ANREV / INREV Funds of Funds Study
2017

Research

INREV is the European Association for Investors in Non-Listed Real Estate Vehicles. Our aim is to improve the accessibility of non-listed real estate vehicles for institutional investors by promoting greater transparency, accessibility, professionalism and standards of best practice.

As a pan European body, INREV represents an excellent platform for the sharing and dissemination of knowledge on the non-listed real estate industry.

INREV
ITO Tower, 8th floor
Gustav Mahlerplein 62
1082 MA Amsterdam, The Netherlands
+ 31 (0)20 235 8600 | research@inrev.org | www.inrev.org

Contents

Executive summary **4**

Sections **5**

1. Introduction 6
2. Performance of funds of funds 8
3. Characteristics of funds of funds 17

Appendices

1. Sample statistics 35
2. List of participants 36

Executive summary

> Funds of funds delivered positive returns of 7.7% in 2016
> Large funds of funds performed better than their medium and small peers
> Core strategies outperformed non-core strategies by 0.7%

This year's study shows that funds of funds remain an important vehicle in the non-listed real estate industry. This was the fourth consecutive year of positive returns for funds of funds, with the sector achieving an annual return of 7.7% in 2016. Whether broken down by style, structure, target regional strategy, vintage or size, on aggregate funds of funds delivered positive returns.

Core vehicles outperformed non-core ones and open end vehicles outperformed their closed end peers, which is not the outcome that might be expected.

In terms of vintage, vehicles that were launched in the 2008 to 2016 period experienced the best returns. While in terms of regional strategy the non-European vehicles did better than their European counterparts.

'Funds of funds are particularly useful for global strategies'

Considering vehicle size, there is a notable difference between the higher returns generated by large funds and the lower (but still positive) returns generated by small and medium funds.

According to the ANREV / INREV / NCREIF Fund Manager Survey 2017, funds of funds account for €24.8 billion or 1.3% of the gross asset value (GAV) of non-listed real estate vehicles worldwide. Of the total €121.8 billion capital raised in 2016, as noted in the ANREV / INREV / NCREIF Capital Raising Survey 2017, €3.0 billion or 2.5% was raised for fund of funds.

However, according to the ANREV / INREV / PREA Investment Intentions Survey 2017 published earlier this year, funds of funds were ranked seventh out of nine as a means to access European real estate. Among the respondents, 7.8% expect allocation to funds of funds to increase, 16.5% expect a decrease, 20.4% expect to maintain the current allocation and 55.3% do not currently invest in funds of real estate funds. In the previous year's study 61.0% of respondents stated that they did not invest in funds of funds, so this may indicate that the use of funds of funds is on the rise.

Fund of funds managers employ a diverse investment approach, not only investing into funds but also into joint ventures, club deals and debt funds. In the ANREV / INREV / PREA Investment Intentions Survey 2017, 63.6% of fund of funds managers stated that they expect an increase in their allocations in all three of these entry routes in the coming two years.

'Funds of funds achieved an annual return of 7.7% in 2016, the fifth best performance since 2005

Funds of funds can offer diversification benefits that individual funds cannot achieve. Their targeted investment strategy into different regions, styles, sectors as well as structures benefit investors with a limited capacity to access a broad spectrum of the real estate industry. As such they are particularly useful for global investment strategies. It is noteworthy that funds of funds and their close relative, separate accounts investing indirectly, attracted 32.7% of the capital that was raised for global strategies in 2016 (source: ANREV / INREV / NCREIF Capital Raising Survey 2017).

Section 1

Introduction

Introduction

This is the sixth edition of the Funds of Funds Study. The study provides an overview of the fund of funds industry globally, including insights by target region, by style and structure and other associated characteristics, as well as detailed analysis of the performance of funds of funds.

For the third time, the study is international in scope, and was conducted in conjunction with ANREV in Asia Pacific.

In total, ANREV and INREV Funds of Funds Universes ('Universe') contains 58 funds of funds that are managed by 24 managers. Collectively these vehicles represent a total Net Asset Value (NAV) of €12.2 billion. Nine funds of funds indicated their preference to remain anonymous and therefore the online vehicles universe contains only 49 funds of funds.

Performance data was provided for 16 funds of funds managed by 11 fund of funds managers. With NAV of €7.4 billion, this sample represents 66.7% of the total NAV of the funds of funds in the Universe.

The performance analysis in Section 2 is based on 16 vehicles unless otherwise stated. Section 3 is formed on the total number of funds of funds in the Universe unless otherwise stated.

It is important to note that the sample size and its composition varies year by year. As such, historical comparison should be treated with caution.

Aggregate annual performance results are presented only when a minimum of three funds of funds managed by three different managers is available. All returns are calculated by INREV. Performance figures are stated in local currency.

The performance data presented in this report is not intended to serve as a benchmark and should be used for research and information purposes only.

Performance figures in Section 2 are quoted as at 31 December 2016, while figures in Section 3 on the Universe are quoted as at the end of Q2 2017 unless stated otherwise.

Section 2

Performance of funds of funds

Performance of funds of funds

Aggregate annual performance of funds of funds

The following section is based on 16 funds of funds that provided performance figures to INREV. Collectively, these represent a total NAV of €7.4 billion. Summary statistics of these vehicles are presented in Appendix 1.

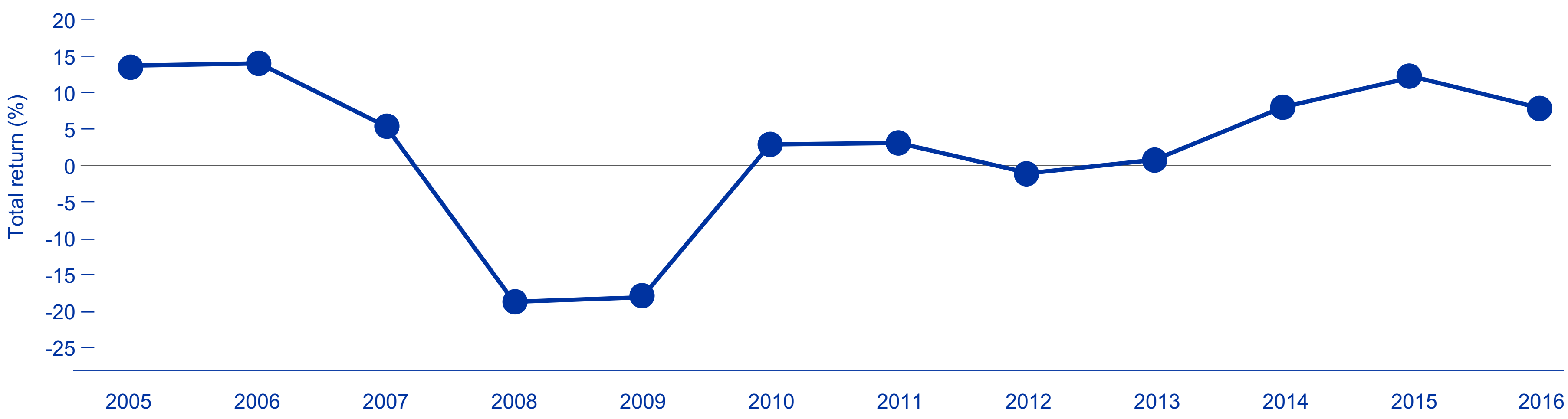
The performance analysis is based on an unfrozen sample, therefore historical data may change with future updates.

Last year was a good year for funds of funds. As a group, they returned 7.7%, making 2016 the fifth best year since 2005 and fourth consecutive year of positive returns.

There is considerable variation between the 16 funds of funds, with the range from highest to lowest being 38.4%.

‘Funds of funds enjoyed another positive year of returns in 2016’

Figure 1: Aggregate annual performance of funds of funds



Performance of funds of funds by quartile

The asymmetry in individual funds of funds' performance can be seen when returns are analysed by quartiles. The gap in performance among upper and lower quartile funds of funds was smaller in 2016 than in 2015.

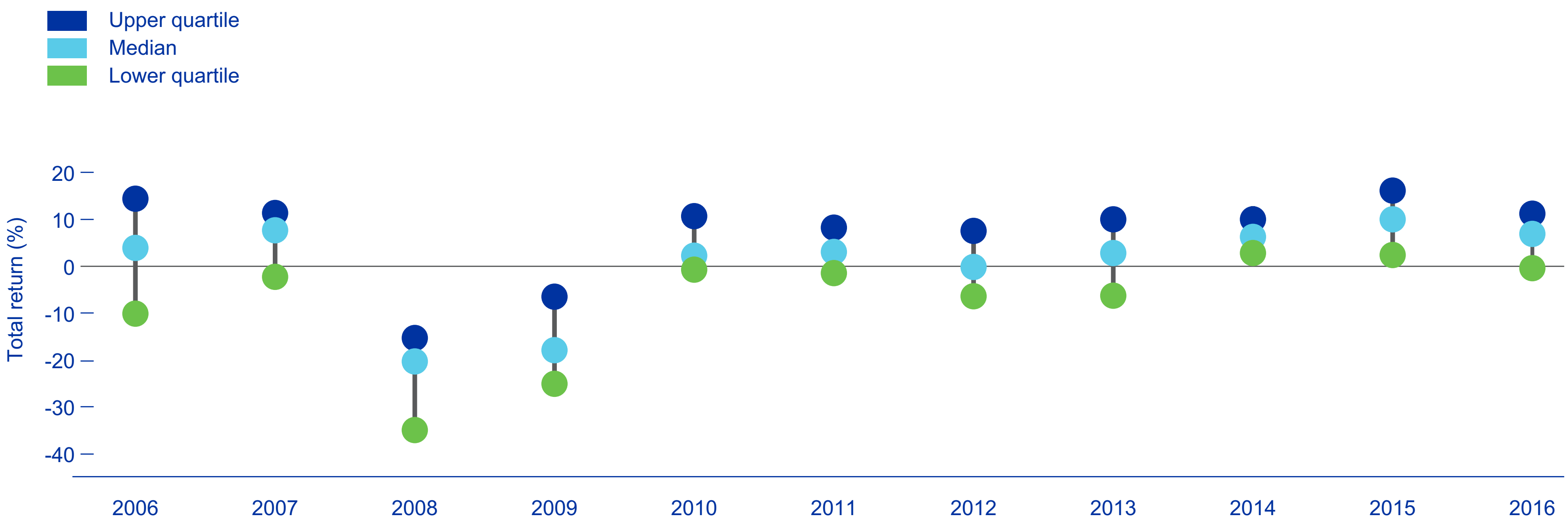
Historically, the gap between upper and lower quartiles was at its widest in 2008 and 2009, with 2009 showing the biggest gap on record.

In 2016, the upper quartile funds of funds achieved a total annual return of 11.1%, while lower quartile vehicles returned -0.6%.

The median return for funds of funds in 2016 stood at 6.9%.

'The gap between upper and lower quartile funds narrowed in 2016'

Figure 2: Performance of funds of funds by quartile



Performance of funds of funds by style

Value added and opportunity vehicles were grouped into a broader 'non-core' category for the analysis of performance by style.

All in all, the performances of core and non-core funds of funds have tended to move in the same direction over time. The same trend continued into 2016. Core funds returned 7.9% while non-core generated 7.1%.

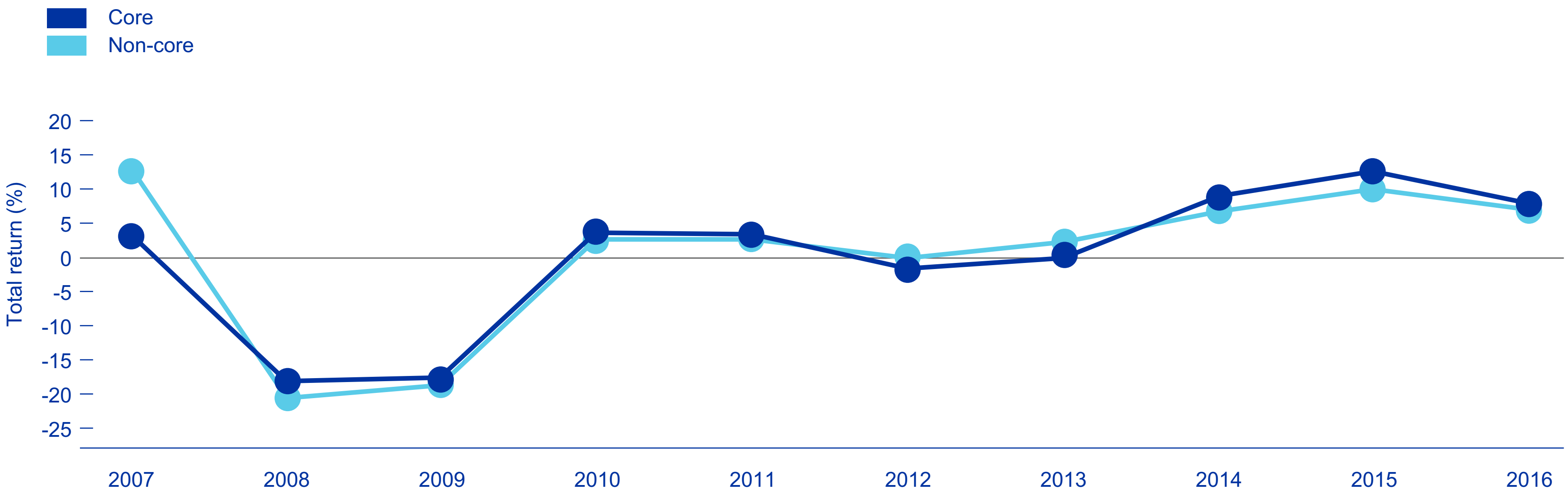
The volatility in non-core funds of funds has been greater than that of their core peers. This may suggest that core vehicles have a greater ability to withstand market downturns than non-core ones.

It is interesting to note that core funds of funds outperformed non-core vehicles for most of the research period. Of course, there were instances (for example, in 2007 and in 2013) when the trend reversed and non-core vehicles beat core funds of funds.

Core and non-core funds of funds complement each other and should not be seen as rivals. Investors have flexibility and discretion to choose between both styles to achieve their investment aims.

'Core and non-core funds of funds tend to move in the same direction over time'

Figure 3: Performance of funds of funds by style



Performance of funds of funds by structure

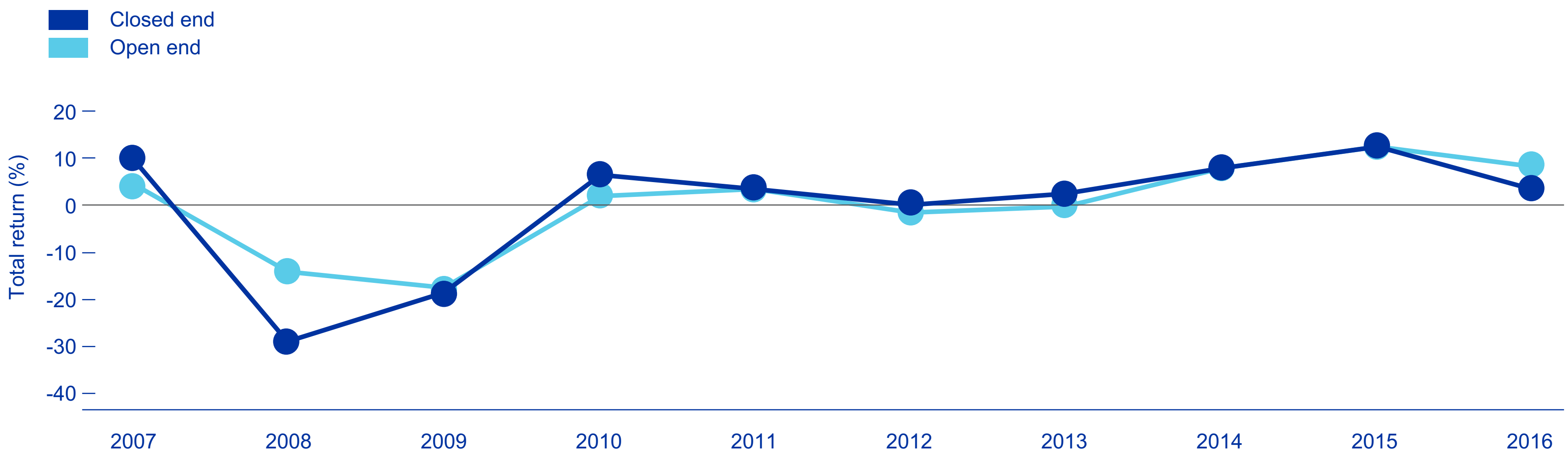
The performance of funds of funds can also be analysed from the angle of structure. As previous INREV reports have shown, closed end funds of funds were more likely to outperform open end funds of funds in the post-2009 period.

The reverse was the case in 2016. For the first time in seven years, open end funds of funds outperformed closed end vehicles. In 2016, closed end vehicles delivered 3.5% while open end vehicles returned 8.5%.

It is interesting to note, however, that closed end vehicles were steadier in their performance over the last seven years. As a group, they have not entered into negative territory since 2009, while open end funds of funds found themselves in the red in 2012 and 2013.

> 'For the first time in seven years, open end funds of funds outperformed closed end ones'

Figure 4: Performance of funds of funds by structure



Performance of funds of funds by vintage year

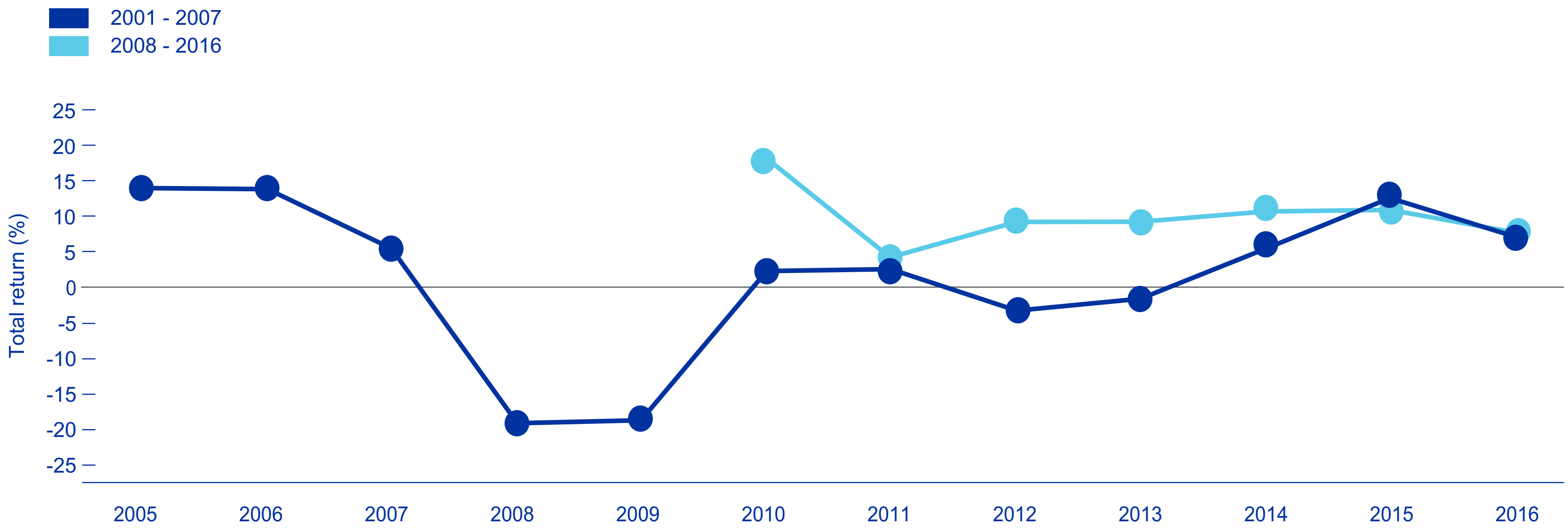
For the analysis by vintage year, the sample has been split into two broad categories: vehicles launched prior to 2008 and vehicles launched from 2008 onwards.

Funds of funds which came onto the market in or after 2008 regained their superior performance compared to vehicles launched prior to 2008. Last year this group of funds delivered 7.9% to their investors.

For vehicles launched prior to 2008, returns have been positive for three years in a row. In 2016 this category delivered a return of 7.3%.

'Funds of funds launched post-GFC regained their superior performance compared to those launched pre-crisis'

Figure 5: Performance of funds of funds by vintage year



Performance of funds of funds by target region

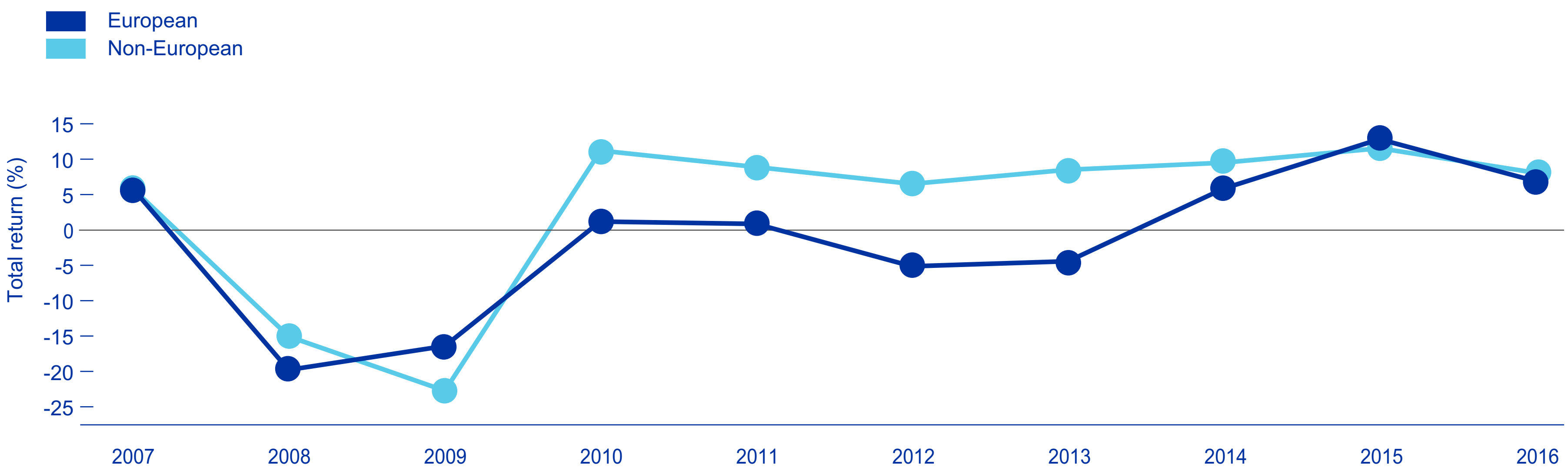
Yet another interesting angle is to analyse funds of funds performance by target region. The sample is first separated into two categories, those targeting Europe and those targeting countries outside Europe.

Since 2010 funds of funds targeting countries outside Europe have enjoyed higher returns compared with European strategy vehicles.

In 2016 the non-European strategy funds of funds delivered an average return of 7.9% while the funds of funds that target Europe delivered 6.9%. 2016 therefore continues the almost unbroken trend of non-European vehicles outperforming European ones.

> 'Funds of funds with a non-European strategy outperformed those with a European strategy'

Figure 6: European vs Non-European funds of funds' performance

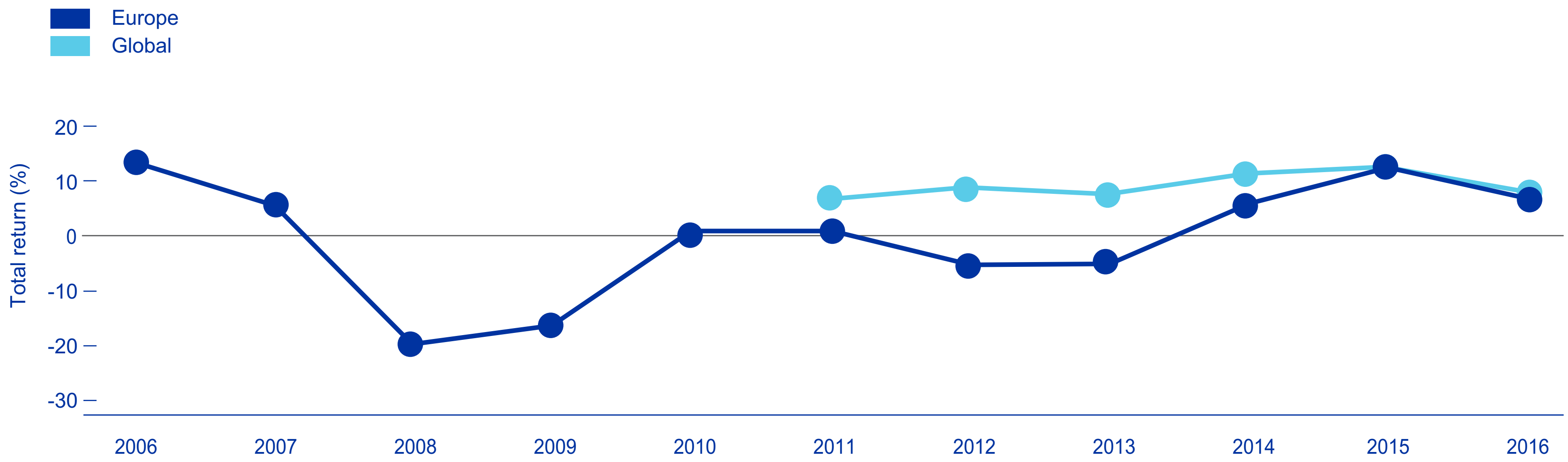


Another categorisation is to break the vehicles into those targeting Europe with a global mandate. (Ideally there would also be categories for Asia Pacific and North America, but in this year's study the sample size for these two regions were too small to support this analysis).

In 2015, both regional strategies moved in the same upward direction and in 2016 it can be seen that the European and global categories converged.

In 2016, global vehicles delivered growth of 8.3% and European strategies delivered growth of 6.9%.

Figure 7: Performance of funds of funds by target region



Performance of funds of funds by size

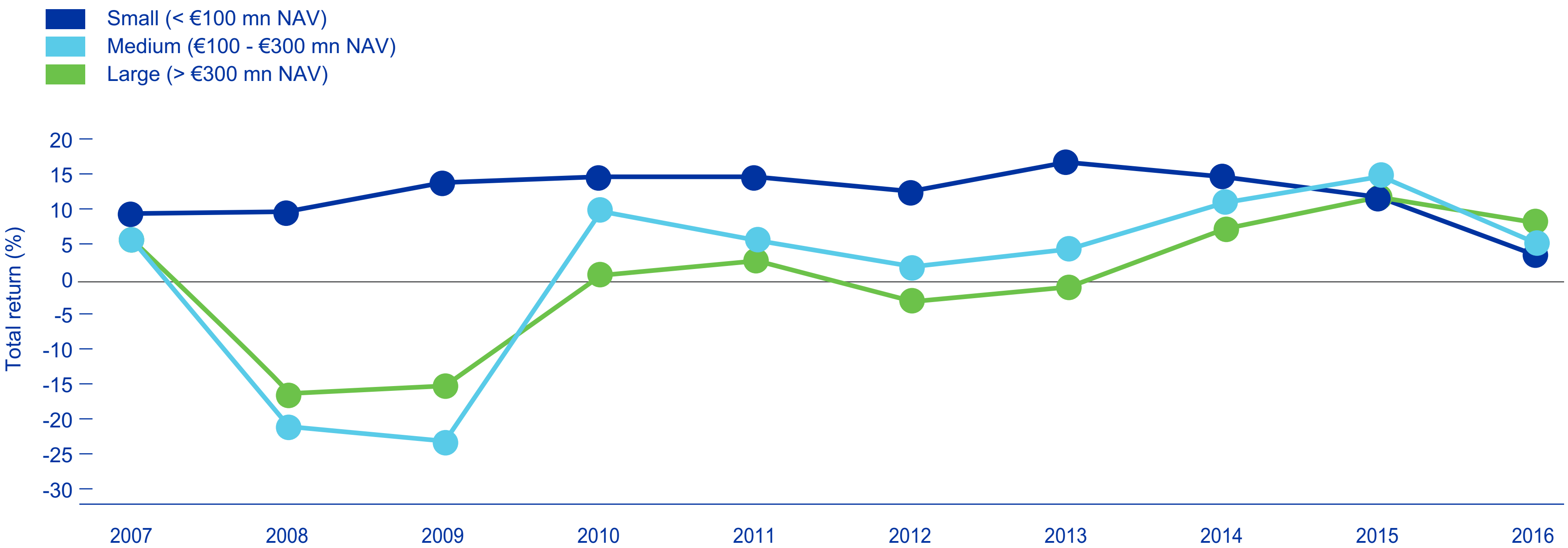
This section looks at performance of funds of funds by size. Vehicles are divided into three categories: small with NAV less than €100 million; medium with NAV in the range of €100 - €300 million; and large vehicles with NAV greater than €300 million.

Vehicles of all sizes generated positive returns in 2016. The larger funds of funds registered the greatest growth rate in 2016. As a group, large funds of funds returned 8.4% last year. Medium-sized vehicles delivered 5.4%. Small vehicles returned 5.6%.

In general, the three categories delivered broadly similar returns over the last two years. The convergence was particularly noticeable in 2015.

'Large vehicles registered the greatest growth rate in 2016'

Figure 8: Performance of funds of funds by size



Section 3

Characteristics of funds of funds

Characteristics of funds of funds

The analysis in this section is based on the Funds of Funds Vehicles Universe, comprised of 58 funds of funds which collectively represent NAV of €12.2 billion. Nine funds of funds indicated their preference to remain anonymous, therefore the online Funds of Funds Vehicles Universe displays details for 49 funds of funds only.

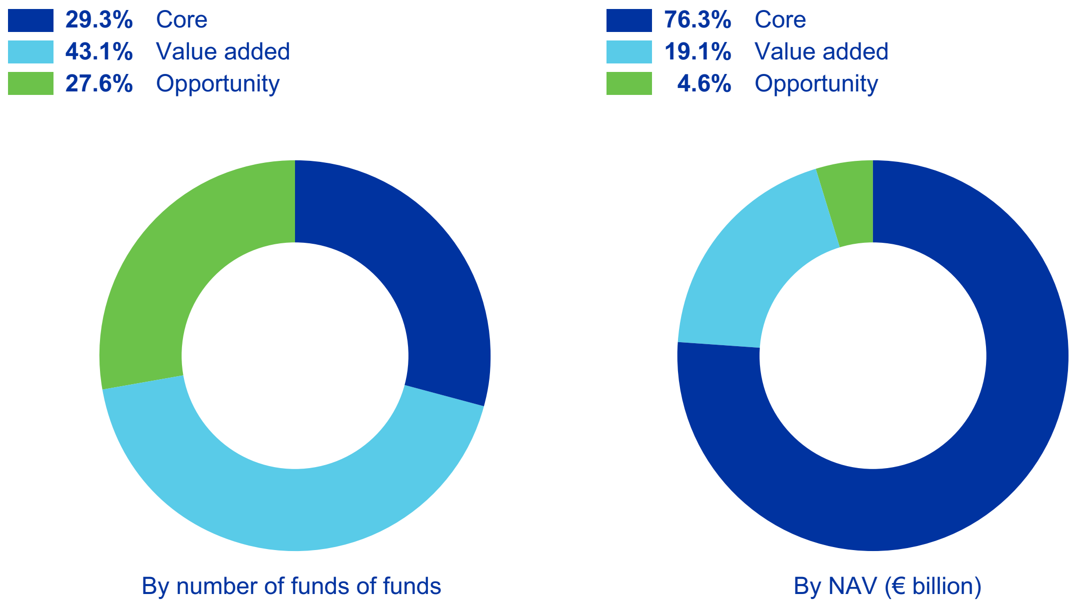
Style and structure

In terms of style, there are slightly more value added funds of funds in the universe compared to core and opportunity vehicles. Valued added funds of funds comprise 43.1% of the sample, while their core and opportunity peers comprise 29.3% and 27.6% of the universe accordingly.

However, by size the picture is very different. Core vehicles make up the largest share of total NAV (76.3%), while opportunity funds of funds account for the lowest share, representing just 4.6% with value added funds of funds make up the remaining 19.1%. This indicates that on average core funds of funds are much larger in size than value added or opportunity vehicles.

> 'Core strategies account for most of the assets under management'

Figure 9: Funds of funds by style

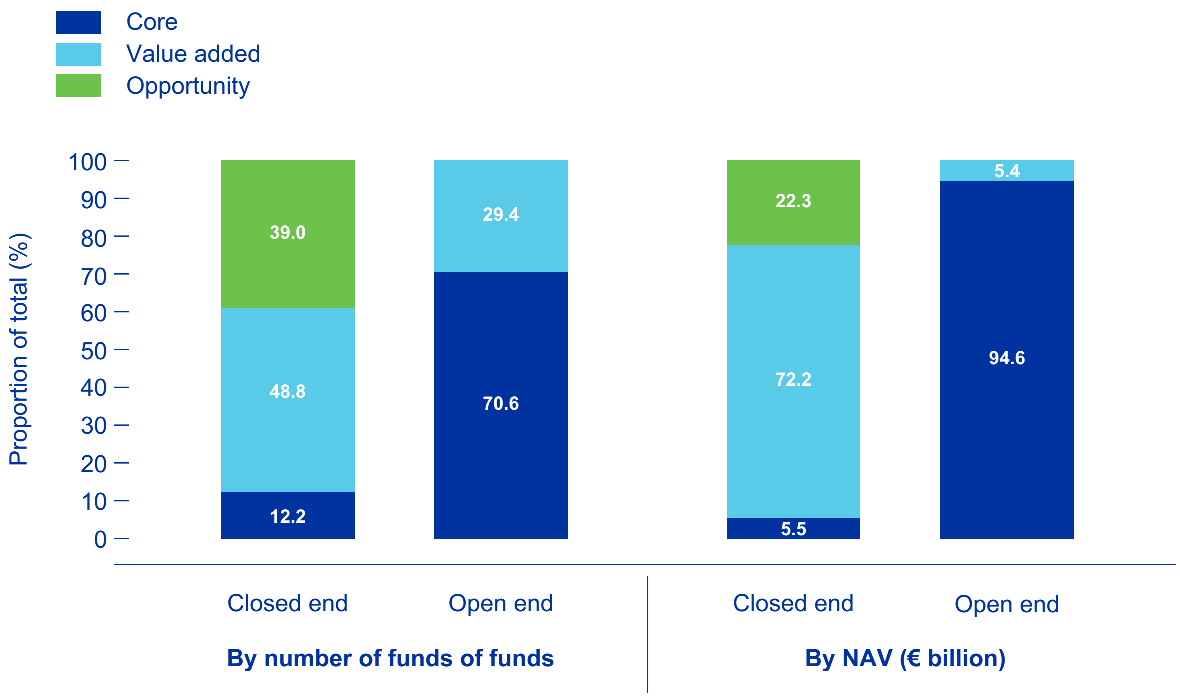


In terms of structure, open end funds account for 29.3% of the fund of funds market by number. Their closed end peers comprise the remaining 70.7% of the sample. By NAV the picture reverses, with open end structures accounting for 79.5%, double that of closed end funds which represent 20.5% of NAV.

In terms of style and structure taken together and measuring by number of vehicles, closed end funds of funds comprise 12.2% core strategies, 48.8% value added strategies and 39.0% opportunity strategies. When this exercise is repeated, but measuring by NAV, closed end funds of funds are split as follows: core strategies make up 5.5%, value added strategies make up 72.2% and opportunity strategies make up 22.3%.

For open end funds of funds there is a different pattern: broken down by number, the majority (70.6%) are core in style with the remainder (29.4%) being valued added. There are no open end opportunity funds of funds. In terms of NAV, most of the money (94.6%) in open end funds of funds is in core strategies.

Figure 10: Funds of funds by style and structure



Target region

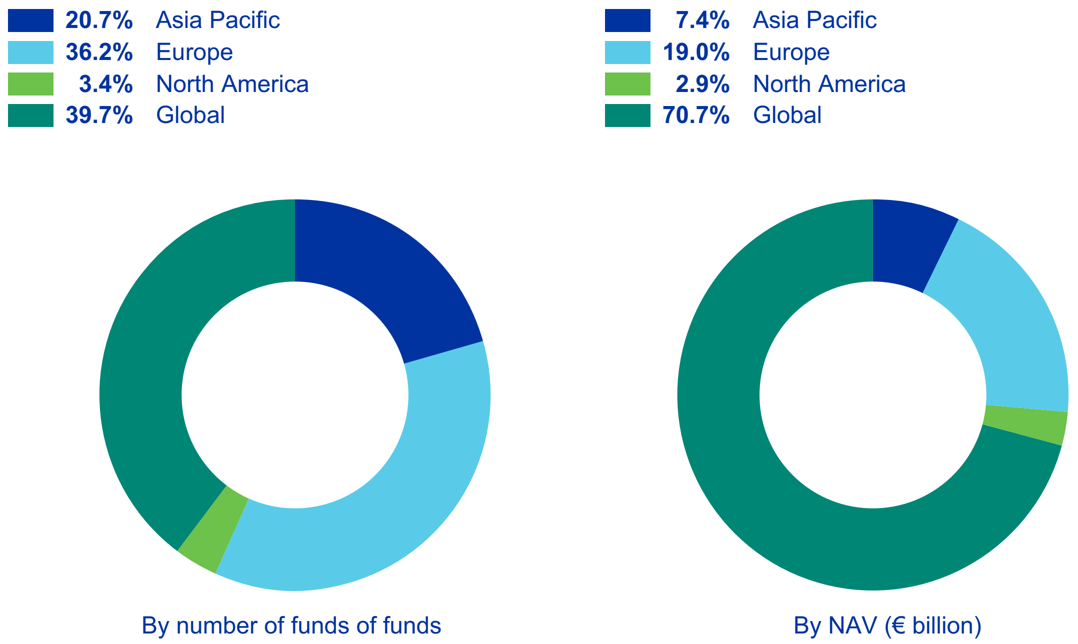
In terms of the regional strategy that is targeted, vehicles with a European or global strategy make up the largest share of funds of funds in the universe, with 36.2% and 39.7% respectively. Their Asian peers represent 20.7% of the vehicles universe while only 3.4% have a North American strategy.

In terms of size, vehicles with a Global strategy dominate – they represent 70.7% of total NAV. European funds of funds are next, with 19.0%. The remaining 10.3% of NAV is split between Asia Pacific (7.4%), North America (2.9%).

This comparison suggests that the average size of Global vehicles is much larger than the average size of vehicles with any other regional strategy. The average Global fund of funds has €375.3 million, while the average North American one has €177.3 million. European strategies (€110.1 million) and Asia Pacific strategies (€75.3 million) are in third and fourth place respectively.

> 'The average Global fund of funds has assets of approximately €375 million'

Figure 11: Funds of funds by target region



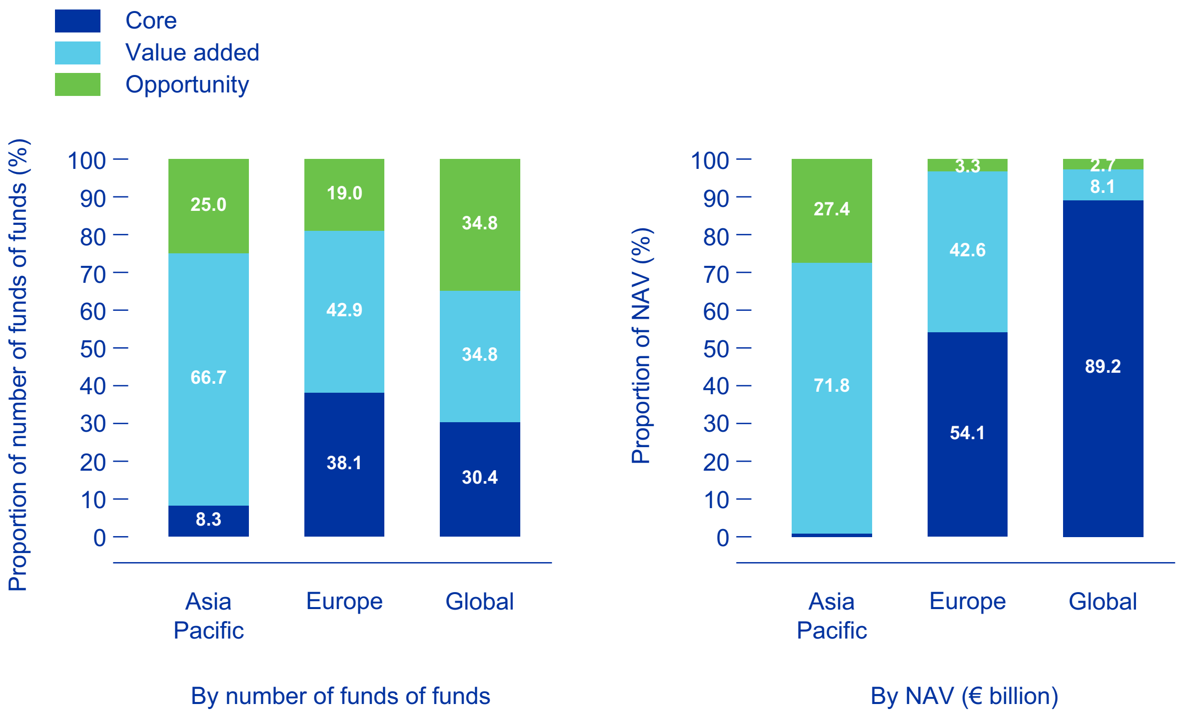
When looking at regional strategy by style there are notable differences across the sample. Of the total number of funds of funds focusing on Asia Pacific, two thirds (66.7%) are value added, one fourth opportunity (25.0%) with the remaining being core (8.3%). In terms of size, the Asia Pacific strategies are divided as follows: 71.8% are value added, 27.4% are opportunity and 0.8% are core. European funds of funds are more evenly split number wise: 38.1% are core, 42.9% are value added and 19.0% are opportunity. With regards to their NAV, 54.1% are core, 42.6% value added and 3.3% are opportunity. Vehicles with a global mandate are mostly targeting the non-core space (69.6%), but in terms of size, core dominates (89.2%).

The comparison suggests that as a group, most funds of funds are non-core. However, in terms of size, European and especially Global core funds of funds dwarf their non-core peers. Only non-core funds of funds targeting Asia Pacific are larger than core vehicles.

The sample size for funds of funds targeting North America is too small to show a split by style.

‘Asian non-core funds of funds are larger than core vehicles’

Figure 12: Funds of funds by style and target region



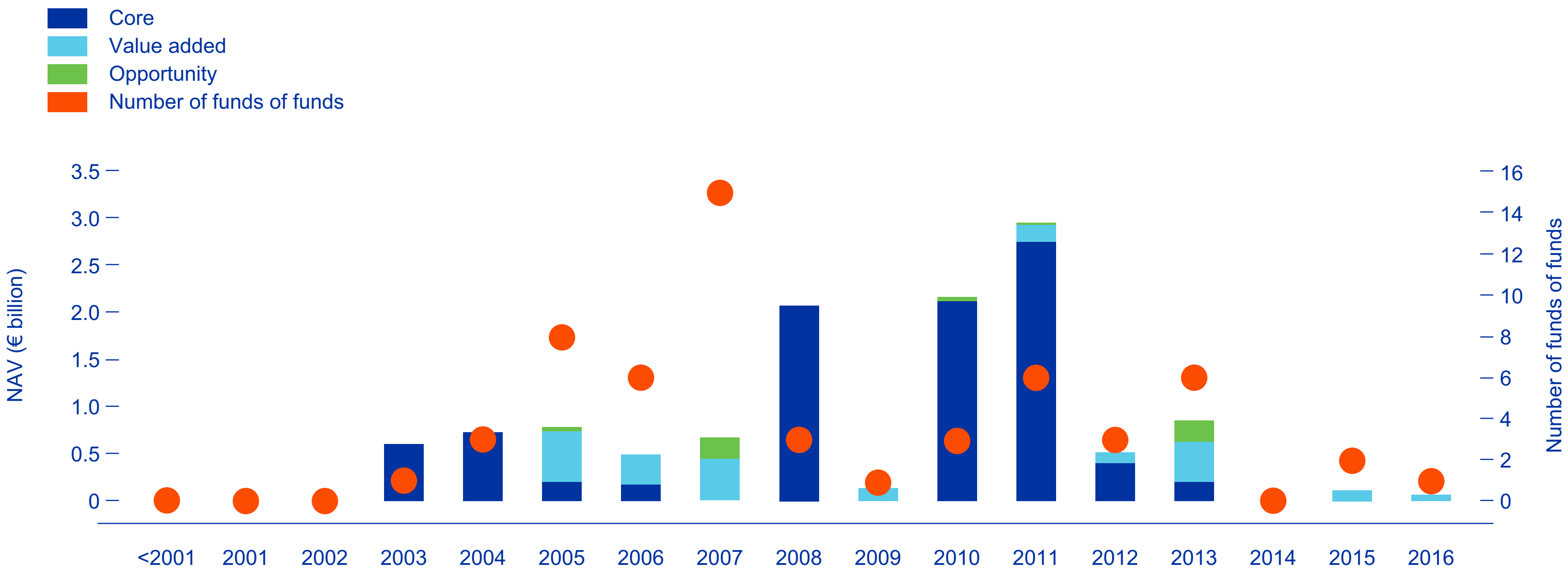
Vehicle launches

Over the last two decades, the funds of funds sector has seen new vehicles being launched every year. The number of new vehicle launches accelerated in the early 2000s, when core vehicles dominated the sample. A few years later, new funds of funds adopted opportunity and value added styles.

Following the financial crisis, the trend reversed with core vehicles being back in vogue. There was a notable spurt in new funds of funds entering the market in 2010, 2011 and 2013 and most of them were core. The pendulum has now swung in the opposite direction since 2013, and non-core funds of funds came back in fashion.

> 'The early 2000s saw notable growth in the number of funds of funds being launched'

Figure 13: New vehicle launches



Minimum fund life

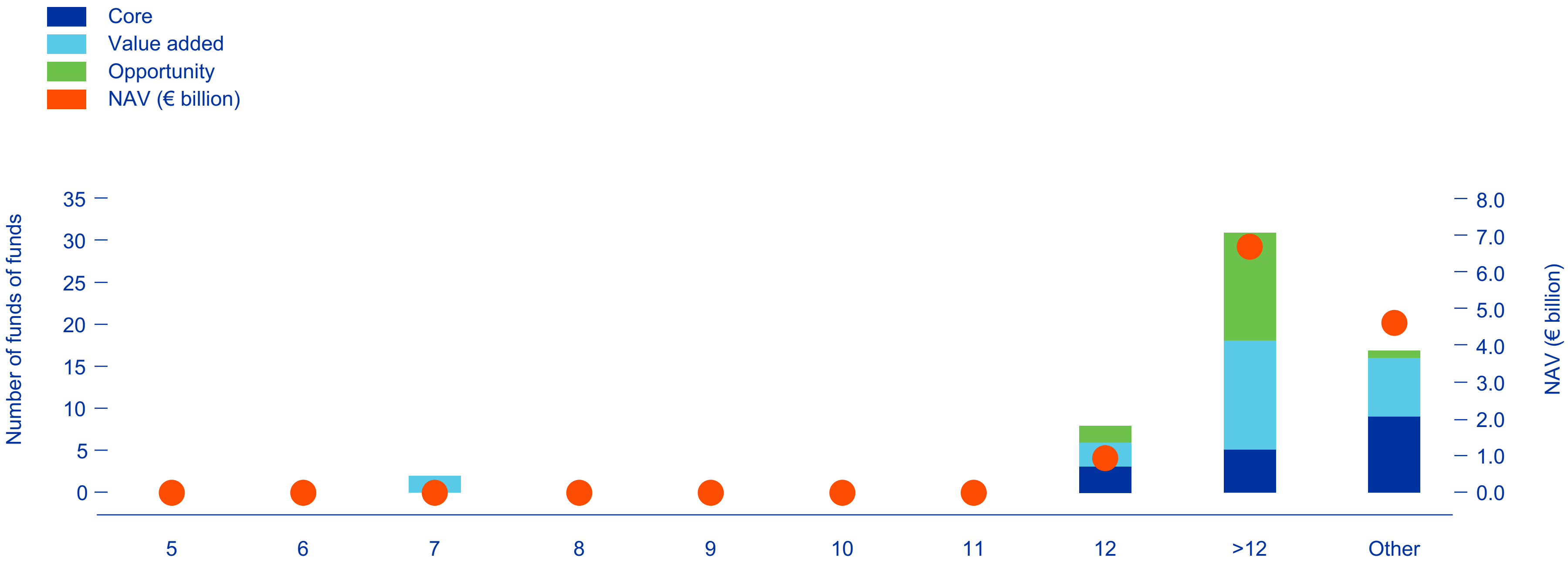
As noted above, most funds of funds in the universe have a closed end structure and thus a finite life span. By number, the life span of a fund of funds tends to stretch to 12 years and beyond. To be specific, vehicles with a 12 year life span comprise 13.8% and vehicles with a life span exceeding 2 years comprise 53.4% years. Just under a third (29.3%) of funds of funds in the universe have their fund life unspecified with just a handful of vehicles (3.4%) being launched for seven years.

> ‘Vehicles with a life span greater than 12 years are mostly non-core’

With regards to styles and minimum fund life, some interesting differences are worth noting. Vehicles with a fund life of 12 years have an even split between core and value added (37.5% each) with the remaining 25.0% being opportunity. Conversely, vehicles with a life period greater than 12 years are mostly non-core: value added and opportunity are 41.9% each with the remaining 16.1% being core.

Collectively vehicles with a minimum fund life of 12 years hold €886.1 million of NAV while those vehicles with longer minimum lives represent €6.7 billion or 54.7% of the sample NAV. It is therefore possible to suggest that there is less money invested in vehicles that have a shorter life-span.

Figure 14: Minimum fund life



Planned termination year

Another way to examine the funds of funds universe is from the angle of planned termination year. From this angle, it appears that 31 vehicles have their terminations scheduled over the next decade. This represents € 2.1 billion or 17.2% of the total NAV. During this period, the first three years are likely to see planned terminations on the increase, and 2019 seems set to be a peak year. In that year 10 funds of funds are expected to terminate, bringing € 0.8 billion into the market.

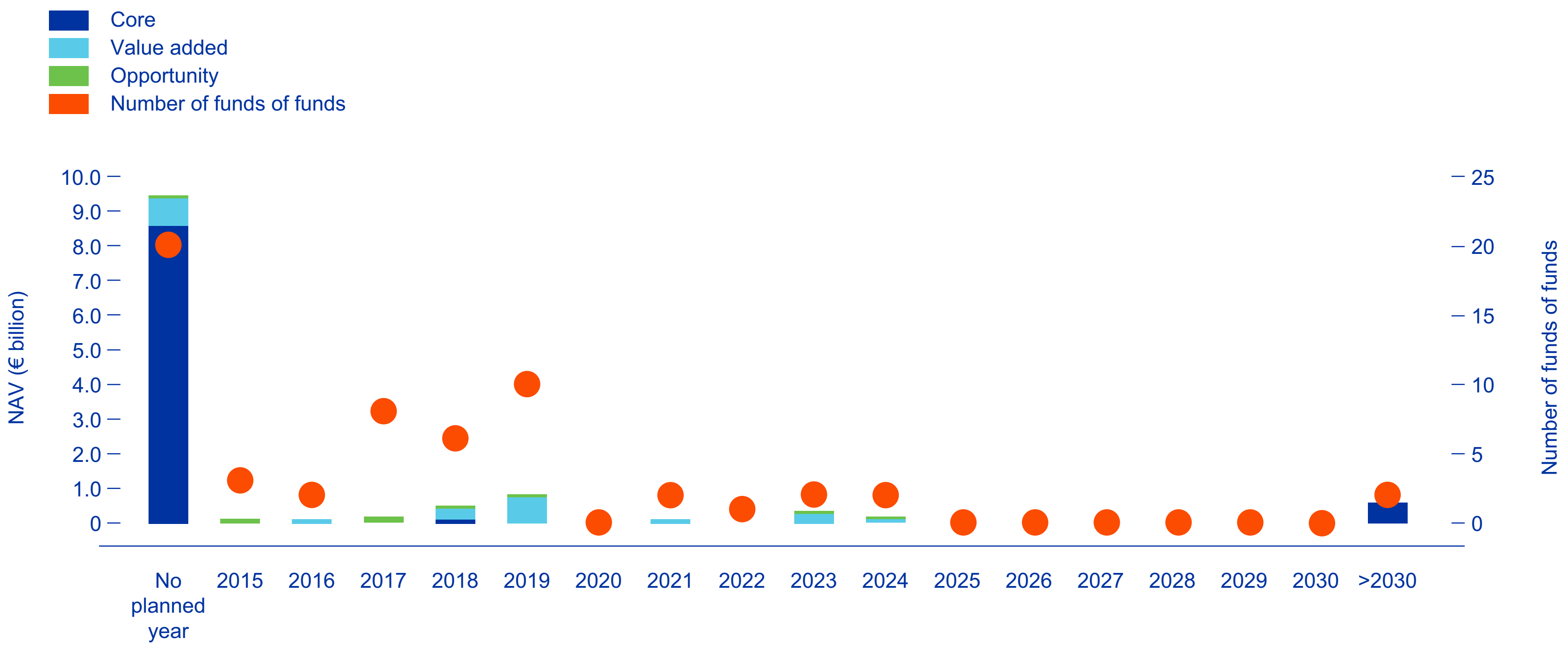
> ‘The coming three years are likely to see a rising number of planned terminations’

After 2019, the next notable year for fund of funds terminations is expected at some point after 2030, when 2 vehicles are currently scheduled to terminate.

It was worth pointing out that the actual termination year is not necessarily the same as the planned termination year (see the [INREV / AREF / IPF End of Fund Life Report] for more details).

20 vehicles have no planned termination year, on account of having an open end structure with an potentially infinite life span. These funds of funds make up €9.4 billion worth of NAV.

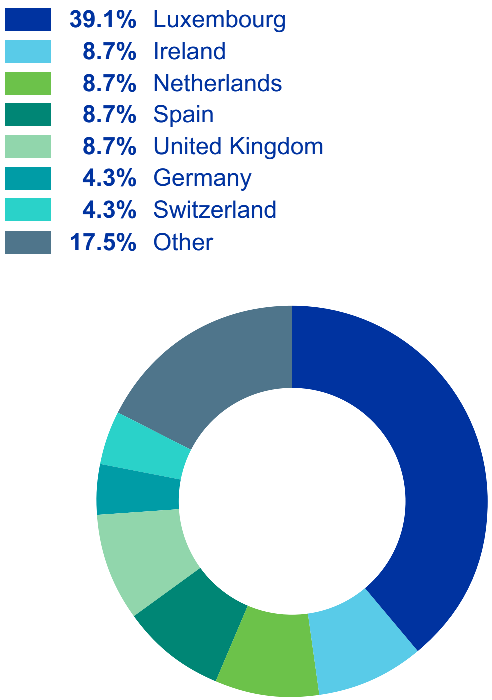
Figure 15: Planned termination year



Vehicle domicile

When looking at the domicile of funds of funds, Luxembourg is by far the preferred location, with 9 or 39.1% of funds of funds in the Vehicles Universe being domiciled there. The Netherlands, UK, Spain and Ireland are home to more than one vehicle each. There are four funds of funds domiciled outside core Western European countries.

Figure 16: Vehicle domicile



Note: The sample is comprised of 23 vehicles.

'Luxembourg is home to 39.1% of funds of funds'

Target net IRRs

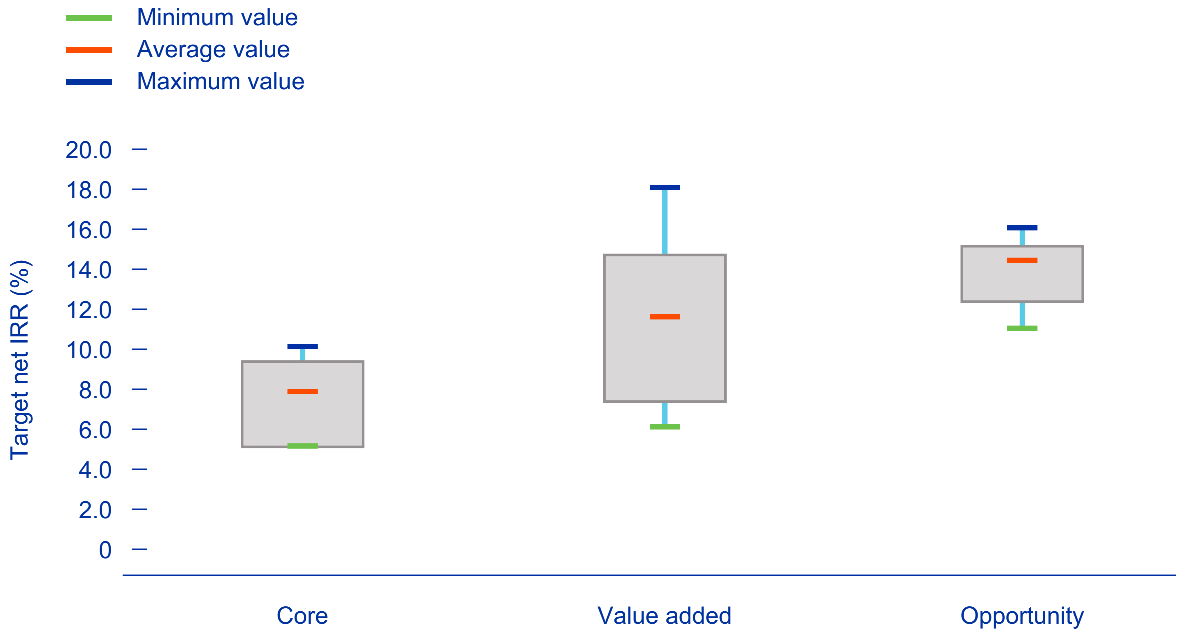
Core funds of funds have the lowest average target net internal rate of return (IRR) of 7.8%, compared with 11.5% for value added and 14.4% for opportunity vehicles. The difference between median values is even more widespread: 8.0% for core, 11.0% for value added and 15.0% for opportunity.

The spread between lowest and highest IRR values also significantly differs depending on vehicle style. The lowest IRR value for core strategies stands at 5.0%, while it is 6.0% for value added strategies, and 11.0% for opportunity strategies. Regarding the highest IRRs, values are as follows: 10.0% for core, 18.0% for value added and 16.0% for opportunity.

> ‘Opportunity funds of funds show greater homogeneity when it comes to targets being set’

It is interesting to note that the range of IRRs for all three strategies also varies. It is 5.0% among core and opportunity funds of funds and 12.0% among their value added peers. Overall it is seen that value added funds of funds have the largest spread in their target IRR levels. Opportunity funds of funds, which aim higher, stick closer together in terms of their targets.

Figure 17: Target net IRR



* The middle ‘box’ represents the middle 50% of values for the group. The upper line represents the upper quartile group, while the lower line represents the lower quartile group. The upper whisker (dash) denotes the maximum value, while the lower whisker (dash) denotes the minimum value.

Note: The sample is comprised of 48 vehicles.

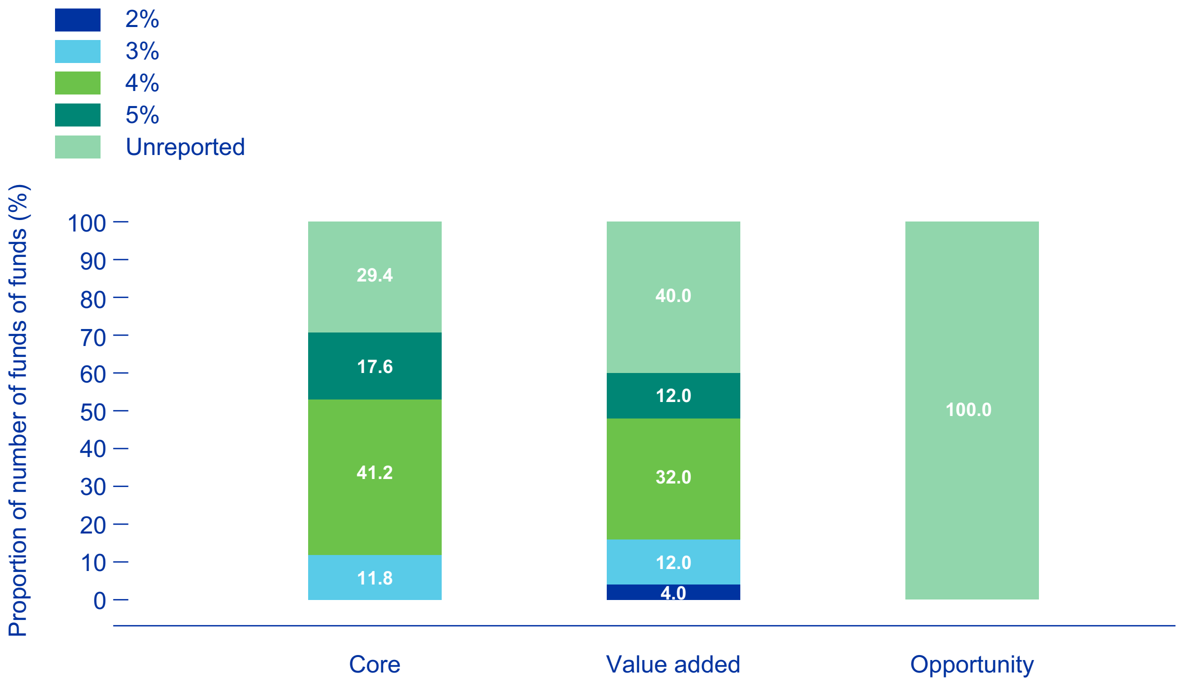
Minimum target distribution yield

Of the 27 funds of funds that have provided their target distribution yield figures (across all styles), 3.7% have indicated a minimum target distribution yield of 2.0%, 18.5% of vehicles are targeting a 3.0% yield, 55.6% are aiming for 4.0%, leaving the remaining 22.2% of vehicles to target a 5.0% distribution yield. So it seems that 4% is by far the most popular target distribution yield.

In terms of style, 41.2% of core funds of funds in the universe shoot for a 4.0% minimum distribution yield, while the corresponding figure for value added is 32.0%.

No opportunity funds specified a target distribution yield.

Figure 18: Minimum target distribution yield



Target average total gearing

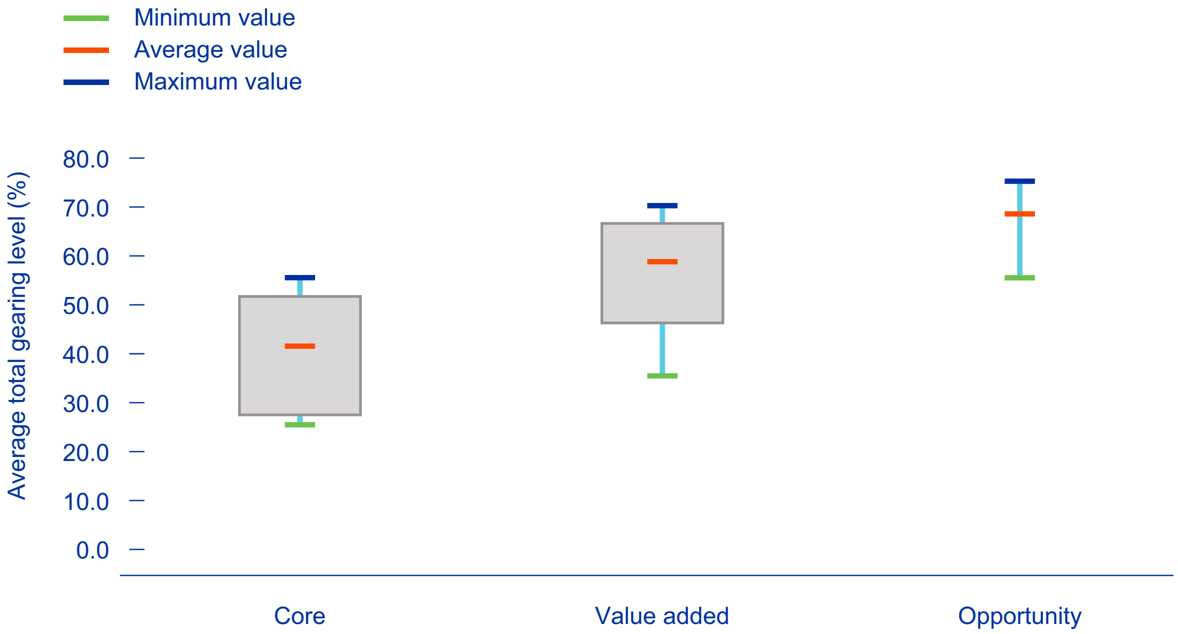
When gearing levels are compared among styles, practice matches theory - core vehicles have lower gearing levels than value added, which are lower than in opportunity. The same applies to funds of funds.

On average, core funds of funds have gearing of 41.4% with a maximum of 55.0% and a minimum of 25.0%. Value added funds have average gearing of 58.4% with a minimum value of 35.0% and a maximum of 70.0%. Meanwhile opportunity funds of funds have an average total gearing level of 68.2%, with the range between a minimum of 55.0% and a maximum of 75.0%.

Value added funds of funds have the largest range (measured as the difference between the lowest and the highest values) of gearing levels compared to their core and opportunity peers. The range for core vehicles is 30.0%, while it is 35.0% and 20.0% for value added and opportunity vehicles respectively.

‘Core funds of funds employ a varied range of gearing levels’

Figure 19: Target average total gearing



* The middle ‘box’ represents the middle 50% of values for the group. The upper line represents the upper quartile group, while the lower line represents the lower quartile group. The upper whisker (dash) denotes the maximum value, while the lower whisker (dash) denotes the minimum value.

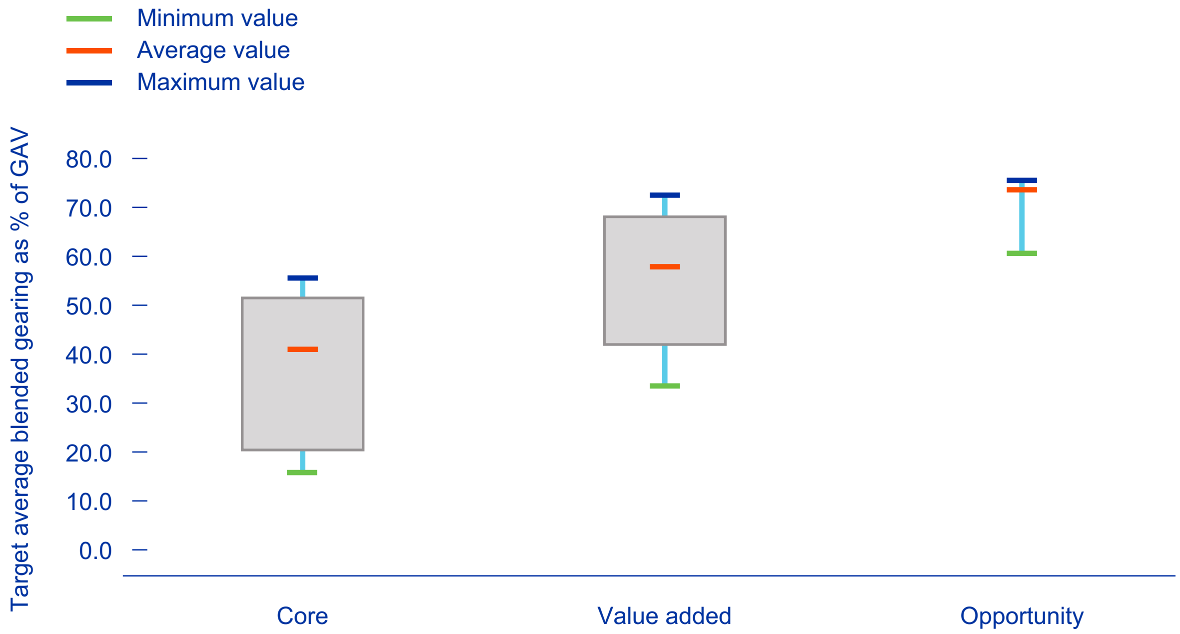
Note: The sample is comprised of 36 vehicles; for opportunity vehicles the sample was insufficiently large to compute quartiles.

Target average blended gearing of vehicles

Taken as a group, funds of funds aim for blended gearing levels that range from 15.0% to 75.0% as a percentage of GAV. The average is 56.1%.

Core funds of funds have the lowest levels of targeted blended gearing, averaging 40.5% with a minimum value of 15.0% and a maximum value of 55.0%. As expected, value added funds of funds exhibit higher levels, with an average of 57.3%, a minimum value of 33.0% and a maximum value of 72.0%. Funds of funds with an opportunity strategy have the highest average gearing level of 73.1%. However, it is worth noting that opportunity funds have the narrowest range of gearing levels.

Figure 20: Target average blended gearing of vehicles



* The middle ‘box’ represents the middle 50% of values for the group. The upper line represents the upper quartile group, while the lower line represents the lower quartile group. The upper whisker (dash) denotes the maximum value, while the lower whisker (dash) denotes the minimum value.

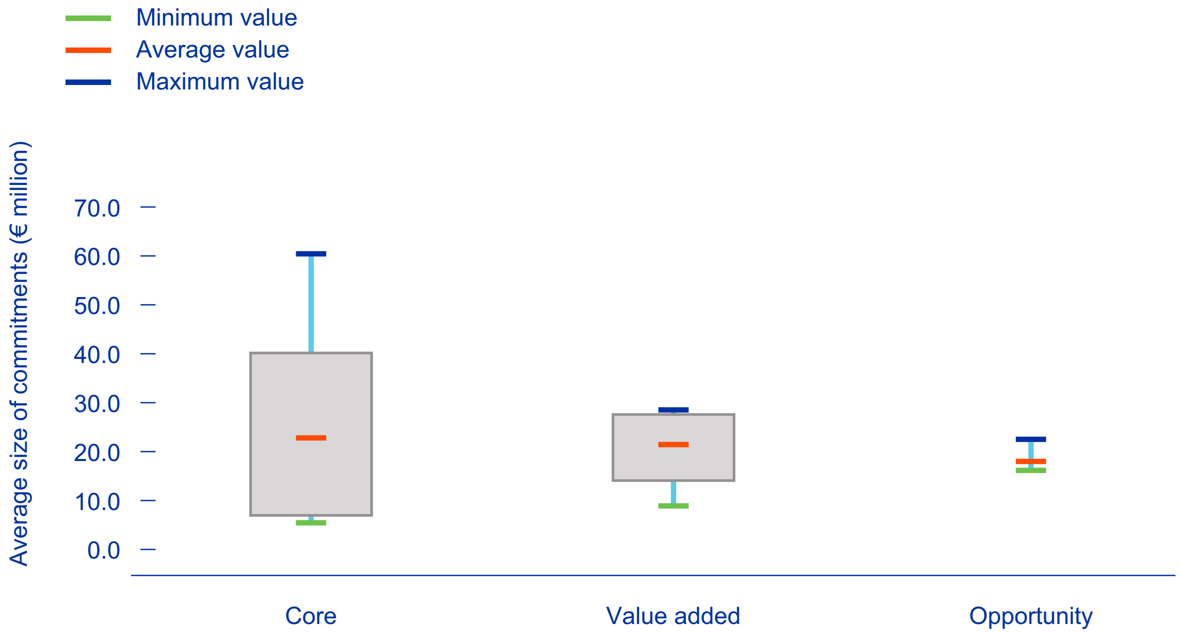
Note: The sample is comprised of 36 vehicles; for opportunity vehicles the sample was insufficiently large to compute quartiles.

Average size of commitments by style

The average size of capital commitments for core funds of funds is somewhat larger than that of value added and opportunity vehicles. On average, core funds of funds call in €22.7 million of equity, while the average size of commitments for value added and opportunity vehicles is €21.6 million and €18.0 million respectively.

Core funds of funds also exhibit the largest range in commitment levels, deviating from a minimum of €5.4 million to a maximum of €60.5 million. The spectrum for value added funds of funds is much narrower, ranging between €8.9 million to €28.5 million. Opportunity vehicles have the lowest range of commitments overall, from €16.1 million to €22.3 million.

Figure 21: Average size of commitments by style



* The middle 'box' represents the middle 50% of values for the group. The upper line represents the upper quartile group, while the lower line represents the lower quartile group. The upper whisker (dash) denotes the maximum value, while the lower whisker (dash) denotes the minimum value.

Note: The sample is comprised of 22 vehicles; for opportunity vehicles the sample was insufficiently large to compute quartiles.

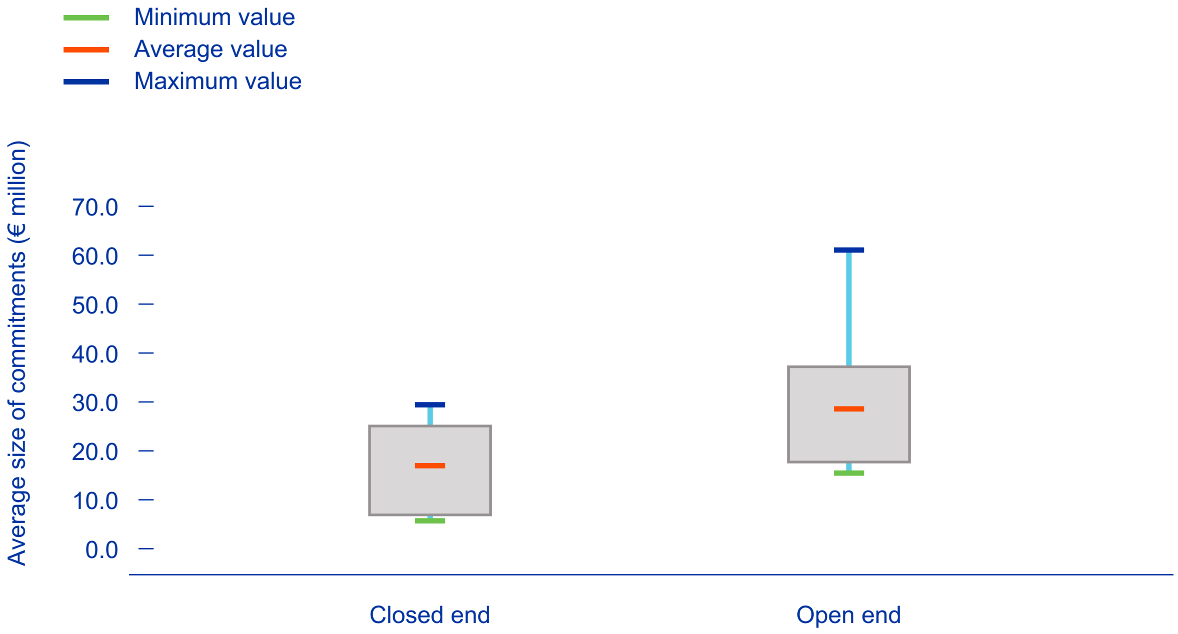
> 'Core funds of funds have the lowest minimum commitment'

Average size of commitments by structure

By structure, open end funds of funds have larger commitments on average and a much larger range than their closed end peers. The size of commitments for closed end funds of funds range from a minimum of €5.4 million to a maximum of €29.3 million, with an average value of €16.8 million.

Open end funds of funds have an average commitment of €28.3 million, with a minimum value of €15.1 million and maximum value of €60.5 million. Open end funds of funds tend to look for larger commitments than their closed end peers.

Figure 22 : Average size of commitments by structure



* The middle 'box' represents the middle 50% of values for the group. The upper line represents the upper quartile group, while the lower line represents the lower quartile group. The upper whisker (dash) denotes the maximum value, while the lower whisker (dash) denotes the minimum value.

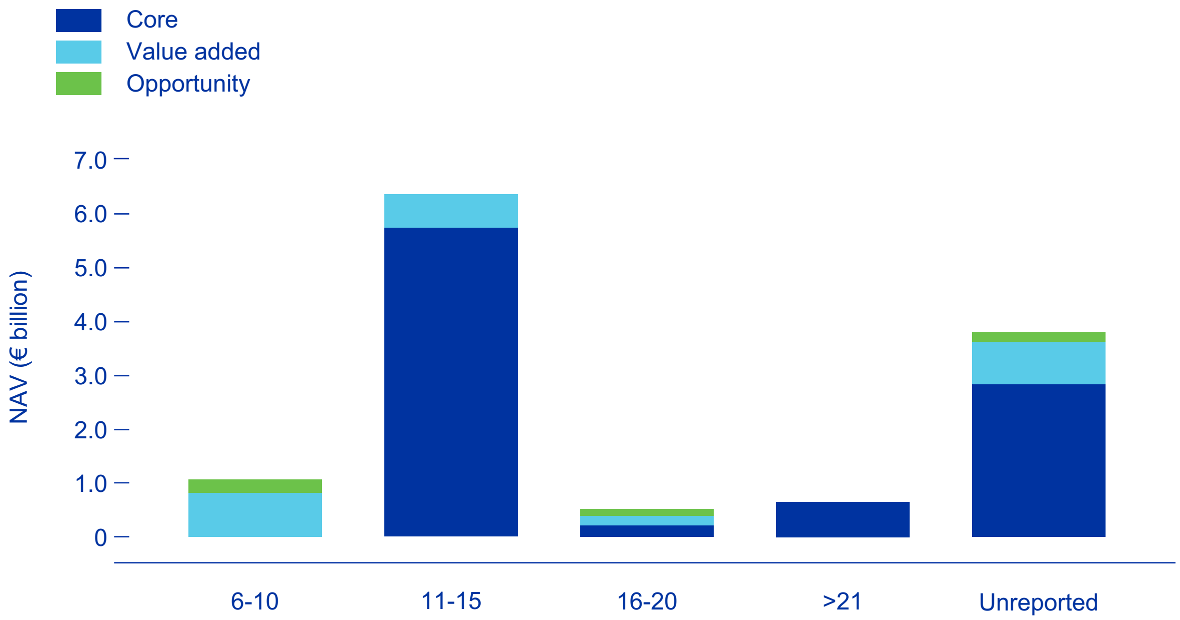
Note: The sample is comprised of 22 vehicles.

Minimum target number of vehicles

The level of diversification by number of vehicles is much more notable among core funds of funds. Of those funds of funds that provided their metrics, core vehicles make up the largest proportion of funds of funds targeting 11-15 vehicles, representing 90.0% of core NAV.

Conversely, non-core funds of funds seem more likely to pursue a more concentrated strategy and this is reflected in the number of vehicles they are targeting. Of those that reported, almost half (49.0%) of the NAV of value added funds of funds is allocated to 6-10 vehicles. Opportunity funds of funds have 71.3% of their NAV allocated in to somewhere between 6 and 10 funds.

Figure 23: Minimum target number of vehicles



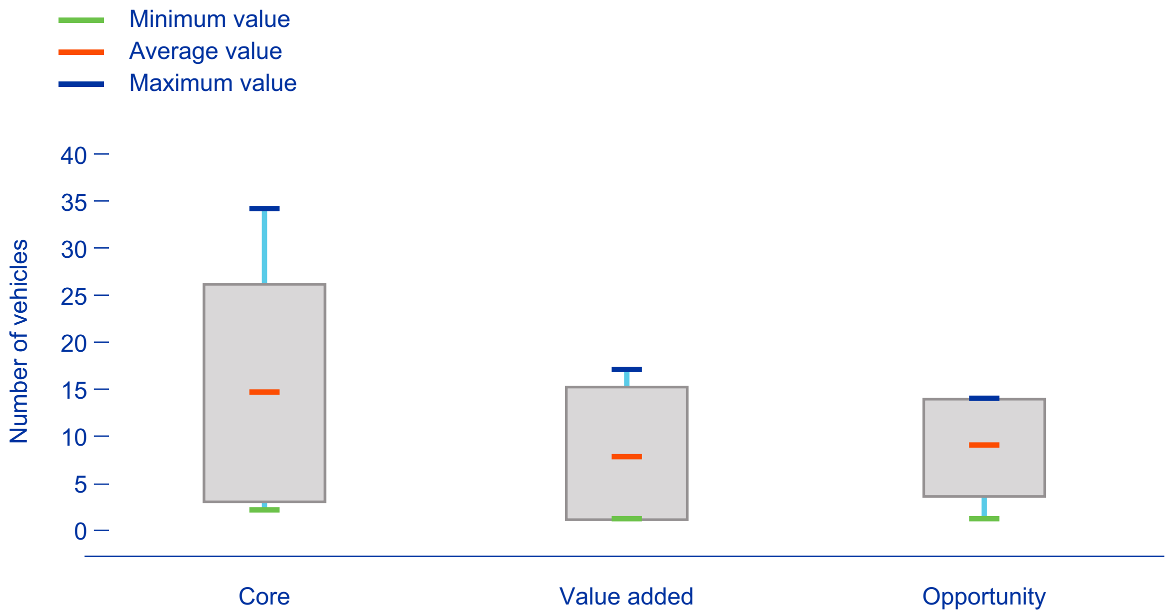
‘Non-core funds of funds tend to pursue a more concentrated strategy’

Number of vehicles invested in

Taken as a group, funds of funds have invested into 11 different vehicles on average. However, the sample ranges considerably when numbers are examined by style. The average number of vehicles invested in for core funds of funds is much higher than for non-core vehicles. Core funds of funds have invested into 15 vehicles on average, compared with 8 for value added and 9 for opportunity.

The range between the lower and upper quartiles for core funds of funds is much wider than that for value added and opportunity. For core funds of funds the interquartile range is between 3 and 26 vehicles. For these vehicles, the minimum is 2 vehicles and the maximum is 34. For value added funds of funds the interquartile range is between 1 and 15 vehicles. For this category, the minimum is 1 and the maximum is 17 vehicles. For opportunity funds of funds, the interquartile range is between 4 and 14 vehicles while the minimum is 1 and the maximum is 14 vehicles.

Figure 24: Number of vehicles invested in



* The middle 'box' represents the middle 50% of values for the group. The upper line represents the upper quartile group, while the lower line represents the lower quartile group. The upper whisker (dash) denotes the maximum value, while the lower whisker (dash) denotes the minimum value.

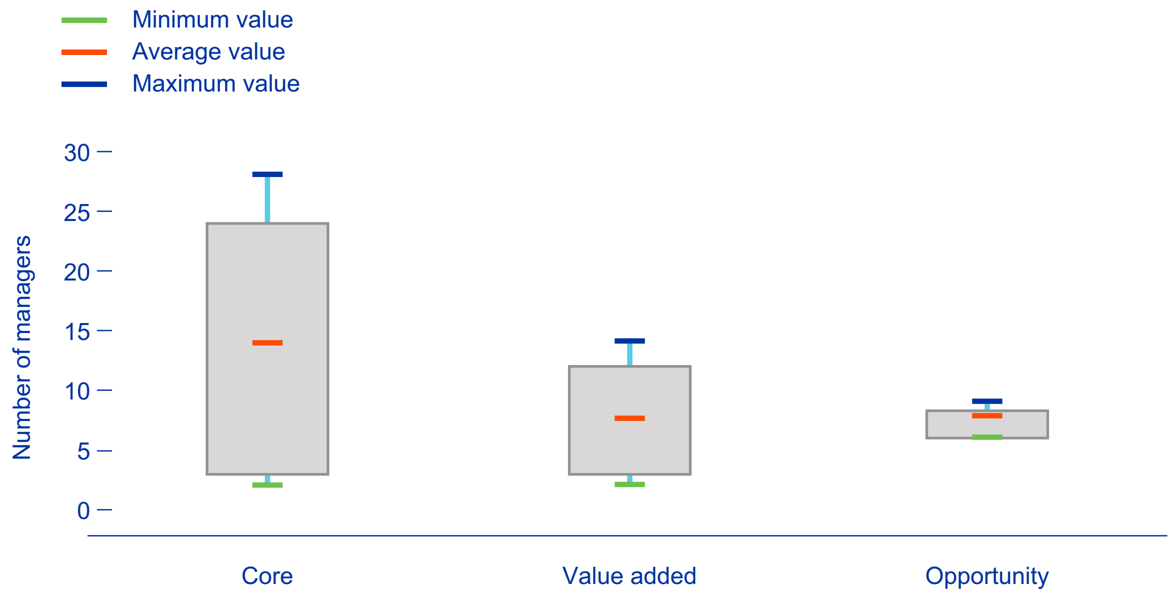
Note: The sample is comprised of 34 vehicles.

Number of managers invested in

Core funds of funds prefer to invest in more managers than their non-core peers. On average, core funds of funds invest in 14 managers with a minimum of 2 and a maximum of 28. Value added funds of funds on average select 8 managers with a minimum of 2 and the maximum of 14. Opportunity vehicles have a similar distribution: the average number of managers invested in is 8, while the minimum is 6 and the maximum is 9.

The inter quartile range also notably differs among styles. For core, the difference between the upper-quartile and the lower-quartile values is 21, while it is 9 for value added vehicles and 2 for opportunity.

Figure 25: Number of managers invested in



* The middle 'box' represents the middle 50% of values for the group. The upper line represents the upper quartile group, while the lower line represents the lower quartile group. The upper whisker (dash) denotes the maximum value, while the lower whisker (dash) denotes the minimum value.

Note: The sample is comprised of 23 vehicles.

'Core funds of funds prefer to invest in more managers than any of the other two investment styles'

Appendices

Appendix 1: Sample statistics

Table 1: Sample statistics of funds of funds that provided performance figures

Number of funds of funds		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
All funds		**23**	**22**	**26**	**30**	**34**	**35**	**40**	**33**	**27**	**16**
By style	Core	10	10	11	12	14	15	15	11	9	7
	Non-core	13	12	15	18	20	20	25	22	18	9
By target region	Asia Pacific	4	5	7	7	8	9	10	6	8	1
	Europe	17	15	16	19	19	17	19	16	11	4
	Global	1	1	2	3	6	8	10	10	7	11
	North America	1	1	1	1	1	1	1	1	1	0
By structure	Closed end	13	11	14	16	17	18	22	19	18	8
	Open end	10	11	12	14	17	17	18	14	9	8
By Size	Small (< €100 mn NAV)	10	10	14	15	15	13	17	15	12	4
	Medium (€100 - €300 mn NAV)	7	6	7	8	11	14	14	13	11	7
	Large (> €300 mn NAV)	6	6	5	7	8	8	9	5	4	5
NAV (€ billion)		**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
By style		**4.9**	**5.0**	**4.4**	**5.6**	**6.7**	**6.7**	**7.5**	**6.4**	**5.8**	**7.4**
	Core	3.4	3.4	3.2	3.7	4.3	4.4	4.8	4.2	4.2	6.3
	Non-core	1.5	1.7	1.2	1.9	2.5	2.3	2.7	2.2	1.6	1.1
By target region	Asia Pacific	0.2	0.3	0.4	0.6	0.9	1.0	1.1	0.5	0.6	
	Europe	4.3	4.2	3.4	4.3	4.7	4.0	3.9	2.6	2.5	1.2
	Global				0.5	0.9	1.3	2.1	3.0	2.4	6.0
	North America										
By structure	Closed end	1.4	1.5	1.5	1.9	2.4	2.6	2.7	2.0	1.6	0.9
	Open end	3.5	3.5	2.8	3.7	4.3	4.1	4.8	4.4	4.2	6.5
By Size	Small (< €100 mn NAV)	0.4	0.6	0.7	0.8	0.9	0.8	1.0	0.9	0.5	0.3
	Medium (€100 - €300 mn NAV)	1.2	1.2	1.3	1.4	1.9	2.3	2.5	2.5	2.2	1.2
	Large (> €300 mn NAV)	3.3	3.2	2.4	3.4	3.9	3.6	4.0	3.0	3.1	5.9

The NAV is not displayed when the number of funds of funds is less than 3

Appendix 2: List of participants

The following is a list of fund of funds managers who participated in the Funds of Funds Study 2017 and gave permission for their company names to be published.

This survey was undertaken in conjunction with ANREV in Asia Pacific.

4IP Management AG
Altan capital
Aviva Investors
Deka Immobilien
DTZ Investors
GBRE Global Investment Partners
Helaba Invest
KGAL
Penn Square Group, LLC
Sparinvest Property Investors
TKP Investments
UBS Asset Management

CORPORATE RESEARCH INDUSTRY DATA PUBLIC AFFAIRS PROFESSIONAL STANDARDS

www.inrev.org