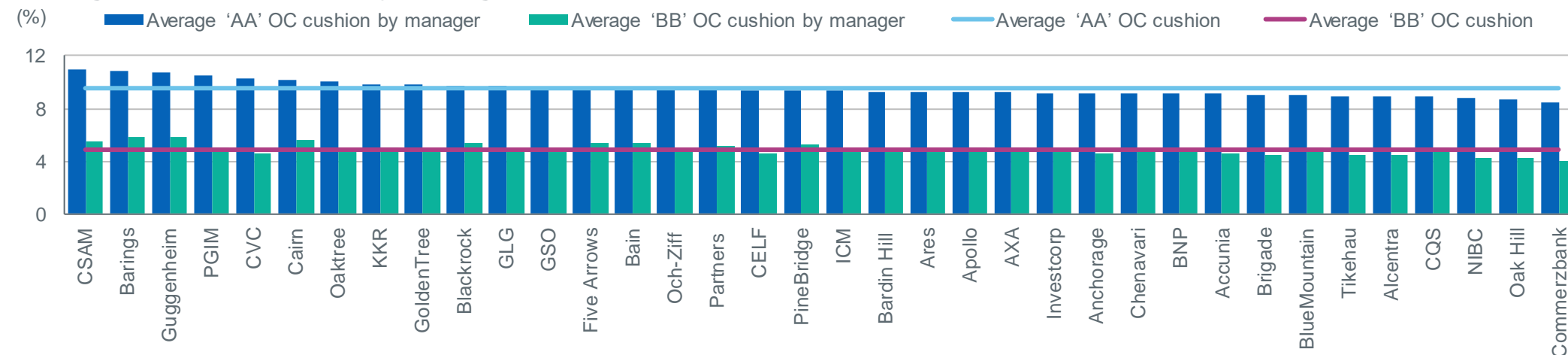
Source: Fitch Ratings, Investor reports

# Net Portfolio Gains and OC Tests Cushion Comparison

## Average Net Portfolio Gain by Manager







## Average OC Test Cushion by Manager

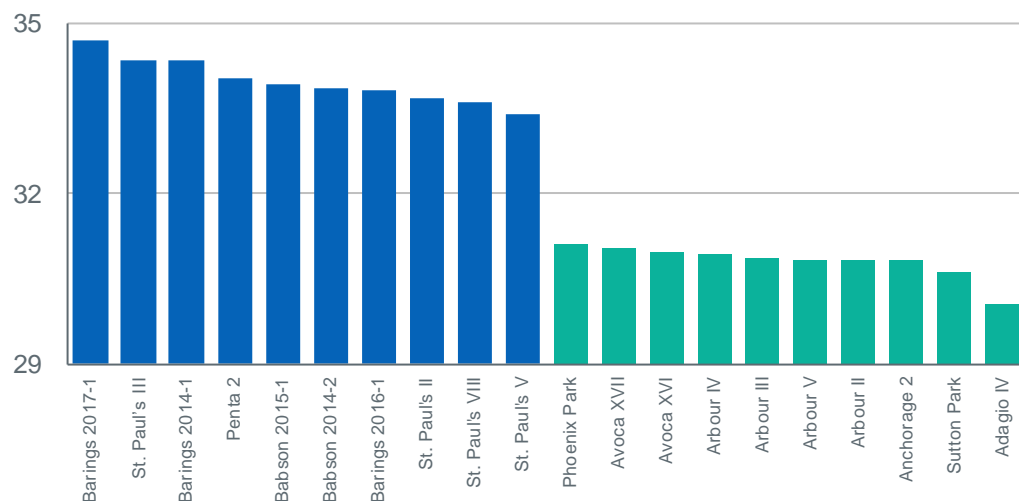


# Fitch WARF Remains Relatively Stable

- 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-1Q19.
- Rating distribution is concentrated in the 'B'/'B-' range and the at-risk portfolio ('B-/Negative and below) represents 3.6% of the portfolio.

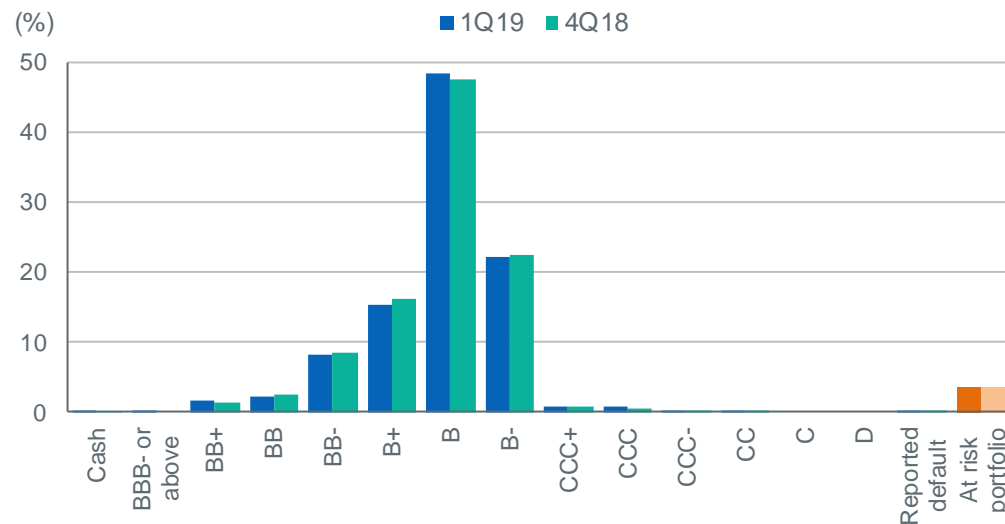
| Measure                        | 1Q19   | 4Q18 | 1Q18 |
|--------------------------------|--|------|------|
| Average WARF (trustee)         | 32.3  | 32.4 | 32.4 |
| Average WARF cushion           | 1.5   | 1.5  | 1.2  |
| WARF failing (% transaction)   | 0.8   | 0.0  | 0.0  |
| At-risk portfolio exposure (%) | 3.6   | 3.5  | 2.2  |

## Top 10 & Bottom 10 WARF



Source: Fitch Ratings, Investor reports





## Rating Distribution



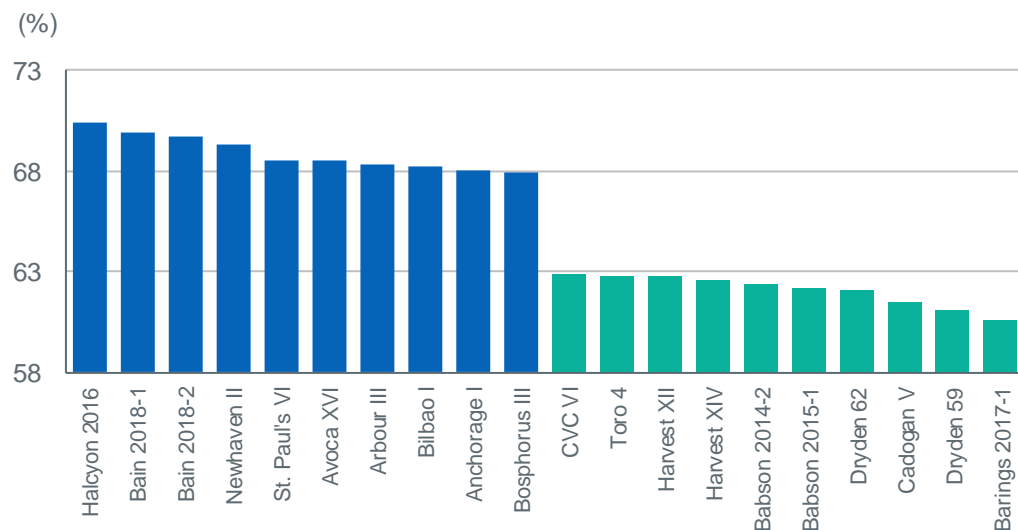
Source: Fitch Ratings, Investor reports

# Recovery Expectations Continue to Stabilise

- The WARR has remained stable just above 65% since 4Q17.
- Only three transactions were breaching the WARF covenant at end-1Q19.
- Non-senior-secured has remained stable at just over 2%.

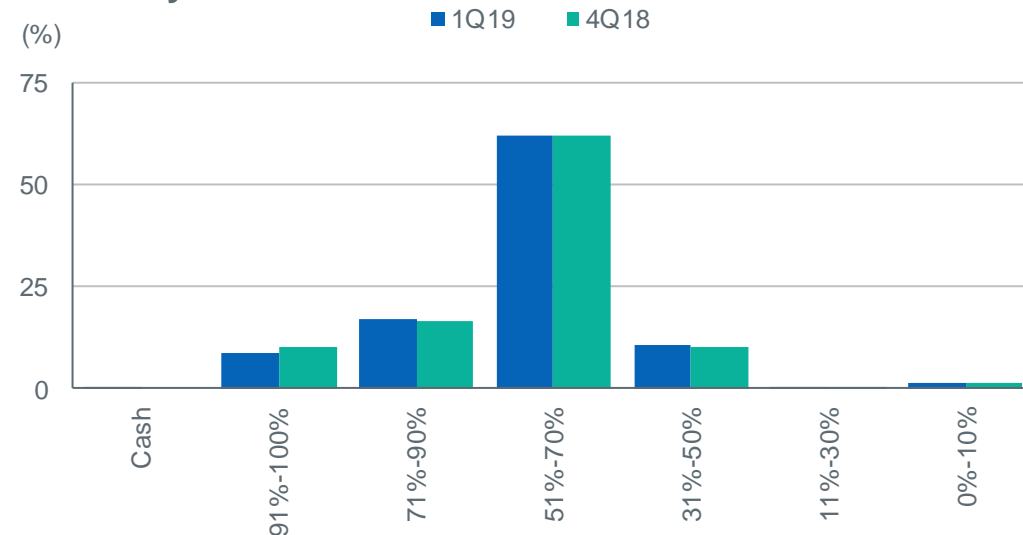
| Measure                        | 1Q19   | 4Q18 | 1Q18 |
|--------------------------------|--|------|------|
| Average WARR (trustee) (%)     | 65.4  | 65.3 | 65.2 |
| Average WARR cushion (%)       | 3.2   | 3.1  | 2.1  |
| WARR failing (% transaction)   | 2.3   | 0.0  | 4.8  |
| Average non-senior secured (%) | 2.2   | 2.3  | 2.2  |

## Top 10 & Bottom 10 WARR



Source: Fitch Ratings, Investor reports

## Recovery Distribution

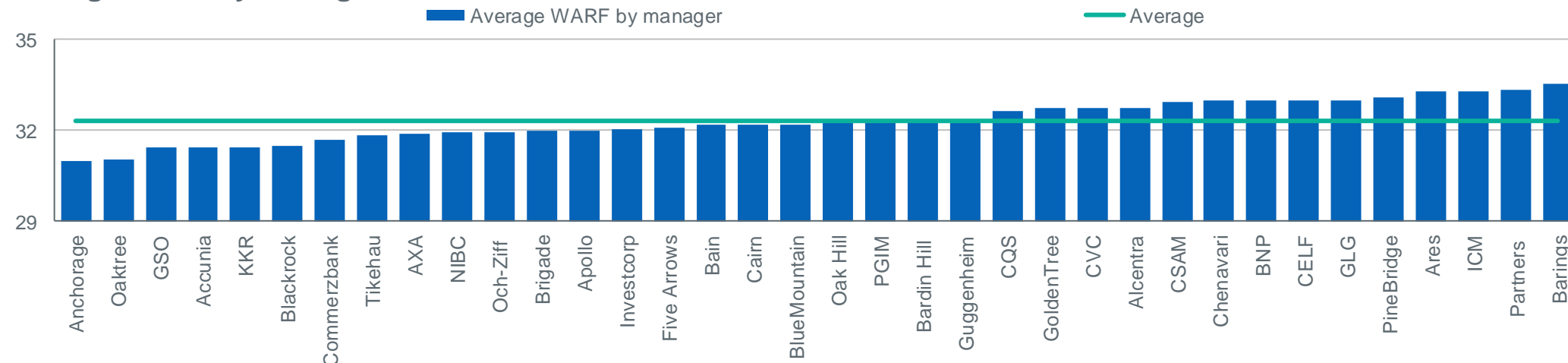


Source: Fitch Ratings, Investor reports



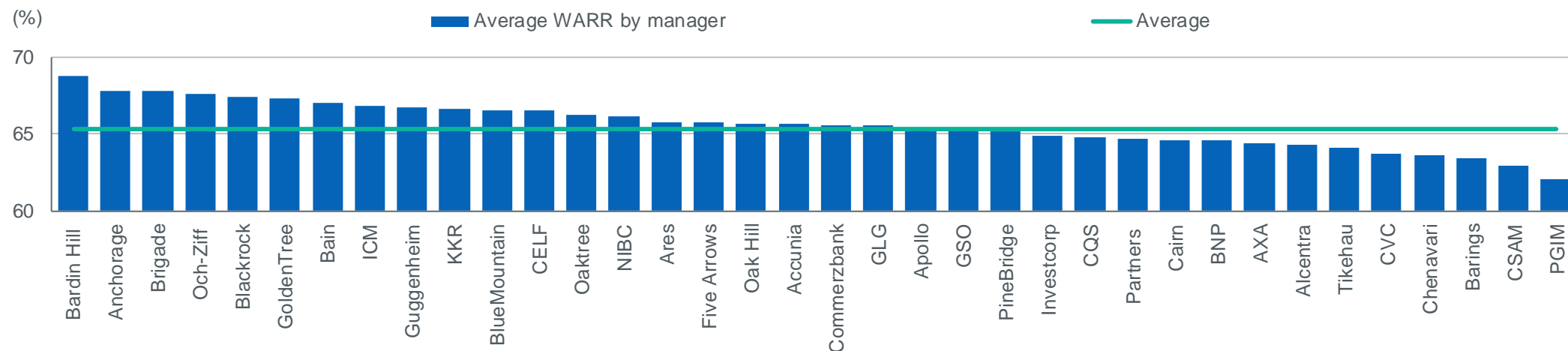
# WARF and WARR Comparison

## Average WARF by Manager



Source: Fitch Ratings, Investor reports

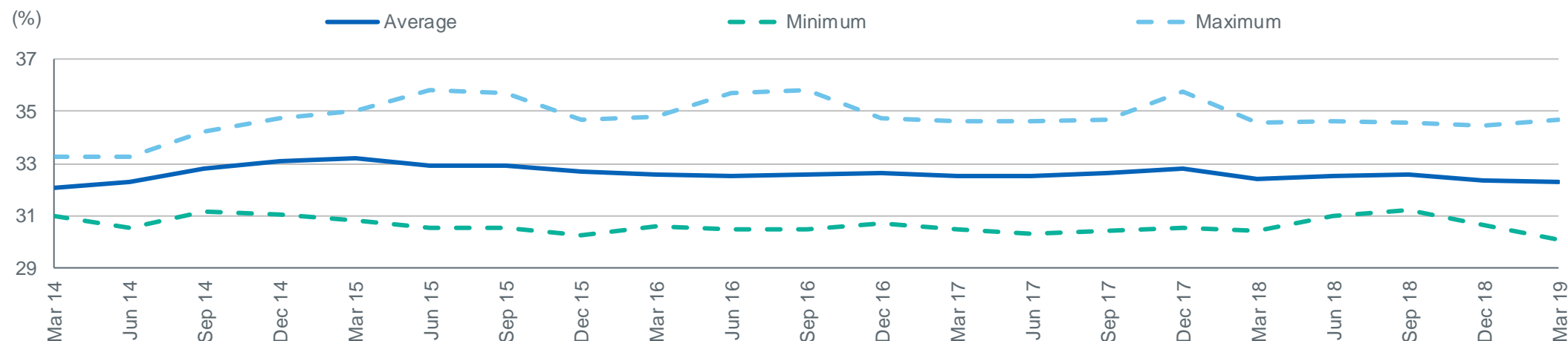
## Average WARR by Manager



Source: Fitch Ratings, Investor reports

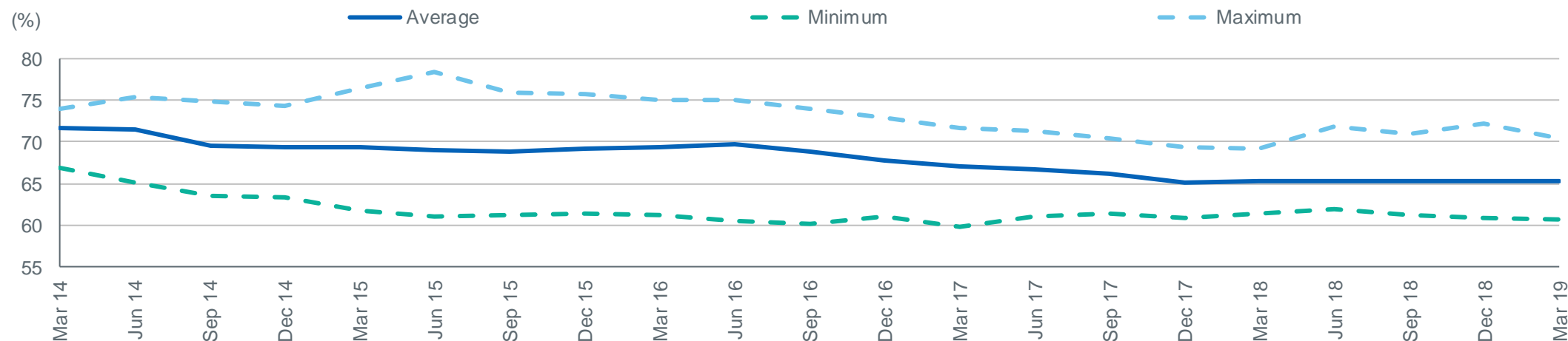
# WARF and WARR Trend

## Average WARF



Source: Fitch Ratings, Investor reports





## Average WARR



Source: Fitch Ratings, Investor reports

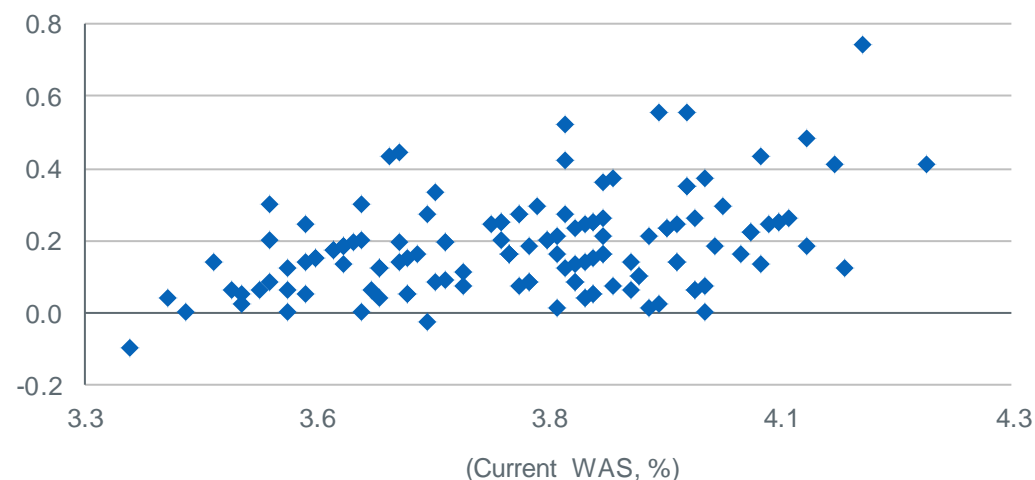
# WAS Continues to Stabilise

- Average WAS remains stable at around 3.8% for the fifth consecutive quarter.
- Only two transactions were breaching the WAS covenant at end-1Q19.
- Fixed-rate exposures remain limited just below 6% on average, but a large dispersion exists among managers.

| Measure                         | 1Q19   | 4Q18 | 1Q18 |
|---------------------------------|--|------|------|
| WAS (trustee) (%)               | 3.8   | 3.8  | 3.8  |
| Average WAS cushion (%)         | 0.18  | 0.19 | 0.13 |
| WAS failing (% transaction)     | 1.5   | 3.4  | 8.3  |
| Average fixed rate exposure (%) | 5.7   | 5.9  | 4.6  |

## Weighted Average Spread Cushion

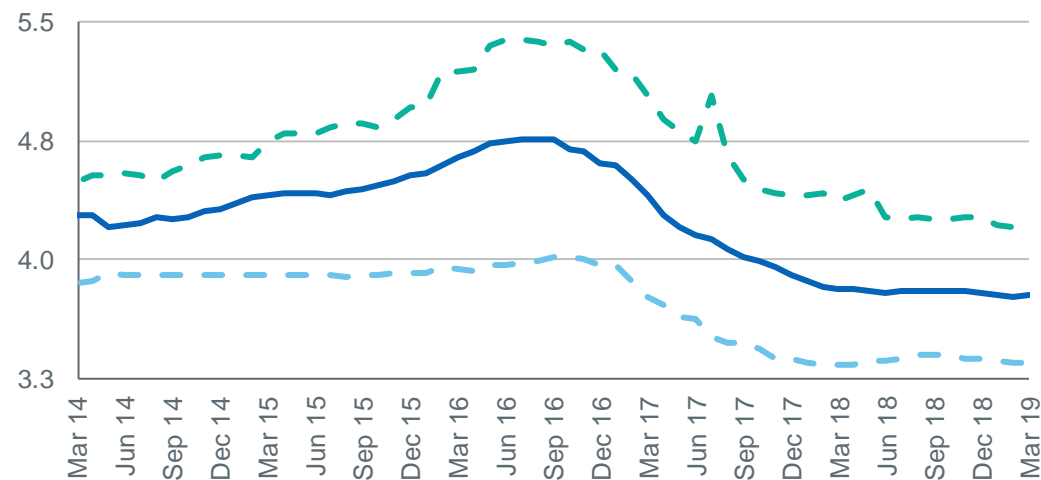
(WAS cushion, %)



Source: Fitch Ratings, Investor reports

## Weighted Average Spread

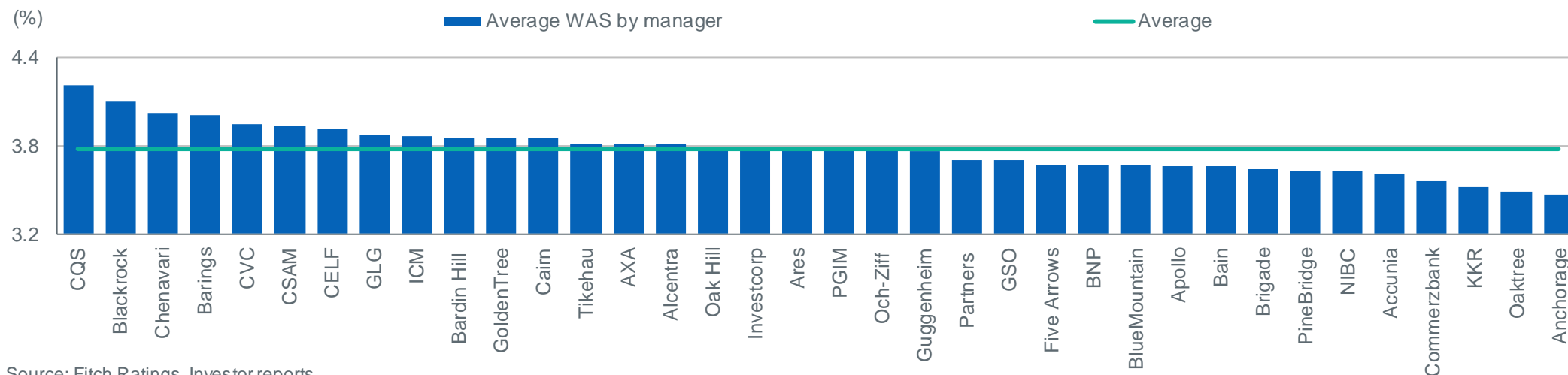
(%) — Average — Maximum — Minimum



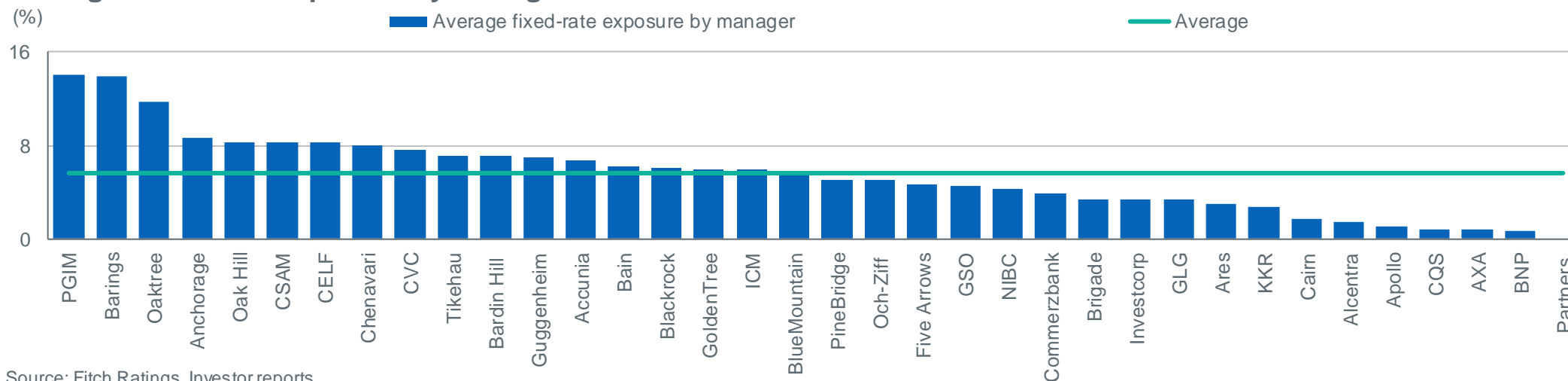
Source: Fitch Ratings, Investor reports

# WAS and Fixed-Rate Exposure Comparison

## Average WAS by Manager






## Average Fixed Rate Exposure by Manager

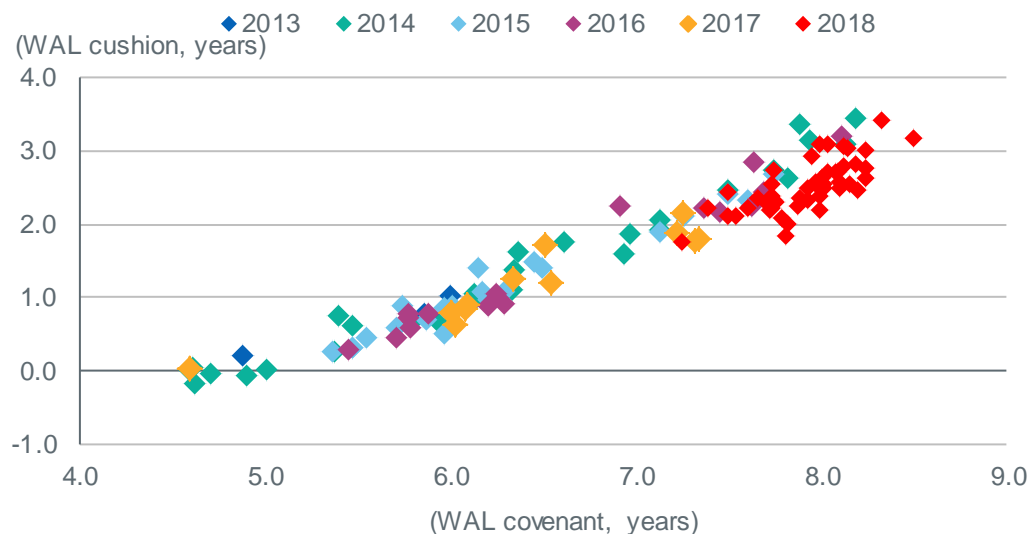


# WAL Cushion Continues to Increase

- The WAL decreased to 5.2 years at end-1Q19 compared with 5.5 years at end-1Q18.
- The WAL cushion remains flat at around 1.7 years.
- Ten transactions have exited their reinvestment period at end-1Q19 and 10 other transactions are scheduled to exit their reinvestment period by end-2019.
- Other transactions originated between 2013 and 2015 have reset and extended their reinvestment period.

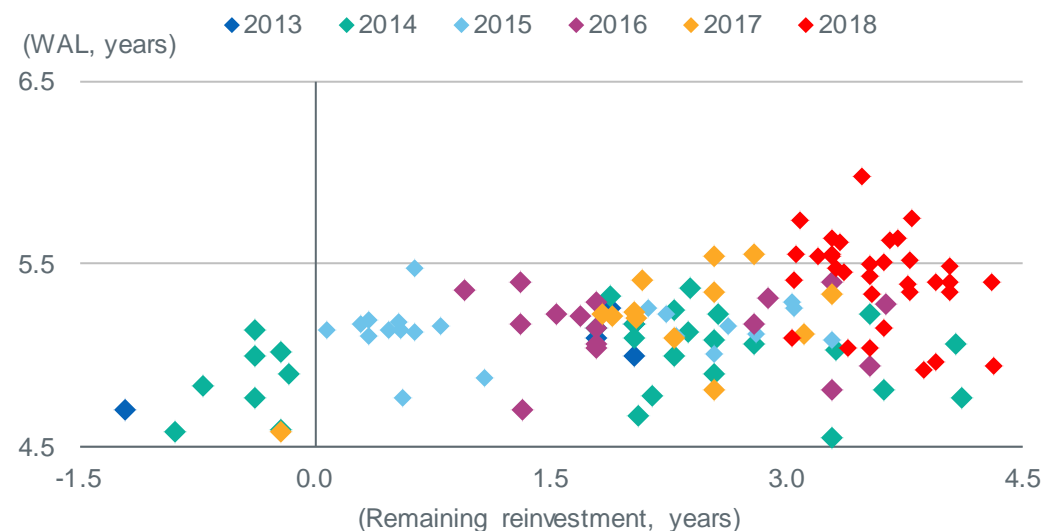
| Measure                       | 1Q19  | 4Q18 | 1Q18 |
|-------------------------------|---|------|------|
| Average WAL (trustee) (years) | 5.2  | 5.3  | 5.5  |
| WAL failing (% transactions)  | 2.3  | 3.4  | 6.0  |
| Average WAL cushion (years)   | 1.7  | 1.7  | 1.3  |

## Weighted Average Life Cushion



Source: Fitch Ratings, Investor reports

## Weighted Average Life/Reinvestment Distribution

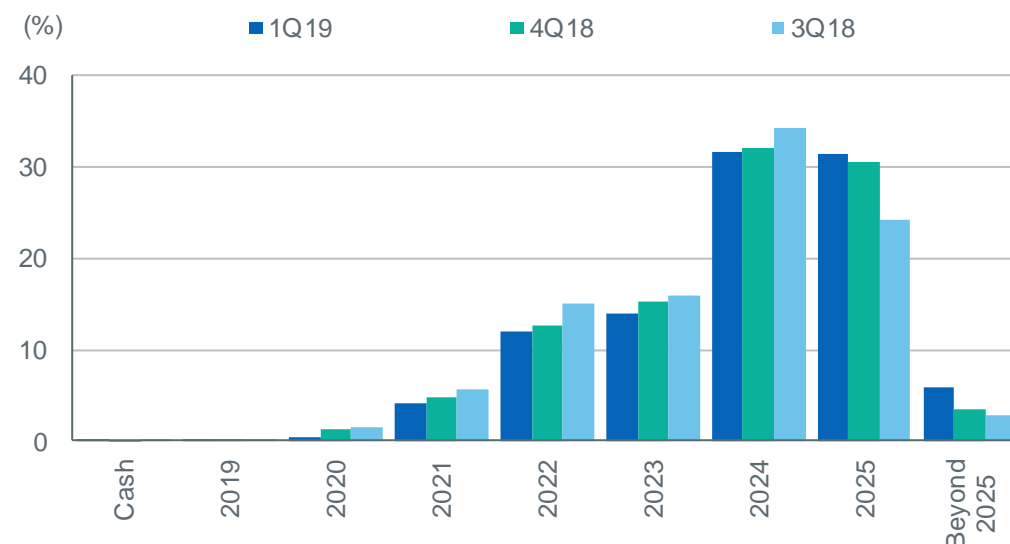


Source: Fitch Ratings, Investor reports

# 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



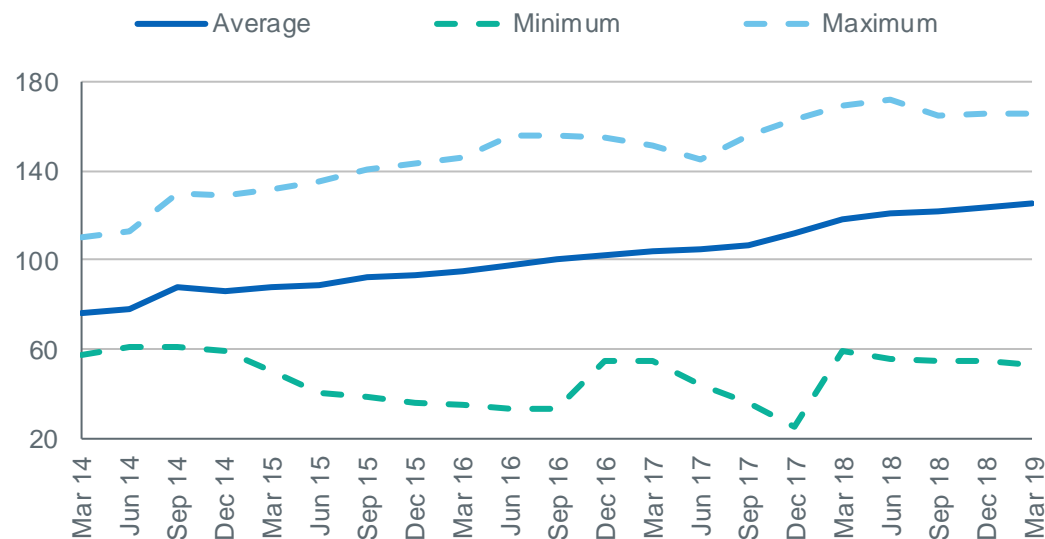
Source: Fitch Ratings, Investor reports

# 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.
- Half of transactions rated by Fitch have a top 10 obligors below 17%.
- All transactions rated by Fitch have more than 85 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.

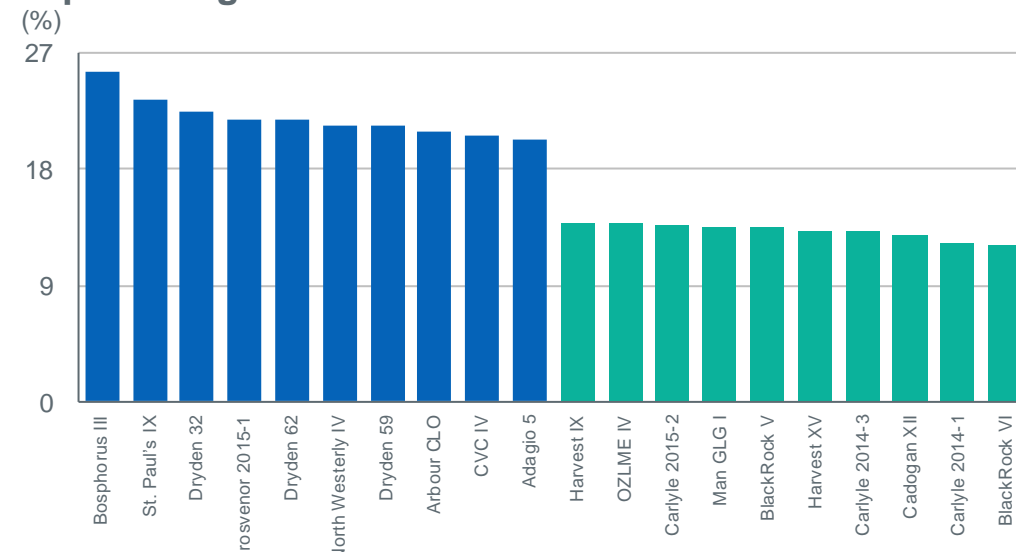
| Measure (average)  | 1Q19   | 4Q18 | 1Q18 |
|--------------------|--|------|------|
| Number of obligors | 126   | 124  | 119  |
| Top 1(%)           | 2.1   | 2.1  | 2.2  |
| Top 5 (%)          | 9.2   | 9.5  | 9.9  |
| Top 10 (%)         | 17.0  | 17.4 | 18.3 |

## Average Number of Obligor



Source: Fitch Ratings, Investor reports

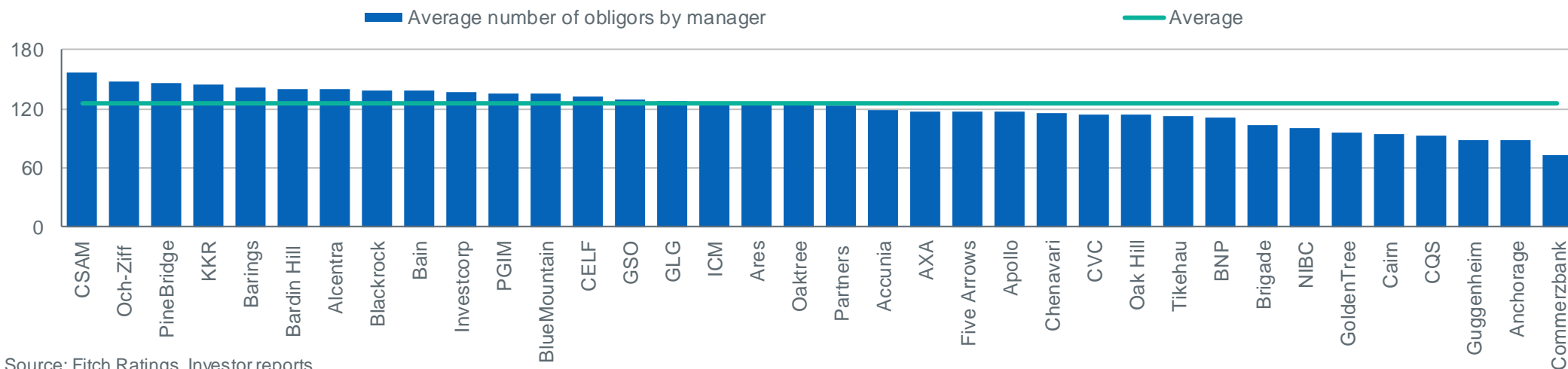
## Top 10 Obligor Concentration



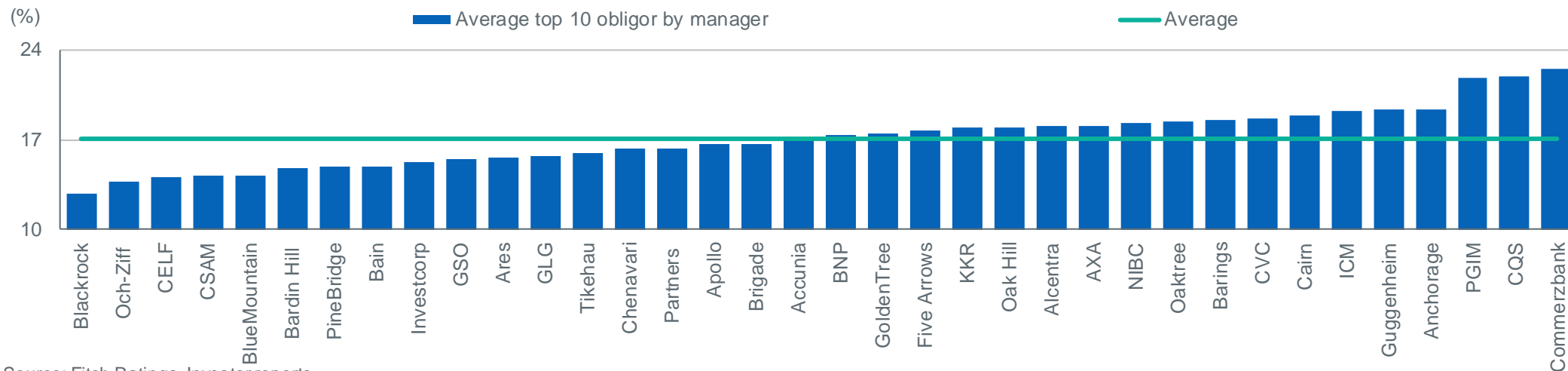
Source: Fitch Ratings, Investor reports

# 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                    | 96.24%                            | 1.47%                                   |              |         |
| 2                          | Nidda BondCo GmbH                      | 93.98%                            | 1.20%                                   | B            | Stable  |
| 3                          | VodafoneZiggo Group B.V.               | 90.23%                            | 1.39%                                   | B+           | Stable  |
| 4                          | Nets Topco Lux 3 Sarl                  | 90.23%                            | 1.11%                                   | B+           | Stable  |
| 5                          | Eircom Holdings (Ireland) Limited      | 90.23%                            | 1.14%                                   | B+           | Stable  |
| 6                          | Nouryon Holding B.V.                   | 87.97%                            | 0.85%                                   | B+           | Stable  |
| 7                          | Lux Midco S.a r.l.                     | 87.97%                            | 0.92%                                   | B            | Stable  |
| 8                          | Sigma Holdco BV                        | 84.96%                            | 1.23%                                   | B+           | Stable  |
| 9                          | SFR Group S.A.                         | 82.71%                            | 1.48%                                   | *            |         |
| 10                         | HomeVi S.A.S.                          | 82.71%                            | 0.84%                                   | *            |         |
| 11                         | Unilabs Midholding AB                  | 81.20%                            | 0.87%                                   | *            |         |
| 12                         | Nord Anglia Education, Inc.            | 80.45%                            | 0.92%                                   | *            |         |
| 13                         | ION Trading Technologies Limited       | 80.45%                            | 1.14%                                   |              |         |
| 14                         | Techem Verwaltungsgesellschaft 674 mbH | 79.70%                            | 1.10%                                   | B            | Stable  |
| 15                         | Oberthur Technologies Group S.A.S.     | 78.20%                            | 1.05%                                   | B            | Stable  |
| 16                         | EG Group Limited                       | 77.44%                            | 1.33%                                   | B            | Stable  |
| 17                         | LSF10 XL Investments S.a.r.l           | 76.69%                            | 1.08%                                   | *            |         |
| 18                         | Tele Columbus AG                       | 75.94%                            | 0.92%                                   | B            | Stable  |
| 19                         | Ineos Group Holdings S.A.              | 75.94%                            | 1.13%                                   | BB+          | Stable  |
| 20                         | Refinitiv US Holdings, Inc.            | 74.44%                            | 1.10%                                   | BB           | 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 | Bardin Hill | Barings | Blackrock | GSO  | BlueMountain | BNP  | Brigade | Cairn | CELF | Chenavari | Commerzbank | CQS  | CSAM | CVC  | Five Arrows | GLG  | GoldenTree | Guggenheim | ICM  | Investcorp | KKR  | NIBC | Oak Hill | Oaktree | Och-Ziff | Partners | PGIM | PineBridge | Tikehau |
|---|--------------|---------|----------|-----------|--------|------|------|------|-------------|---------|-----------|------|--------------|------|---------|-------|------|-----------|-------------|------|------|------|-------------|------|------------|------------|------|------------|------|------|----------|---------|----------|----------|------|------------|---------|
| Accunia   | 118          | 100%    | 57%      | 29%       | 35%    | 45%  | 48%  | 56%  | 49%         | 47%     | 48%       | 57%  | 47%          | 41%  | 41%     | 47%   | 63%  | 48%       | 41%         | 26%  | 58%  | 46%  | 50%         | 54%  | 42%        | 32%        | 48%  | 57%        | 58%  | 39%  | 47%      | 47%     | 50%      | 52%      | 56%  | 50%        | 42%     |
| Alcentra  | 183          | 37%     | 100%     | 26%       | 39%    | 38%  | 44%  | 52%  | 46%         | 51%     | 44%       | 58%  | 39%          | 43%  | 31%     | 48%   | 58%  | 38%       | 36%         | 25%  | 57%  | 50%  | 46%         | 54%  | 32%        | 30%        | 48%  | 59%        | 58%  | 42%  | 38%      | 44%     | 43%      | 50%      | 56%  | 50%        | 37%     |
| Anchorage   | 88           | 39%     | 55%      | 100%      | 42%    | 51%  | 49%  | 68%  | 50%         | 50%     | 56%       | 65%  | 53%          | 50%  | 39%     | 52%   | 68%  | 42%       | 47%         | 32%  | 67%  | 55%  | 53%         | 53%  | 40%        | 45%        | 55%  | 65%        | 61%  | 43%  | 43%      | 50%     | 57%      | 48%      | 56%  | 60%        | 42%     |
| Apollo  | 122          | 34%     | 59%      | 30%       | 100%   | 44%  | 52%  | 56%  | 51%         | 62%     | 58%       | 66%  | 48%          | 52%  | 34%     | 52%   | 63%  | 48%       | 40%         | 30%  | 66%  | 53%  | 56%         | 53%  | 35%        | 42%        | 61%  | 67%        | 69%  | 50%  | 48%      | 57%     | 52%      | 52%      | 61%  | 61%        | 48%     |
| Ares  | 125          | 42%     | 56%      | 36%       | 43%    | 100% | 55%  | 62%  | 59%         | 51%     | 57%       | 66%  | 58%          | 49%  | 38%     | 50%   | 74%  | 53%       | 50%         | 32%  | 69%  | 62%  | 51%         | 62%  | 42%        | 35%        | 58%  | 65%        | 62%  | 46%  | 46%      | 46%     | 55%      | 54%      | 60%  | 66%        | 53%     |
| AXA   | 136          | 42%     | 59%      | 32%       | 47%    | 51%  | 100% | 61%  | 53%         | 57%     | 54%       | 65%  | 54%          | 60%  | 43%     | 60%   | 70%  | 49%       | 49%         | 32%  | 69%  | 57%  | 54%         | 60%  | 42%        | 44%        | 65%  | 71%        | 69%  | 48%  | 52%      | 50%     | 53%      | 59%      | 59%  | 63%        | 43%     |
| Bain  | 172          | 38%     | 55%      | 35%       | 40%    | 45%  | 48%  | 100% | 52%         | 53%     | 51%       | 62%  | 49%          | 47%  | 36%     | 51%   | 66%  | 44%       | 39%         | 29%  | 68%  | 55%  | 47%         | 54%  | 35%        | 33%        | 53%  | 62%        | 58%  | 42%  | 45%      | 48%     | 52%      | 51%      | 49%  | 59%        | 41%     |
| Bardin Hill   | 157          | 37%     | 54%      | 28%       | 39%    | 47%  | 46%  | 57%  | 100%        | 58%     | 54%       | 59%  | 43%          | 43%  | 38%     | 45%   | 69%  | 49%       | 39%         | 31%  | 67%  | 59%  | 45%         | 55%  | 38%        | 29%        | 53%  | 57%        | 57%  | 38%  | 42%      | 49%     | 55%      | 43%      | 52%  | 59%        | 41%     |
| Barings   | 193          | 29%     | 48%      | 23%       | 39%    | 33%  | 40%  | 48%  | 47%         | 100%    | 41%       | 56%  | 40%          | 39%  | 32%     | 46%   | 59%  | 39%       | 35%         | 25%  | 58%  | 48%  | 40%         | 44%  | 33%        | 29%        | 51%  | 54%        | 54%  | 38%  | 40%      | 47%     | 42%      | 40%      | 47%  | 49%        | 36%     |
| Blackrock   | 148          | 39%     | 55%      | 33%       | 48%    | 48%  | 49%  | 59%  | 57%         | 54%     | 100%      | 64%  | 54%          | 45%  | 41%     | 51%   | 65%  | 45%       | 43%         | 30%  | 64%  | 59%  | 49%         | 53%  | 43%        | 41%        | 56%  | 68%        | 65%  | 43%  | 49%      | 53%     | 57%      | 47%      | 59%  | 61%        | 49%     |
| GSO   | 206          | 33%     | 52%      | 28%       | 39%    | 40%  | 43%  | 51%  | 45%         | 52%     | 46%       | 100% | 41%          | 43%  | 34%     | 47%   | 60%  | 38%       | 38%         | 27%  | 63%  | 51%  | 46%         | 47%  | 36%        | 31%        | 50%  | 60%        | 58%  | 39%  | 43%      | 46%     | 42%      | 46%      | 46%  | 56%        | 36%     |
| BlueMountain  | 135          | 41%     | 53%      | 35%       | 43%    | 54%  | 55%  | 62%  | 50%         | 57%     | 59%       | 63%  | 100%         | 47%  | 47%     | 55%   | 66%  | 46%       | 46%         | 24%  | 70%  | 60%  | 53%         | 56%  | 41%        | 35%        | 60%  | 66%        | 64%  | 50%  | 52%      | 51%     | 57%      | 53%      | 57%  | 68%        | 47%     |
| BNP   | 129          | 37%     | 61%      | 34%       | 50%    | 47%  | 64%  | 62%  | 52%         | 59%     | 51%       | 69%  | 50%          | 100% | 38%     | 61%   | 66%  | 47%       | 50%         | 32%  | 63%  | 57%  | 57%         | 60%  | 38%        | 40%        | 63%  | 70%        | 67%  | 50%  | 48%      | 51%     | 52%      | 61%      | 63%  | 61%        | 50%     |
| Brigade   | 103          | 47%     | 55%      | 33%       | 41%    | 47%  | 57%  | 60%  | 58%         | 59%     | 58%       | 68%  | 61%          | 48%  | 100%    | 52%   | 67%  | 45%       | 50%         | 32%  | 68%  | 61%  | 48%         | 58%  | 48%        | 35%        | 64%  | 60%        | 67%  | 46%  | 54%      | 55%     | 59%      | 53%      | 54%  | 70%        | 47%     |
| Cairn   | 145          | 39%     | 61%      | 32%       | 44%    | 43%  | 57%  | 61%  | 49%         | 61%     | 52%       | 66%  | 51%          | 54%  | 37%     | 100%  | 66%  | 49%       | 44%         | 39%  | 71%  | 58%  | 57%         | 59%  | 40%        | 36%        | 55%  | 70%        | 66%  | 48%  | 48%      | 57%     | 51%      | 52%      | 56%  | 62%        | 44%     |
| CELF  | 209          | 35%     | 51%      | 29%       | 37%    | 45%  | 45%  | 54%  | 52%         | 55%     | 46%       | 59%  | 43%          | 41%  | 33%     | 46%   | 100% | 40%       | 39%         | 28%  | 63%  | 51%  | 45%         | 50%  | 32%        | 33%        | 52%  | 57%        | 55%  | 36%  | 42%      | 47%     | 49%      | 48%      | 52%  | 58%        | 39%     |
| Chenavari   | 137          | 42%     | 51%      | 27%       | 43%    | 48%  | 49%  | 55%  | 56%         | 55%     | 48%       | 57%  | 45%          | 45%  | 34%     | 52%   | 61%  | 100%      | 42%         | 29%  | 67%  | 56%  | 46%         | 55%  | 40%        | 28%        | 53%  | 57%        | 56%  | 40%  | 45%      | 47%     | 50%      | 37%      | 53%  | 58%        | 41%     |
| Commerzbank   | 106          | 45%     | 61%      | 39%       | 46%    | 58%  | 63%  | 63%  | 58%         | 63%     | 59%       | 74%  | 58%          | 61%  | 49%     | 60%   | 76%  | 55%       | 100%        | 33%  | 80%  | 69%  | 57%         | 59%  | 47%        | 37%        | 61%  | 66%        | 70%  | 51%  | 60%      | 57%     | 58%      | 62%      | 59%  | 76%        | 58%     |
| CQS   | 93           | 33%     | 48%      | 30%       | 40%    | 43%  | 46%  | 54%  | 52%         | 53%     | 48%       | 59%  | 34%          | 44%  | 35%     | 60%   | 62%  | 43%       | 38%         | 100% | 67%  | 56%  | 44%         | 53%  | 41%        | 28%        | 49%  | 63%        | 60%  | 41%  | 40%      | 42%     | 42%      | 46%      | 52%  | 55%        | 39%     |
| CSAM  | 221          | 31%     | 48%      | 27%       | 37%    | 39%  | 43%  | 53%  | 48%         | 51%     | 43%       | 58%  | 43%          | 37%  | 32%     | 47%   | 60%  | 42%       | 38%         | 28%  | 100% | 50%  | 40%         | 55%  | 37%        | 28%        | 50%  | 55%        | 53%  | 35%  | 41%      | 43%     | 47%      | 40%      | 48%  | 54%        | 40%     |
| CVC   | 165          | 33%     | 55%      | 29%       | 39%    | 47%  | 47%  | 57%  | 56%         | 56%     | 53%       | 64%  | 49%          | 45%  | 38%     | 51%   | 65%  | 47%       | 44%         | 32%  | 67%  | 100% | 47%         | 55%  | 40%        | 33%        | 50%  | 63%        | 59%  | 42%  | 44%      | 44%     | 48%      | 45%      | 50%  | 58%        | 45%     |
| Five Arrows   | 139          | 42%     | 60%      | 34%       | 49%    | 46%  | 53%  | 58%  | 50%         | 55%     | 53%       | 68%  | 51%          | 53%  | 35%     | 59%   | 68%  | 45%       | 43%         | 30%  | 64%  | 56%  | 100%        | 56%  | 37%        | 42%        | 57%  | 68%        | 71%  | 50%  | 50%      | 55%     | 53%      | 61%      | 58%  | 68%        | 46%     |
| GLG   | 176          | 36%     | 56%      | 27%       | 37%    | 44%  | 46%  | 53%  | 49%         | 48%     | 45%       | 55%  | 43%          | 44%  | 34%     | 48%   | 60%  | 43%       | 36%         | 28%  | 69%  | 51%  | 44%         | 100% | 35%        | 31%        | 51%  | 56%        | 53%  | 40%  | 41%      | 41%     | 48%      | 49%      | 55%  | 52%        | 47%     |
| GoldenTree  | 112          | 44%     | 52%      | 31%       | 38%    | 46%  | 51%  | 54%  | 53%         | 57%     | 57%       | 67%  | 50%          | 44%  | 44%     | 52%   | 60%  | 49%       | 45%         | 34%  | 72%  | 59%  | 46%         | 55%  | 100%       | 30%        | 52%  | 60%        | 65%  | 45%  | 57%      | 48%     | 58%      | 43%      | 52%  | 57%        | 48%     |
| Guggenheim  | 103          | 37%     | 52%      | 39%       | 50%    | 43%  | 58%  | 54%  | 44%         | 54%     | 58%       | 62%  | 46%          | 50%  | 35%     | 50%   | 67%  | 37%       | 38%         | 25%  | 59%  | 52%  | 56%         | 52%  | 33%        | 100%       | 59%  | 61%        | 58%  | 35%  | 44%      | 53%     | 51%      | 52%      | 60%  | 61%        | 44%     |
| ICM   | 177          | 32%     | 50%      | 27%       | 42%    | 41%  | 50%  | 52%  | 47%         | 55%     | 47%       | 59%  | 46%          | 46%  | 37%     | 45%   | 62%  | 41%       | 37%         | 26%  | 63%  | 46%  | 45%         | 51%  | 33%        | 34%        | 100% | 58%        | 57%  | 36%  | 43%      | 43%     | 46%      | 51%      | 56%  | 57%        | 36%     |
| Investcorp  | 204          | 33%     | 53%      | 28%       | 40%    | 40%  | 48%  | 52%  | 44%         | 51%     | 50%       | 60%  | 44%          | 44%  | 30%     | 50%   | 58%  | 38%       | 34%         | 29%  | 59%  | 51%  | 47%         | 49%  | 33%        | 31%        | 50%  | 100%       | 58%  | 40%  | 40%      | 42%     | 44%      | 49%      | 50%  | 50%        | 38%     |
| KKR   | 183          | 38%     | 58%      | 30%       | 46%    | 43%  | 51%  | 54%  | 49%         | 57%     | 52%       | 65%  | 48%          | 47%  | 38%     | 52%   | 62%  | 42%       | 40%         | 31%  | 64%  | 54%  | 54%         | 51%  | 40%        | 33%        | 55%  | 64%        | 100% | 43%  | 47%      | 52%     | 53%      | 54%      | 52%  | 58%        | 46%     |
| NIBC  | 125          | 37%     | 61%      | 30%       | 49%    | 46%  | 52%  | 58%  | 48%         | 59%     | 50%       | 65%  | 54%          | 51%  | 38%     | 55%   | 61%  | 44%       | 43%         | 30%  | 62%  | 56%  | 55%         | 56%  | 40%        | 29%        | 50%  | 65%        | 62%  | 100% | 47%      | 53%     | 48%      | 54%      | 55%  | 61%        | 54%     |
| Oak Hill  | 137          | 41%     | 51%      | 28%       | 42%    | 42%  | 52%  | 56%  | 48%         | 57%     | 53%       | 64%  | 51%          | 45%  | 41%     | 50%   | 64%  | 45%       | 47%         | 27%  | 66%  | 53%  | 50%         | 53%  | 47%        | 33%        | 55%  | 59%        | 63%  | 43%  | 100%     | 48%     | 55%      | 49%      | 53%  | 63%        | 42%     |
| Oaktree   | 146          | 38%     | 55%      | 30%       | 48%    | 40%  | 47%  | 57%  | 53%         | 62%     | 53%       | 65%  | 47%          | 45%  | 39%     | 56%   | 67%  | 44%       | 41%         | 27%  | 66%  | 49%  | 52%         | 50%  | 37%        | 38%        | 52%  | 59%        | 66%  | 45%  | 45%      | 100%    | 59%      | 49%      | 54%  | 66%        | 46%     |
| Och-Ziff  | 148          | 40%     | 53%      | 34%       | 43%    | 47%  | 49%  | 60%  | 58%         | 55%     | 57%       | 58%  | 52%          | 45%  | 41%     | 50%   | 70%  | 47%       | 42%         | 26%  | 70%  | 53%  | 50%         | 57%  | 44%        | 36%        | 55%  | 61%        | 66%  | 41%  | 51%      | 58%     | 100%     | 49%      | 53%  | 60%        | 49%     |
| Partners  | 159          | 38%     | 57%      | 26%       | 40%    | 43%  | 50%  | 55%  | 42%         | 49%     | 43%       | 60%  | 45%          | 50%  | 35%     | 48%   | 63%  | 32%       | 42%         | 27%  | 56%  | 47%  | 53%         | 55%  | 30%        | 34%        | 57%  | 63%        | 62%  | 43%  | 42%      | 45%     | 46%      | 100%     | 54%  | 55%        | 37%     |
| PGIM  | 181          | 36%     | 56%      | 27%       | 41%    | 41%  | 44%  | 46%  | 45%         | 50%     | 49%       | 52%  | 43%          | 45%  | 31%     | 45%   | 60%  | 40%       | 35%         | 27%  | 58%  | 46%  | 45%         | 53%  | 32%        | 34%        | 55%  | 57%        | 53%  | 38%  | 40%      | 44%     | 43%      | 48%      | 100% | 51%        | 40%     |
| PineBridge  | 166          | 36%     | 55%      | 32%       | 45%    | 50%  | 51%  | 61%  | 56%         | 57%     | 55%       | 69%  | 55%          | 48%  | 43%     | 54%   | 73%  | 48%       | 49%         | 31%  | 72%  | 57%  | 57%         | 55%  | 39%        | 38%        | 60%  | 62%        | 64%  | 46%  | 52%      | 58%     | 54%      | 53%      | 56%  | 100%       | 45%     |
| Tikehau   | 127          | 39%     | 54%      | 29%       | 46%    | 52%  | 46%  | 55%  | 51%         | 55%     | 57%       | 59%  | 50%          | 51%  | 38%     | 50%   | 64%  | 44%       | 49%         | 28%  | 70%  | 59%  | 50%         | 65%  | 43%        | 35%        | 50%  | 61%        | 66%  | 53%  | 45%      | 53%     | 57%      | 46%      | 57%  | 59%        | 100%    |

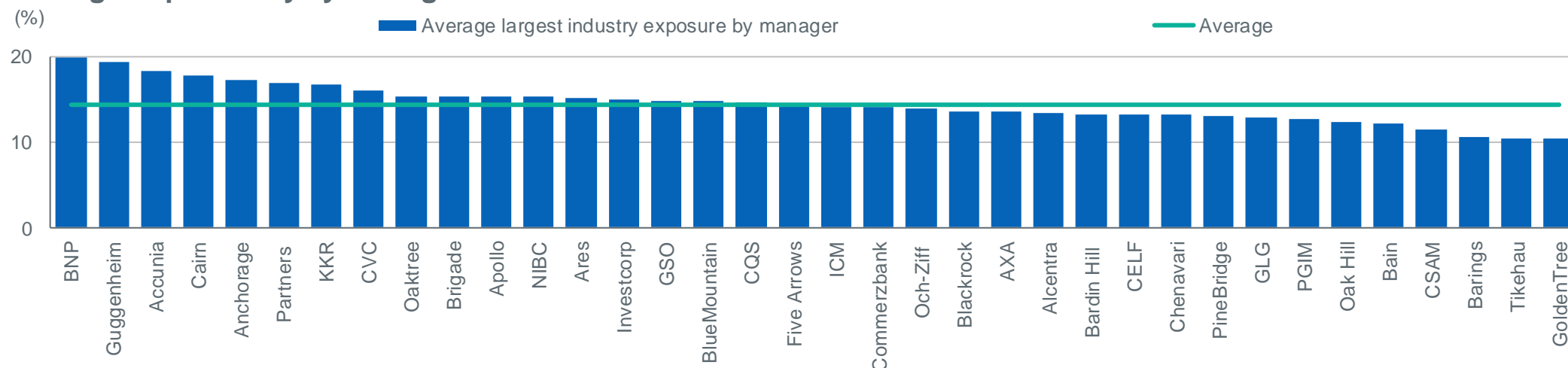
Source: Fitch Ratings

# 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-1Q19.
- The largest industry represented on average 14.4% of the portfolio as end-1Q19.
- 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)             | 1Q19 |   | 4Q18 | 1Q18 |
|-------------------------------|------|---|------|------|
| Largest industry exposure (%) | 14.4 | ↑ | 14.1 | 13.4 |
| Healthcare (%)                | 12.8 | ↑ | 12.2 | 11.1 |
| Business services (%)         | 11.2 | ↑ | 10.7 | 7.6  |
| Computers & electronics (%)   | 9.7  | ↓ | 9.8  | 9.7  |

## Average Top Industry by Manager

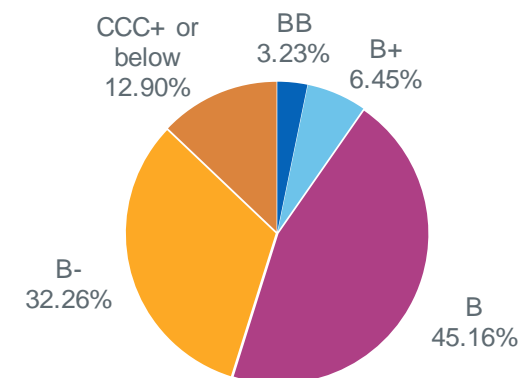


Source: Fitch Ratings, Investor reports

# Retail Exposure Remains Limited

- Retail remains a challenged sector.
- Limited exposure in European CLOs but a large dispersion exists among transactions:
  - Average exposure: 5.5%
  - Minimum exposure: 0.7%
  - Maximum exposure: 13%
- 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 (23%), the UK (23%), Netherlands (19%) and France (13%).

## Rating Distribution – By Issuer Count



Source: Fitch Ratings, Investor reports

| Retail Exposure in European CLO          |  |                           |                                       |
|--|--|---------------------------|---------------------------------------|
| Belk, Inc.                               | HEMA BV                                | LKQ Corporation           | PrestigeBidCo GmbH                    |
| Blitz F14-232 GMBH (Christ)              | Holland & Barrett International Ltd.   | Mascot Midco 1 Oy         | Salsa Retail Holding DebtCo1 S.a.r.l. |
| CatLuxe S.a.r.l                          | Horizon Bidco Limited (Photobox Group) | Maxeda DIY Holding B.V.   | Scotch & Soda N.V.                    |
| CBR Fashion GmbH (CBR)                   | HSE24 Holding GmbH                     | Mobilux 2 SAS             | Selecta Group BV                      |
| CD&R Firefly Bidco Limited               | Hunkemoller International BV           | New Look Retail Group Ltd | Tendam Brands, S.A.                   |
| Creatrade Holding GmbH                   | Iceland Topco Limited                  | Novartex SAS              | Thom Europe SAS                       |
| EG Group Limited                         | Kirk Beauty One GmbH                   | Peer Holding III B.V.     | ZF BIDCO                              |
| Fat Face World Borrowings Ltd (Fat Face) | Lion Adventure B.V.                    | Picard Bondco S.A.        |                                       |

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 |
|--------------------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---|---|---------|--------------|-----------|------------|
| Industrial and manufacturing         | 39           |       |       | 0.00% | 0.21% | 0.18% | 0.87% | 2.56% | 1.54% | 0.35% | 0.24% | 0.01% | 0.00% |   |   |         | 0.60%        | 5.97%     | 10.10%     |
| Broadcasting and media               | 22           |       |       |       |       | 0.37% | 0.68% | 1.96% | 0.59% | 0.23% |       |       |       |   |   |         | 0.23%        | 3.83%     | 5.89%      |
| Pharmaceuticals                      | 15           |       |       |       | 0.03% |       | 0.26% | 2.18% | 0.49% | 0.20% | 0.02% |       |       |   |   |         | 0.22%        | 3.18%     | 7.02%      |
| Healthcare                           | 44           |       |       |       |       | 0.72% | 0.40% | 9.24% | 2.16% | 0.02% | 0.20% |       |       |   |   |         | 0.22%        | 12.75%    | 1.74%      |
| Food and beverage and tobacco        | 15           | 0.00% |       |       |       | 0.22% | 1.37% | 0.46% | 1.24% | 0.05% | 0.11% |       | 0.03% |   |   |         | 0.20%        | 3.50%     | 5.67%      |
| Business services                    | 46           |       |       |       | 1.21% | 0.39% | 2.04% | 5.32% | 2.03% |       | 0.17% | 0.00% |       |   |   |         | 0.17%        | 11.15%    | 1.56%      |
| Retail                               | 28           |       |       |       | 0.03% |       | 1.07% | 2.73% | 1.13% |       |       |       |       |   |   | 0.07%   | 0.07%        | 5.04%     | 1.44%      |
| Banking and finance                  | 24           |       |       |       | 0.03% | 0.31% | 0.26% | 1.89% | 0.28% |       | 0.06% |       |       |   |   |         | 0.06%        | 2.82%     | 2.02%      |
| Lodging and restaurants              | 14           |       |       |       |       |       |       | 0.79% | 0.23% |       |       |       |       |   |   | 0.02%   | 0.02%        | 1.04%     | 2.04%      |
| Building and materials               | 16           |       | 0.00% |       | 0.00% |       | 0.20% | 1.41% | 1.73% |       |       |       |       |   |   | 0.01%   | 0.01%        | 3.35%     | 0.36%      |
| Transportation and distribution      | 11           |       |       |       |       | 0.01% | 0.54% | 0.20% | 0.48% |       |       | 0.01% |       |   |   |         | 0.01%        | 1.24%     | 0.92%      |
| Energy oil and gas                   | 5            |       |       | 0.01% |       |       |       |       | 0.02% |       | 0.01% | 0.00% |       |   |   |         | 0.01%        | 0.04%     | 27.67%     |
| Computer and electronics             | 32           |       |       | 0.02% |       | 1.00% | 0.22% | 5.79% | 2.64% |       | 0.01% |       |       |   |   |         | 0.01%        | 9.67%     | 0.07%      |
| Consumer products                    | 21           |       |       |       | 0.03% | 0.16% | 0.11% | 2.95% | 0.87% |       | 0.01% |       |       |   |   |         | 0.01%        | 4.13%     | 0.15%      |
| Automobiles                          | 13           |       |       | 0.02% |       | 0.79% | 0.42% | 0.42% | 0.20% |       | 0.00% |       |       |   |   |         | 0.00%        | 1.84%     | 0.16%      |
| Metals and mining                    | 2            |       |       |       |       |       |       | 0.00% |       |       |       |       |       |   |   | 0.00%   | 0.00%        | 0.01%     | 27.27%     |
| Aerospace and defence                | 4            |       |       | 0.00% |       |       | 0.37% | 0.21% | 0.01% |       |       |       |       |   |   |         | 0.00%        | 0.59%     | 0.00%      |
| Cable                                | 6            |       |       |       |       | 0.39% | 1.59% | 0.69% | 0.26% |       |       |       |       |   |   |         | 0.00%        | 2.93%     | 0.00%      |
| Chemicals                            | 38           |       |       | 1.08% | 0.38% | 0.76% | 1.48% | 1.58% | 3.72% |       |       |       |       |   |   |         | 0.00%        | 9.00%     | 0.00%      |
| Environmental services               | 5            |       |       |       |       | 0.24% |       | 0.70% |       |       |       |       |       |   |   |         | 0.00%        | 0.94%     | 0.00%      |
| Farming and agricultural services    | 2            |       |       |       |       |       |       | 0.12% | 0.18% |       |       |       |       |   |   |         | 0.00%        | 0.30%     | 0.00%      |
| Gaming and leisure and entertainment | 28           |       |       | 0.50% | 0.09% | 0.02% | 0.97% | 3.44% | 0.67% |       |       |       |       |   |   |         | 0.00%        | 5.70%     | 0.00%      |
| Packaging and containers             | 22           |       |       |       | 0.16% | 0.25% | 0.12% | 1.44% | 1.04% |       |       |       |       |   |   |         | 0.00%        | 3.01%     | 0.00%      |
| Paper and forest products            | 4            |       |       |       |       |       | 0.00% | 0.22% | 0.19% |       |       |       |       |   |   |         | 0.00%        | 0.41%     | 0.00%      |
| Real estate                          | 3            |       |       |       | 0.00% | 0.00% |       |       | 0.33% |       |       |       |       |   |   |         | 0.00%        | 0.34%     | 0.00%      |
| Retail food and drug                 | 3            |       |       |       |       |       |       | 0.32% | 0.04% |       |       |       |       |   |   |         | 0.00%        | 0.36%     | 0.00%      |
| Telecommunications                   | 12           |       | 0.01% |       | 0.04% | 2.24% | 2.23% | 0.84% |       |       |       |       |       |   |   |         | 0.00%        | 5.35%     | 0.00%      |
| Textiles and furniture               | 2            |       |       |       |       |       | 0.02% |       | 0.16% |       |       |       |       |   |   |         | 0.00%        | 0.18%     | 0.00%      |
| Utilities power                      | 5            |       |       |       | 0.01% | 0.00% | 0.11% | 0.97% |       |       |       |       |       |   |   |         | 0.00%        | 1.09%     | 0.00%      |

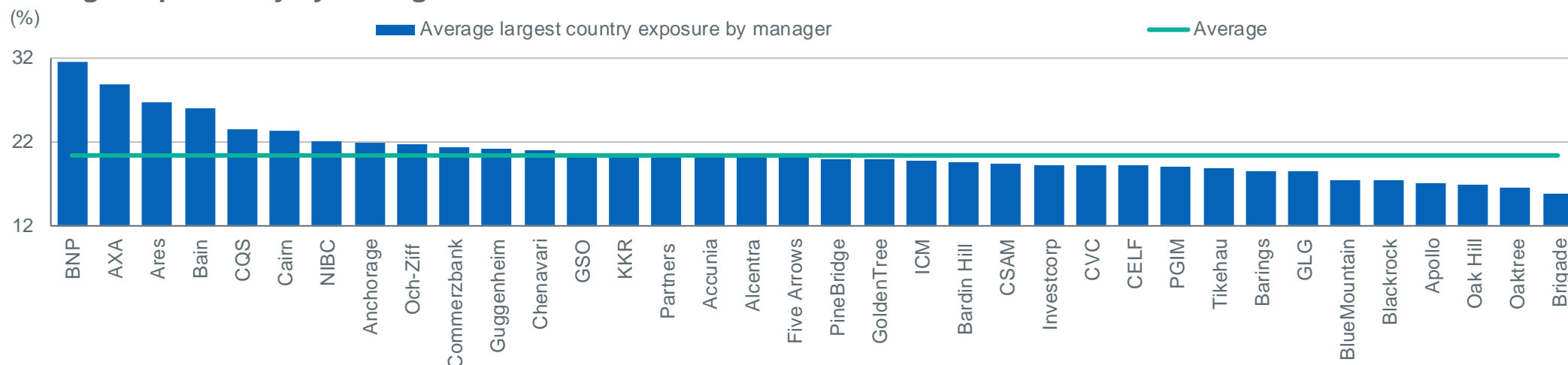
Source: Fitch Ratings

# Country Concentration Largely Stable, Portfolio Remains Diversified

- Portfolio remains well-diversified across countries.
- France, the US and Germany remain the largest countries in Fitch-rated CLO.
- The US's exposure decreased to 15% at end-1Q19.
- The UK's exposure decreased to 11.1% at end-1Q19.
- 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)            | 1Q19                                      | 4Q18 | 1Q18 |
|------------------------------|---|------|------|
| Largest country exposure (%) | 20.4 <span style="color: red;">↑</span>   | 20.0 | 21.9 |
| France (%)                   | 18.7 <span style="color: red;">↑</span>   | 17.9 | 18.0 |
| United States (%)            | 15.0 <span style="color: green;">↓</span> | 15.6 | 17.8 |
| Germany (%)                  | 14.9 <span style="color: green;">↓</span> | 15.4 | 18.0 |
| United Kingdom (%)           | 11.1 <span style="color: green;">↓</span> | 11.3 | 10.5 |
| Italy & Spain (%)            | 7.4 <span style="color: green;">↓</span>  | 7.5  | 6.7  |



## Average Top Country by Manager



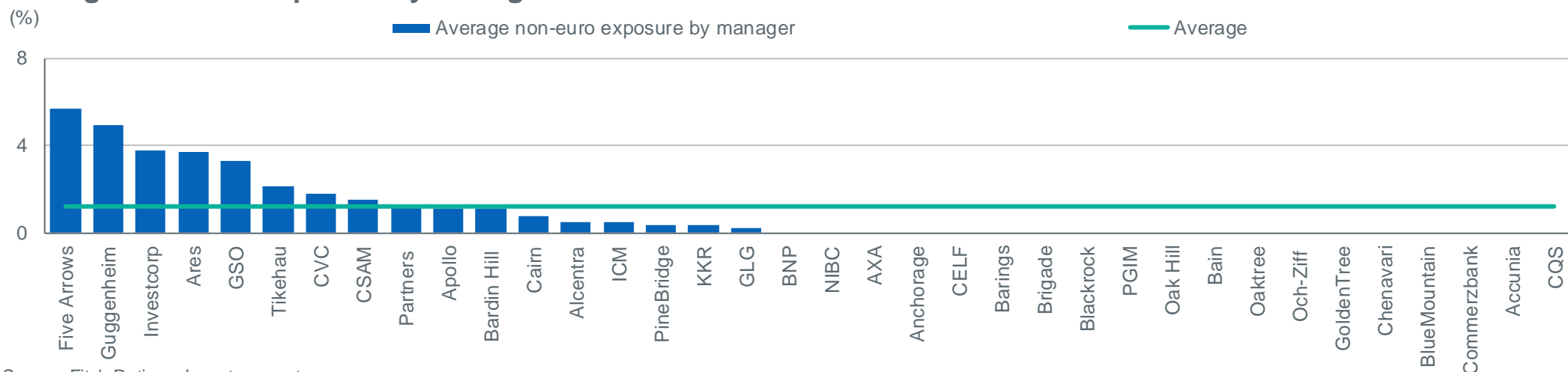
Source: Fitch Ratings, Investor reports

# 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)                     | 1Q19   | 4Q18 | 1Q18 |
|---------------------------------------|--|------|------|
| Average non-euro exposure (%)         | 1.2   | 1.4  | 1.9  |
| % transactions with non-euro exposure | 53.4  | 50.9 | 58.3 |

## Average Non-Euro Exposure by Manager

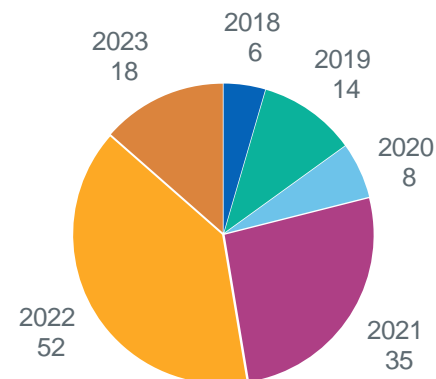


Source: Fitch Ratings, Investor reports

# Post-Crisis Transactions Start to Amortise

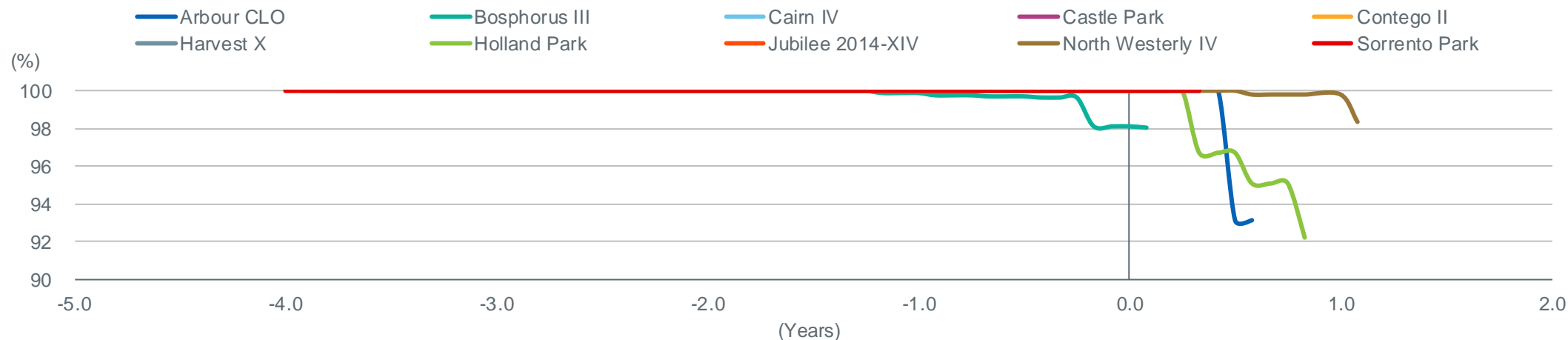
- 10 transactions have exited their reinvestment period as of end-1Q19.
- Four transactions have started to amortise as of end-1Q19.
- The recent increase in senior spreads made refinancing and reset less attractive and additional transactions may start to amortise.
- 10 others transactions are scheduled to exit their reinvestment period by end-2019.

**Reinvestment Period End Date**



By number of transaction  
Source: Fitch Ratings, Investor reports

## CLO Liabilities Repayment Post Reinvestment Period



Source: Fitch Ratings, Investor reports



# Related Research

- [CLOs and Corporate CDOs Rating Criteria](#)
- [European Leveraged Loan CLO 1Q19 Tracker Data File](#)
- [European CLO 2.0: Selected Transaction Features Explained from a Credit Perspective](#)
- [European Leveraged Loan Chart Book – 2018](#)
- [Fitch Ratings: Overlap between European and US CLO Portfolios Remains Limited](#)
- [Global CLO Chart Book: 2018 Market Review](#)
- [What Investors Want to Know: Topics in Leveraged Loans and CLOs](#)
- [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. Middle Market CLO Snapshot \(1Q19\)](#)
- [U.S. CLO Index: Issuance, Reset Activity Supports Stable Metrics](#)

# Recent Presales and New Issue Reports

- [Avoca CLO XX DAC](#)
- [Arbour CLO VI DAC](#)
- [Cadogan Square CLO XIII DAC](#)
- [Crosthwaite Park CLO DAC](#)
- [Carlyle Euro CLO 2019-1 DAC](#)
- [BlueMountain Fuji EUR CLO IV DAC](#)
- [Aqueduct European CLO 3-2019 DAC](#)
- [Harvest CLO XXI DAC](#)
- [Aurium CLO V DAC](#)
- [St. Paul's CLO X DAC](#)
- [Ares European CLO XI B.V.](#)
- [CVC Cordatus Loan Fund XIV DAC](#)

# 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.
- 1Q19 data are as of 2 April 2019 and based on investor reports available at that time (5 February 2019 to 20 March 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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