



All you need to know about ANREV indices



18 February 2020

Speakers



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- Global IRR index
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Conclusion/questions

Why ANREV produces performance indices?



- The lack of transparency is seen as a key obstacle to investing in non-real estate listed funds. ANREV's remit is to improve transparency and market information, launched its first index in 2011
- Credible and standardized performance measurement provide multiple benefits to the real estate industry in making investment decision, boosting collaboration, and improving efficiency.
- Being the industry leading non-profit and independent organization that investors and managers can trust with their data

Index developments



2010

ANREV launched the Vehicles Universe Database

2012

ANREV launched the Quarterly index published on a biannual basis

2014

ANREV launched the Global Real Estate Fund Index in collaboration with INREV and NCREIF
The ANREV Quarterly Index is published on a quarterly basis

2016

ANREV is working on the development of new indices: IRR index and Australia index

2018

ANREV launched the pan Asia Open End Diversified Core Fund Index (ODCE)

2011

ANREV launched the first Asia Pacific non-listed real estate fund Index

2013

ANREV launched a new online input and analysis tool for the Vehicles Universe and the ANREV index

2015

INREV launched a new module of the INREV Guidelines on Performance Measurement

2017

ANREV launched the Australia Core Open End Fund Index and ANREV IRR Index

2019

ANREV Quarterly index increased history back to Q1 2005 together with the Australian index
Development of Asset level performance report



ANREV Quarterly Index

Quarterly index specifications

First launched: 2012

Constituents (as of Q3 2019): 100 funds

Data range: (2005 ~ present); unfrozen for all indices

Publication timeline: quarterly, 12 weeks after quarter end

Inclusion criteria:

- 1) Core, Opportunity and value-added funds (manager defined)
- 2) Institutional funds, >50% institutional holding
- 3) Funds invested in Asia Pacific, >90% of GAV invested in Asia Pacific real estate
- 4) Targeting at least 3 institutional investors

Quarterly Index Methodology

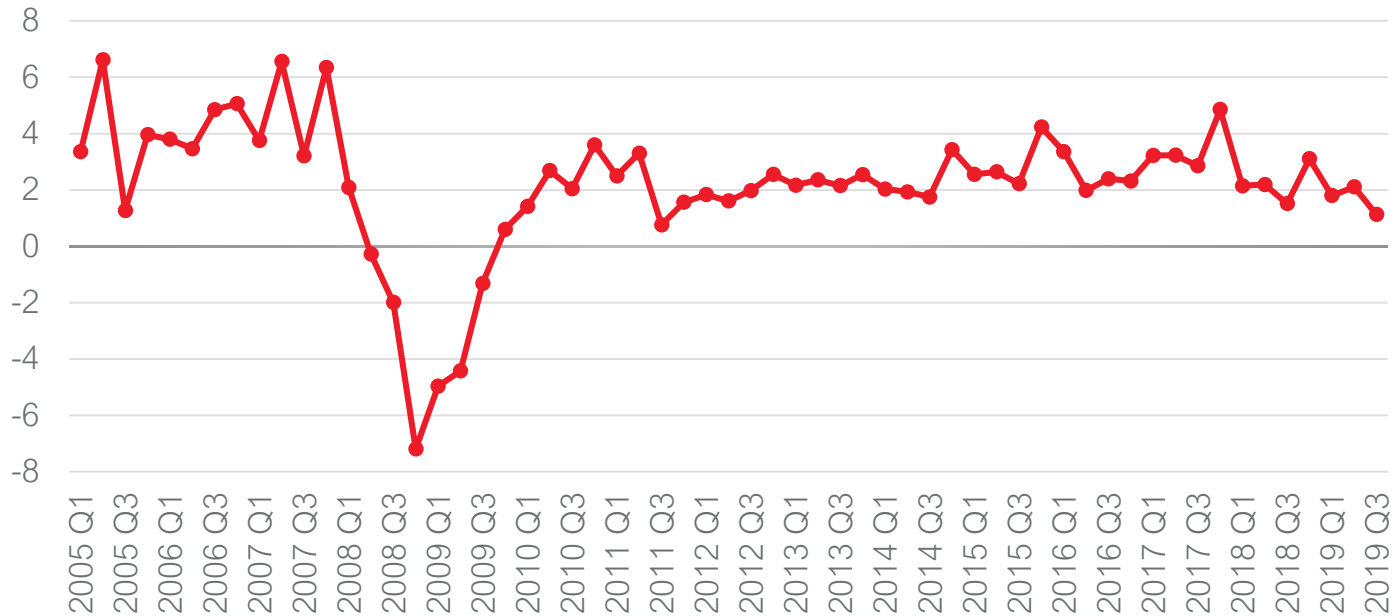
- ANREV is using the same methodologies as INREV and NCREIF across all the common indices
- The time-weighted Modified Dietz methodology is used to calculate the net asset value (NAV) returns, net of fees;

$$TR = \frac{(NAV_{(t)} - NAV_{(t-1)}) - contributions + redemptions + distributions}{NAV_{(t-1)} + TWC - TWR - TWD}$$

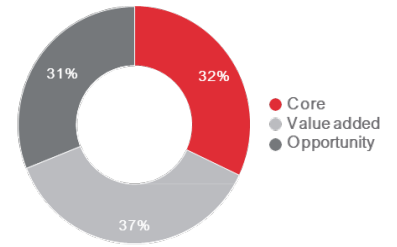
- Modified Dietz methodology for all other indices except for the asset level returns

All funds index

% Total return in local currency

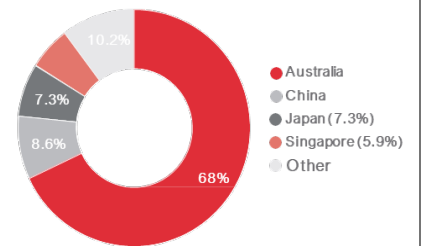


Composition by Style* (# of vehicles)



*As of the latest quarter

Country Allocation (% of GAV)*



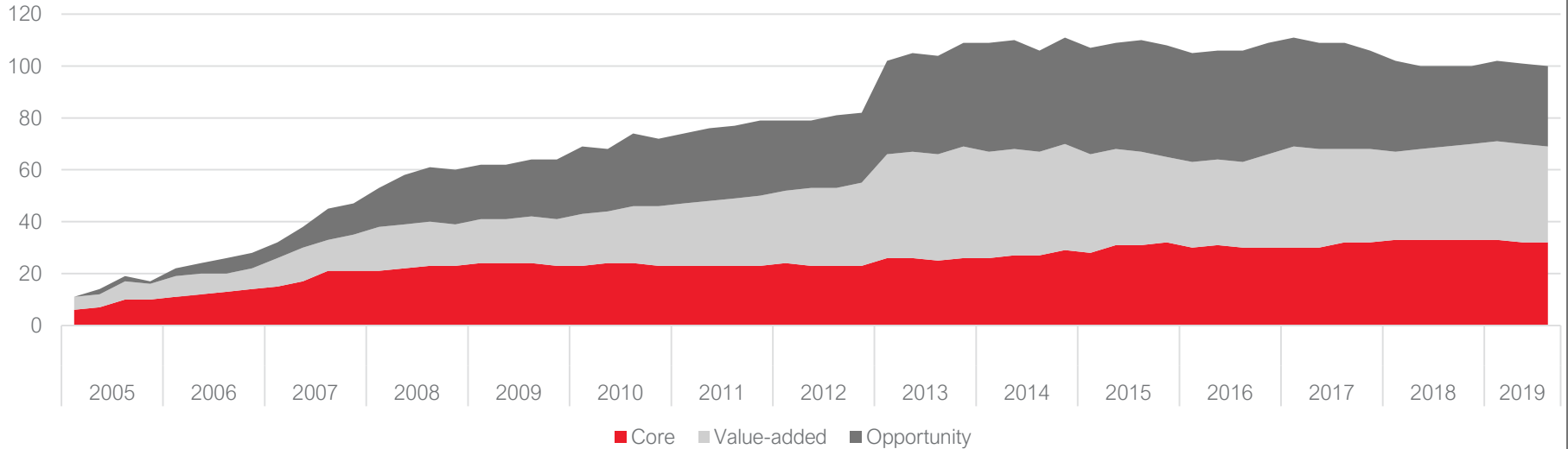
*As of the latest quarter

	2016 Q2	2016 Q3	2016 Q4	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3	Q4 2018	Q1 2019	Q2 2019	Q3 2019
Total Return (%)	1.98	2.40	2.32	3.23	3.23	2.86	4.85	2.15	2.19	1.52	3.11	1.80	2.11	1.13
# of Funds	106	106	109	111	109	110	106	102	100	100	100	102	101	100
Gearing (% of GAV)	25.7	25.9	24.1	23.7	23.7	24.9	24.6	23.7	23.9	24.2	23.1	23.5	23.1	24.0
Total GAV (USD billion)	103.4	103.5	106.0	110.3	122.2	129.4	134.5	131.8	132.5	131.9	130.5	130.3	133.1	133.3

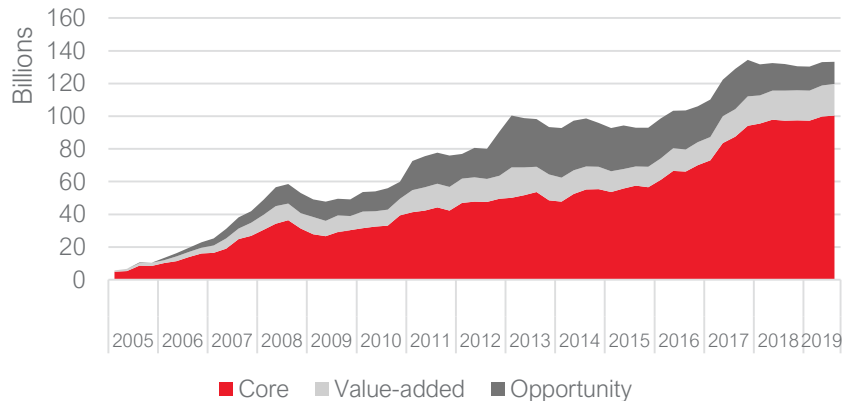
All funds index - Composition



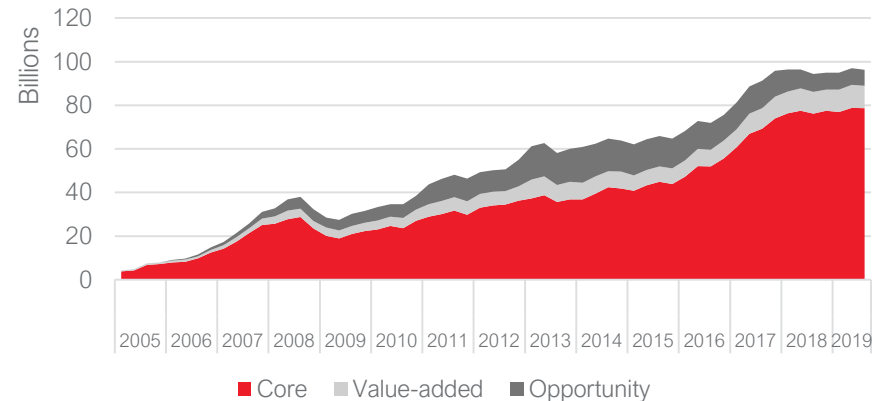
Composition by Style (# of Vehicles)



Composition by Style (Sum of GAV)

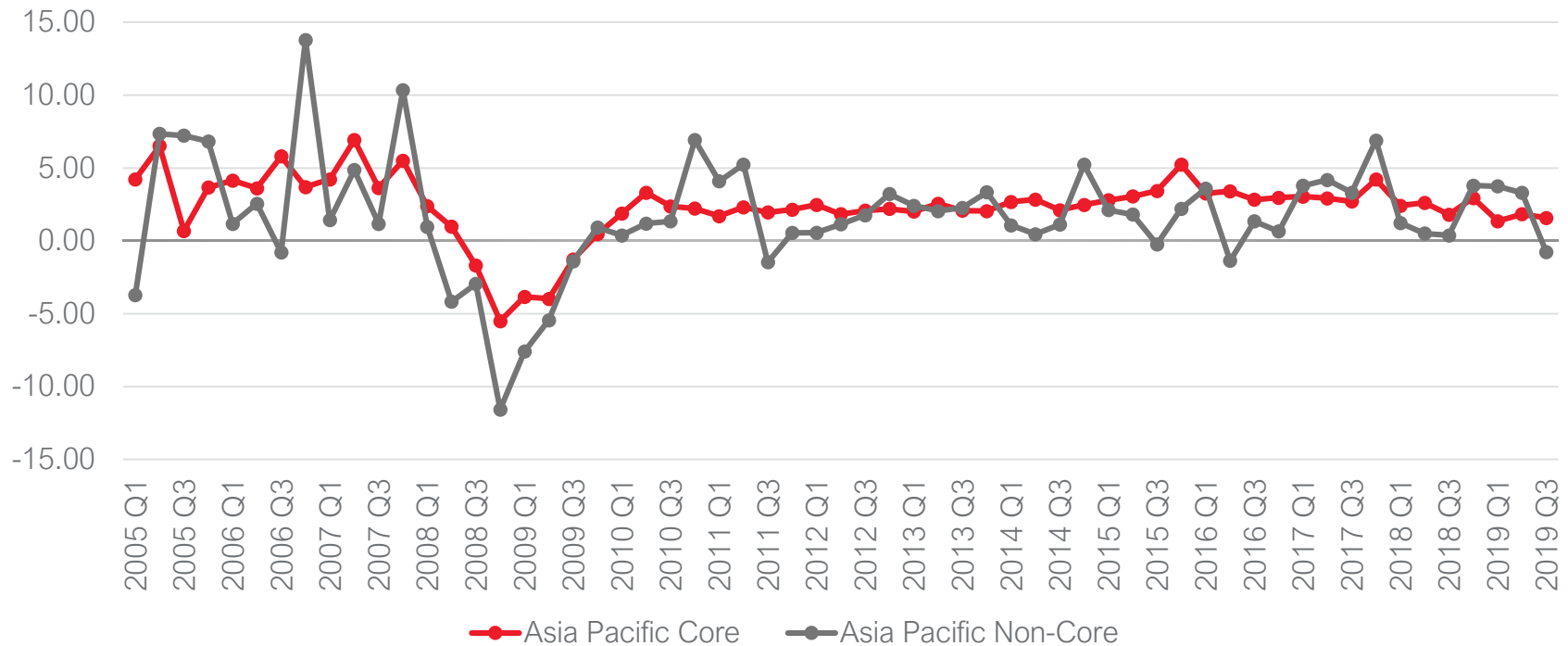


Composition by Style (Sum of NAV)



Core funds index vs. Non-core funds index

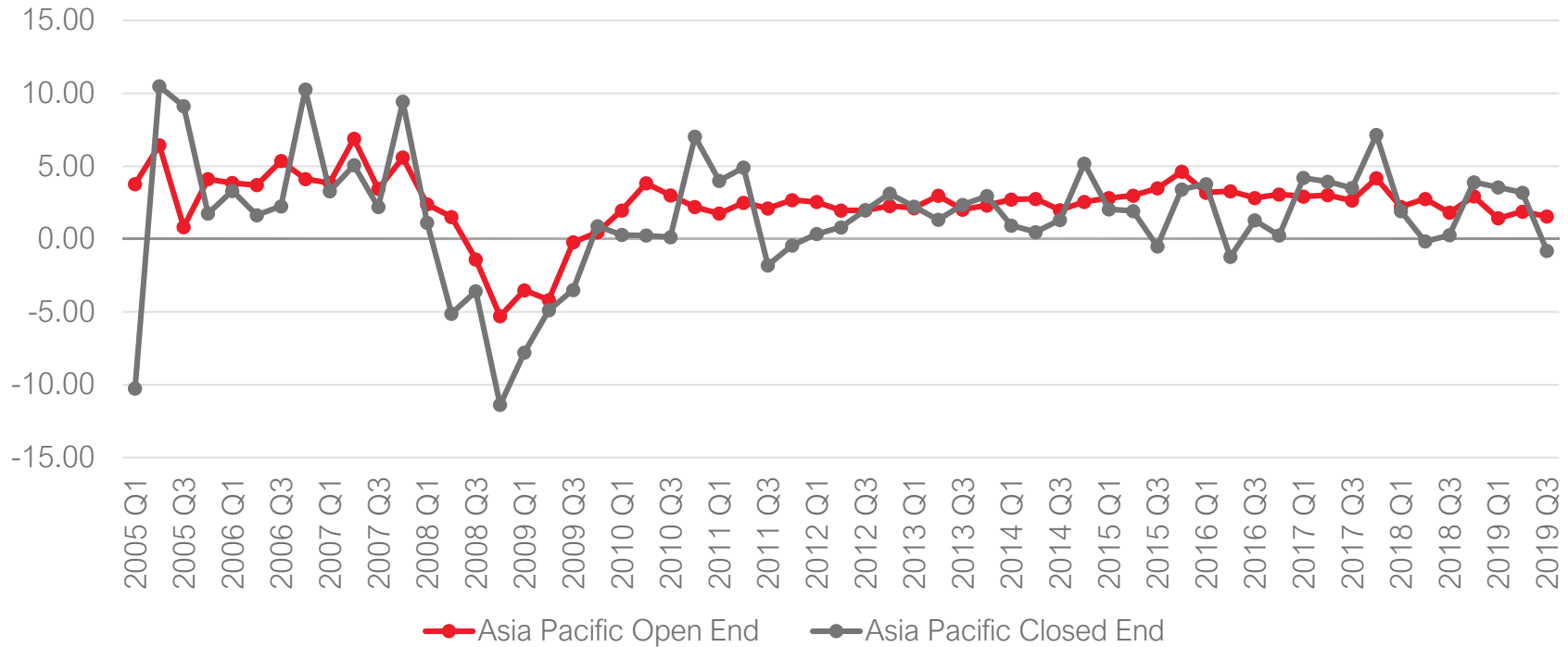
% Total return in local currency



	2016 Q2	2016 Q3	2016 Q4	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3	Q4 2018	Q1 2019	Q2 2019	Q3 2019
Core Funds Index (%)	3.41	2.82	2.96	3.04	2.92	2.70	4.21	2.41	2.62	1.80	2.94	1.35	1.83	1.57
Non-core Funds Index (%)	-1.37	1.34	0.65	3.78	4.19	3.31	6.89	1.23	0.50	0.38	3.80	3.74	3.29	-0.77

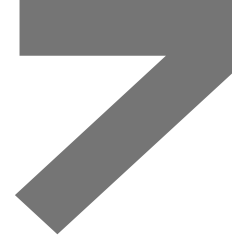
Open end funds index vs. Close end funds index

% Total return in local currency



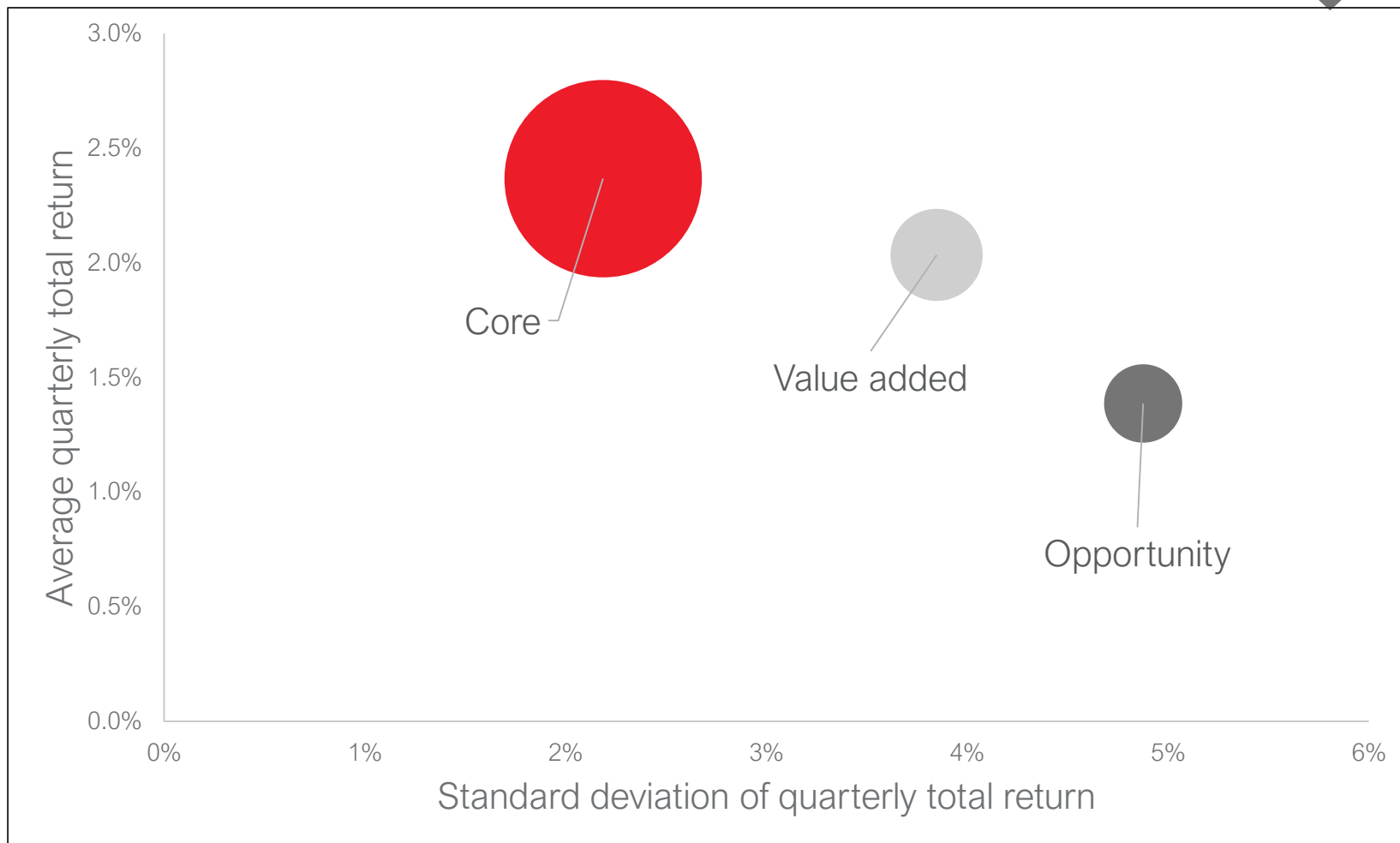
	2016 Q2	2016 Q3	2016 Q4	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3	Q4 2018	Q1 2019	Q2 2019	Q3 2019
Open End Funds Index (%)	3.29	2.82	3.06	2.92	3.01	2.65	4.17	2.21	2.76	1.81	2.93	1.43	1.88	1.54
Closed End Funds Index (%)	-1.22	1.28	0.24	4.19	3.93	3.50	7.14	1.92	-0.16	0.26	3.90	3.55	3.18	-0.81

Correlation between sub-indices



	All funds Index	Core funds Index	Value added funds Index	Opportunity funds Index	All funds ex Australia and Japan Index	China funds Index	Japan funds Index	Australia funds Index	Multi-country funds Index	Closed end funds Index	Multi sector funds index
All funds Index	1.00										
Core funds Index	0.67	1.00									
Value added funds Index	0.65	0.27	1.00								
Opportunity funds Index	0.64	-0.07	0.34	1.00							
All funds ex Australia and Japan Index	0.73	0.10	0.58	0.87	1.00						
China funds Index	0.39	-0.10	0.42	0.63	0.65	1.00					
Japan funds Index	0.21	0.22	0.17	0.03	-0.17	-0.11	1.00				
Australia funds Index	0.58	0.93	0.18	-0.12	-0.06	-0.14	0.18	1.00			
Multi-country funds Index	0.73	0.13	0.52	0.85	0.97	0.51	-0.17	-0.02	1.00		
Closed end funds Index	0.80	0.15	0.69	0.89	0.89	0.61	0.18	0.03	0.87	1.00	
Multi sector funds index	0.85	0.29	0.58	0.81	0.90	0.43	0.02	0.15	0.94	0.88	1.00

Risk and return analysis of sub-indices





Pan Asia Open End Diversified Core Equity Fund Index (ODCE)

ODCE fund level index specification

ODCE First launched: NCREIF 2005; ANREV 2018; INREV 2019

Constituents (as of Q3 2019): 4 funds

Data range: (Q2 2016 ~ present), unfrozen history

Publication timeline: quarterly, 10 weeks after quarter end

Performance: on fund level both net of fees and gross of fees

Major Inclusion criteria:

- 1) Pan Asia + Open end + Core + diversified with $\geq 50\%$ institutional holding
- 2) $\geq 80\%$ of market value of net assets in real estate (others: cash)
- 3) 100% of real estate assets in Asia Pacific
- 4) $\geq 80\%$ of market value of real estate investments in properties (others: property debts, equity...)
- 5) $\geq 80\%$ of market value of real estate net assets invested in office, industrial, residential and retail property types
- 6) $\geq 80\%$ of market value of real estate net assets in stabilized properties
- 7) $\leq 40\%$ leverage
- 8) $\leq 65\%$ of market value of real estate net assets in one country; and $\leq 70\%$ of market value of real estate net assets in one property type

Fund level methodology

Cash Basis Return – Income Component Based On Distribution

- Same as the Quarterly Index, Annual Index and the Global Index, the Modified Dietz methodology is used to calculate the ODCE fund level cash basis return,

$$\text{Income Return} = \frac{\text{distributions}}{\text{NAV}_{(t-1)} + \text{TWC} - \text{TWR} - \text{TWD}}$$

- The income return is then measured by the **actual cash distributions**.

Accrued Basis Return – Income Component Based On Net Investment Income

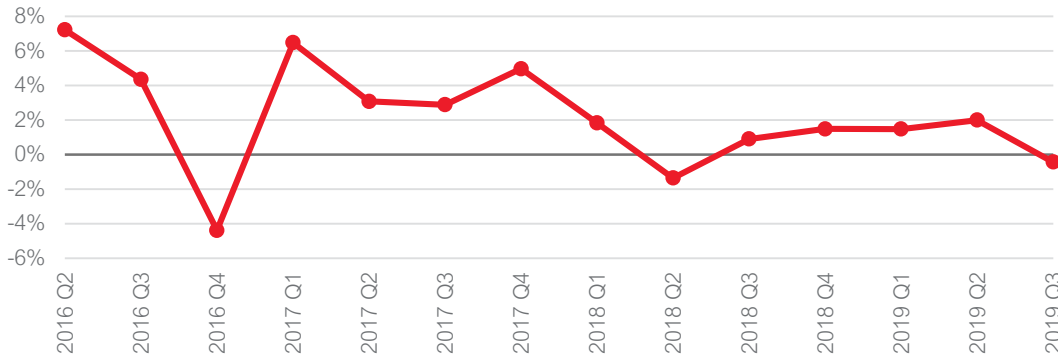
- The **Net Investment Income return** calculation method is consistent with INREV's Performance Measurement Guidelines and NCREIF's index methodology.

$$\text{Income Return} = \frac{\text{NII}}{\text{NAV}_{(t-1)} + \text{TWC} - \text{TWR} - \text{TWD}}$$

- Quarterly reporting of fund level returns can be measured before fees and after fees. Fees include the fund management fees, advisory fees and performance/incentive fees if any.

ANREV pan-asia open end diversified core fund index

% Value Weighted Total Return in USD



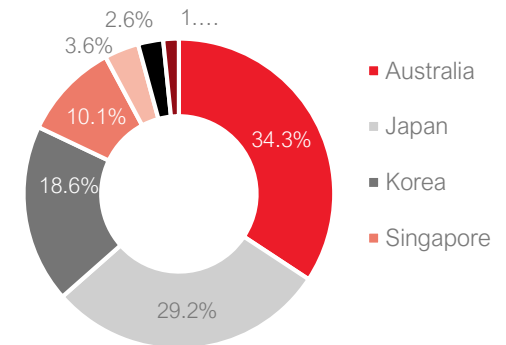
The index includes the performance of FX hedged and unhedged funds

Cash-basis return net of fees	2018 Q4	2019 Q1	2019 Q2	2019 Q3	1 year *	2 year *	3 year *
VW Total Return (%)	1.48%	1.47%	1.99%	-0.43%	4.57%	5.47%	6.29%
VW Capital Growth (%)	0.59%	0.60%	1.15%	-1.43%	0.89%	1.69%	2.36%
VW Distributed Income Return (%)	0.89%	0.88%	0.84%	1.00%	3.66%	3.73%	3.86%
EW Total Return (%)	1.56%	1.35%	1.89%	-0.39%	4.46%	4.59%	5.62%
EW Capital Growth (%)	0.72%	0.50%	1.08%	-1.38%	0.91%	1.04%	1.99%
EW Distributed Income Return (%)	0.84%	0.85%	0.80%	0.99%	3.53%	3.52%	3.57%
Number of Funds	4	4	4	4			
Number of Assets	138	154	158	160			
Average Gearing (% of GAV)	26.0%	26.2%	26.3%	26.5%			
Total GAV (billion)	9.6	10.2	10.7	10.9			

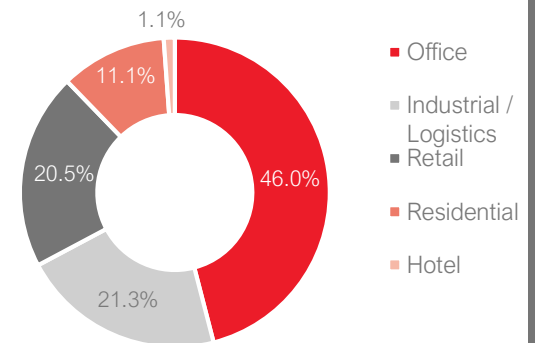
VW = value weighted EW = equal weighted *rolling returns

*Cash and other assets are excluded from the total GAV in the above allocation charts. Cash constitutes to 2.8% of the overall GAV of the index

Country Allocation*



Sector Allocation*



Contributing Fund Managers:

Invesco Real Estate
J.P. Morgan Asset Management – Global Alternatives
M&G Real Estate Asia Pte. Ltd.
Morgan Stanley Real Estate

Basis return

CASH BASIS RETURN – INCOME COMPONENT BASED ON DISTRIBUTION

Gross Returns	2018 Q4	2019 Q1	2019 Q2	2019 Q3	1 year *	2 year *	3 year *
VW Total Return	1.68%	1.67%	2.18%	-0.24%	5.37%	6.27%	7.07%
VW Capital Growth	0.59%	0.60%	1.15%	-1.43%	0.89%	1.69%	2.36%
VW Distributed Income Return	1.08%	1.07%	1.03%	1.19%	4.45%	4.53%	4.63%
EW Total Return	1.74%	1.53%	2.07%	-0.21%	5.22%	5.34%	6.35%
EW Capital Growth	0.72%	0.50%	1.08%	-1.38%	0.91%	1.04%	1.99%
EW Distributed Income Return	1.03%	1.03%	0.99%	1.17%	4.28%	4.26%	4.30%

Net Returns	2018 Q4	2019 Q1	2019 Q2	2019 Q3	1 year *	2 year *	3 year *
VW Total Return	1.48%	1.47%	1.99%	-0.43%	4.57%	5.47%	6.29%
VW Capital Growth	0.59%	0.60%	1.15%	-1.43%	0.89%	1.69%	2.36%
VW Distributed Income Return	0.89%	0.88%	0.84%	1.00%	3.66%	3.73%	3.86%
EW Total Return	1.56%	1.35%	1.89%	-0.39%	4.46%	4.59%	5.62%
EW Capital Growth	0.72%	0.50%	1.08%	-1.38%	0.91%	1.04%	1.99%
EW Distributed Income Return	0.84%	0.85%	0.80%	0.99%	3.53%	3.52%	3.57%

*rolling returns

ACCRUAL BASIS RETURN – INCOME COMPONENT BASED ON NET INVESTMENT INCOME

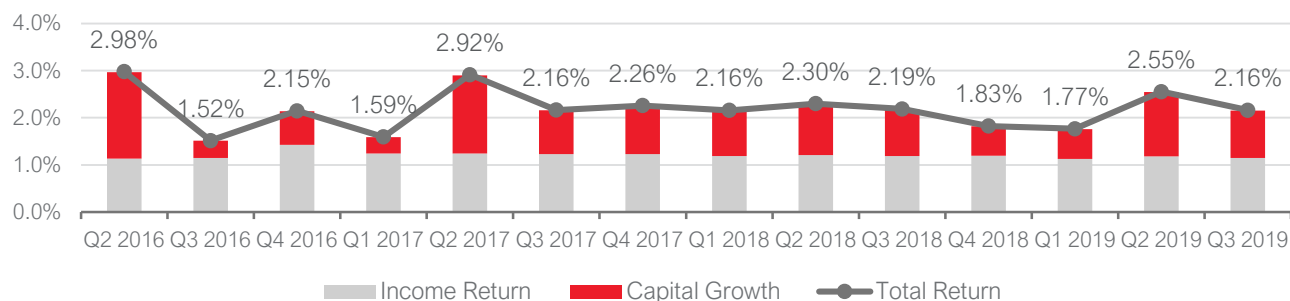
Gross Returns	2018 Q4	2019 Q1	2019 Q2	2019 Q3	1 year *	2 year *	3 year *
VW Total Return	1.69%	1.67%	2.19%	-0.24%	5.39%	6.28%	7.14%
VW Capital Growth	0.54%	0.67%	1.01%	-1.32%	0.89%	1.66%	2.26%
VW Net Investment Income Return	1.15%	0.99%	1.18%	1.08%	4.47%	4.56%	4.79%
EW Total Return	1.75%	1.54%	2.08%	-0.21%	5.23%	5.35%	6.38%
EW Capital Growth	0.69%	0.55%	0.98%	-1.25%	0.96%	1.09%	2.01%
EW Net Investment Income Return	1.06%	0.98%	1.10%	1.03%	4.24%	4.22%	4.31%

Net Returns	2018 Q4	2019 Q1	2019 Q2	2019 Q3	1 year *	2 year *	3 year *
VW Total Return	1.48%	1.47%	1.99%	-0.43%	4.57%	5.47%	6.29%
VW Capital Growth	0.54%	0.67%	1.01%	-1.32%	0.89%	1.66%	2.26%
VW Net Investment Income Return	0.95%	0.80%	0.98%	0.89%	3.66%	3.76%	3.96%
EW Total Return	1.56%	1.35%	1.89%	-0.39%	4.46%	4.59%	5.62%
EW Capital Growth	0.69%	0.55%	0.98%	-1.25%	0.96%	1.09%	2.01%
EW Net Investment Income Return	0.87%	0.80%	0.90%	0.85%	3.47%	3.47%	3.56%

Asia Pacific ODCE index- asset level report introduction

- ANREV uses the methodology developed by INREV for the INREV Asset level index
- Same funds as the fund level index
- Includes 104 investments with 160 assets, total asset value of US\$10.2 billion as of Q3 2019
- Unfrozen data which means historical data can change with future updates
- History from Q2 2016
- The first asset level report was sent to the managers in October 2019, still in consultation phase

Return in Local Currency



	2016 Q2	2016 Q3	2016 Q4	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2019 Q3
Number of Funds	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Investments*	29	33	37	40	44	55	60	66	73	81	86	96	99	104
Total Value of Assets in USD (bln)	3.42	4.21	4.41	4.89	5.54	6.33	6.90	7.27	7.82	8.18	9.01	9.57	9.95	10.15

Asset level performance methodology



- Performance is calculated using a chain-linking methodology and excludes effects of leverage and vehicle level costs, fees and expenses

$$TR_{m_k} = \frac{MV_{k_m} - MV_{k_{m-1}} + \sum D_{k_m} - \sum A_{k_m} - CAPEX_{k_m} + NOI_{k_m}}{MV_{k_{m-1}} + \sum A_{k_m} + CAPEX_{k_m}}$$

- The monthly value of each asset is calculated by taking the beginning and the end of the period market values and adjusted by total acquisitions, disposal, capex and NOI .

$$TR_Q = (1 + TR_{m_1}) * (1 + TR_{m_2}) * (1 + TR_{m_3}) - 1$$

- Monthly returns are chain-linked to calculate the quarterly returns using the above formula

All assets' performance vs fund level index





ANREV Australia Core Open End Fund Monthly Index (ACOE)

ACOE index specification

Name: ANREV Australia Core Open End Fund Monthly Index

First launched: August 2017

Constituents (as of February 2020): 19 Australia based core and open-end funds

Data range: earliest available to date (2005 ~ present) (unfrozen)

Publication timeline: monthly, on or before the 9th working day of the month

Inclusion criteria:

- 1) target at least 50% institutional holding
- 2) open-end
- 3) core strategy
 - i. 80% NAV in real estate
 - ii. 80% real estate NAV in private equity
 - iii. 90% real estate NAV in Australia
 - iv. 80% real estate NAV in office, industrial, and retails
 - v. 80% real estate NAV in stabilized properties
 - vi. max. 35% leverage

Methodology

Modified Dietz Method

- Time weighted
- NAV based return adjusted for the average invested capital for the period
- NAV: GAV less all liabilities as per Australian GAAP

- 1) GAV
- 2) NAV
- 3) Gearings
- 4) % portfolio revalued
- 5) Sector allocation
- 6) Geographical allocation
- 7) Cash flow (if applicable)
 - Contributions
 - Capital calls
 - Redemptions
 - Capital returned
 - Distribution (accrual)
 - Distribution reinvestment



- 1) Net return (%)
- 2) Capital growth (%)
- 3) Income return (%)
- 4) Aggregated sector allocation
- 5) Aggregated geographical allocation
- 6) Geographical allocation by sector
- 7) Annualised rolling returns across different time periods

Sample Report – January 2020 release (p1)

ANREV AUSTRALIA CORE OPEN END FUND MONTHLY INDEX - JANUARY 2020

Release Date: 12/02/2020

NET TOTAL RETURN IN AUD (FUND GEARING ≤ 35%)

All Funds	Nov 2019	Dec 2019	Jan 2020	2019 (FYTD)	3 Months*	6 Months*	1 Year**	2 Years**	3 Years**	5 Years**	7 Years**	10 Years**
Total Net Return (%)	0.27%	0.98%	0.33%	3.35%	1.59%	3.03%	5.87%	7.95%	9.50%	10.60%	10.12%	9.76%
Capital Growth (%)	-0.06%	0.65%	0.00%	0.35%	0.58%	0.96%	1.75%	3.64%	4.94%	5.57%	4.82%	4.19%
Income Return (%)	0.33%	0.34%	0.33%	2.38%	1.01%	2.05%	4.05%	4.18%	4.37%	4.78%	5.07%	5.37%
# of Funds	19	19	19									
Gearing (% of GAV)	16.69%	15.81%	16.09%									
Total GAV (AUD billion)	113.70	113.78	113.79									

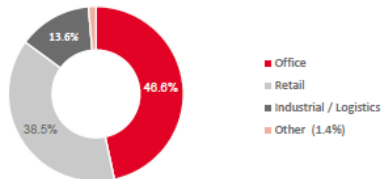
FYTD = Financial Year To Date (July - June)

* Rolling Return

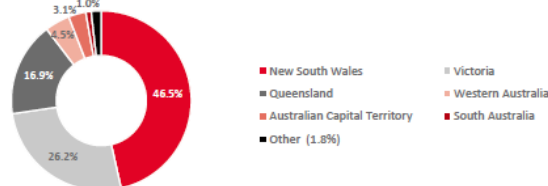
** Rolling Return (Annualised)

ALLOCATION BY GAV (FUND GEARING ≤ 35%)*

Sector Allocation



Geographical Allocation



*as of 1/31/2020

NET TOTAL RETURN IN AUD (FUND GEARING ≤ 35%)

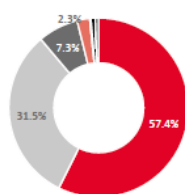
	Jan 2020	3 Months*	6 Months*	1 Year**	2 Years**	3 Years**	5 Years**	7 Years**	10 Years**
All Funds	0.33%	1.59%	3.03%	5.87%	7.95%	9.50%	10.60%	10.12%	9.76%
Office	0.27%	2.69%	5.26%	10.89%	12.15%	13.03%	13.71%	12.45%	11.20%
Retail	0.30%	-1.51%	-1.93%	-1.63%	1.40%	4.71%	6.63%	7.12%	7.63%
Industrial	0.72%	6.17%	8.50%	12.32%	15.03%	13.47%	n.a.	n.a.	n.a.
Diversified	0.27%	1.91%	3.81%	6.50%	8.67%	9.99%	10.95%	10.49%	10.20%

* Rolling Return

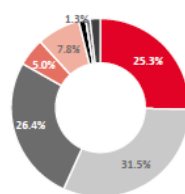
** Rolling Return (Annualised)

GEOGRAPHIC ALLOCATION BY SECTOR STRATEGY

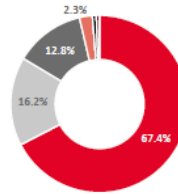
Office Funds



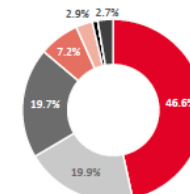
Retail Funds



Industrial Funds



Diversified Funds



*as of 1/31/2020

DISCLAIMER

The ANREV Index is a distillation of information provided to ANREV by non-listed funds in order to give a view on the performance of the Asian non-listed property funds market over a particular period of time. It provides (and is only intended to provide) general information on any particular market featured. The ANREV Index does not represent or contain investment information on, or constitute advice in respect of specific funds or investments, nor should it be used as a basis for investment decisions. These are matters on which specific professional advice should be taken.

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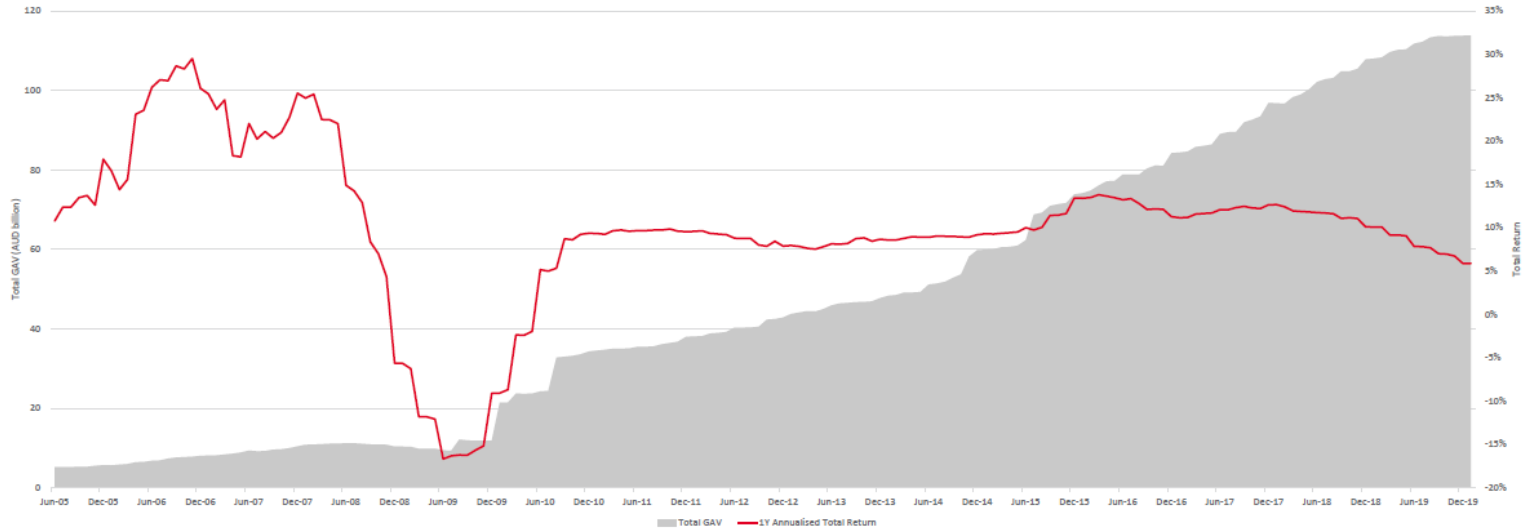
Returns compiled and calculated by ANREV.

Sample Report – January 2020 release (p2)

ANREV AUSTRALIA CORE OPEN END FUND MONTHLY INDEX - JANUARY 2020

Release Date: 12/02/2020

INDEX HISTORICAL PERFORMANCE



INDIVIDUAL FUND PERFORMANCE

VEHICLE INFORMATION				LATEST FINANCIAL DATA				NET FUND RETURN													
Sector	Vehicle Name	Manager Name	Data From	GAV (AUD mn)	NAV (AUD mn)	Gearing (% of GAV)	% of revalued portfolio	Total Return (FYTD)	Capital Growth (FYTD)	Income Growth (FYTD)	Net Total Return (1 month)	Net Capital Growth (1 month)	Net Income Return (1 month)	Net Total Return (3 months)*	Net Total Return (6 months)*	Net Total Return (1 Year)**	Net Total Return (2 Year)**	Net Total Return (3 Year)**	Net Total Return (5 Year)**	Net Total Return (7 Year)**	Net Total Return (10 Year)**
OFFICE	AWOF	AMP	Jun-03	6,554.38	5,234.27	13.04%	0.00	6.06%	4.01%	1.95%	0.25%	0.02%	0.26%	2.22%	3.80%	10.37%	11.16%	12.00%	12.25%	11.16%	10.22%
	APFC	Lendlease	Jan-10	3,123.70	4,711.27	5.54%	0.00	3.39%	3.48%	1.86%	0.25%	-0.01%	0.26%	3.05%	4.80%	9.28%	11.78%	13.25%	13.87%	12.27%	10.87%
	GWOF	GPT	Jan-10	8,948.81	7,060.48	16.40%	0.00	3.10%	2.58%	2.46%	0.35%	0.00%	0.35%	2.10%	4.74%	10.43%	11.52%	12.12%	13.12%	12.67%	11.82%
	Investa	Investa	Jun-03	5,549.24	4,667.72	19.90%	0.00	5.83%	2.84%	2.93%	0.44%	0.13%	0.30%	2.24%	3.53%	14.76%	14.40%	15.10%	14.56%	12.74%	9.94%
	30Lons	ISPT	Apr-06	736.78	373.46	20.79%	0.00	7.63%	4.93%	2.59%	0.11%	-0.22%	0.33%	1.44%	7.29%	11.06%	13.95%	14.61%	19.16%	17.73%	16.14%
CPDF	Charter Hall	Oct-12	7,029.19	4,686.00	24.30%	0.00	5.66%	2.87%	2.73%	0.01%	-0.36%	0.37%	3.67%	5.43%	9.72%	12.21%	13.07%	14.56%	12.31%	n.a.	
RETAIL	AGCF	AMP	Mar-10	4,134.49	3,290.92	19.30%	0.00	-0.64%	-3.48%	2.92%	0.40%	-0.05%	0.45%	-0.97%	-1.05%	-2.87%	1.11%	4.39%	6.81%	7.28%	n.a.
	APFR	Lendlease	Jan-10	4,896.30	3,312.74	22.23%	0.00	-7.54%	-9.33%	2.62%	0.38%	0.00%	0.38%	-4.73%	-7.27%	-8.87%	-1.86%	2.45%	4.61%	3.69%	6.32%
	GWSCF	GPT	Jan-10	4,526.70	3,334.85	23.64%	0.00	-1.94%	-3.80%	1.92%	0.27%	0.00%	0.27%	-2.79%	-2.20%	-3.07%	0.72%	4.51%	6.04%	6.41%	6.87%
	BRPT	ISPT	May-13	1,718.15	1,196.58	22.33%	0.00	2.82%	-0.33%	3.18%	0.32%	-0.16%	0.48%	1.62%	2.47%	2.52%	5.41%	8.21%	10.57%	n.a.	n.a.
	QCF	QJC	Aug-10	10,338.23	9,081.25	10.74%	0.00	-0.06%	-1.83%	1.82%	0.26%	-0.02%	0.28%	-0.39%	-0.31%	1.48%	2.73%	3.36%	7.07%	7.50%	n.a.
QSCF	QJC	Aug-10	6,229.89	4,800.19	21.20%	0.00	-1.01%	-2.76%	1.80%	0.28%	-0.03%	0.31%	-1.10%	-1.13%	0.16%	1.47%	4.98%	7.31%	7.67%	n.a.	
INDUSTRIAL	APFI	Lendlease	Jan-10	1,054.24	943.33	8.30%	0.00	7.49%	3.88%	3.49%	0.37%	-0.07%	0.44%	3.02%	7.02%	11.05%	12.78%	11.81%	11.25%	11.54%	10.60%
	GAIP	Goodman	Jul-15	8,663.22	5,779.12	26.57%	0.00	10.58%	7.85%	2.57%	1.06%	0.72%	0.35%	7.37%	10.19%	13.24%	17.27%	15.30%	n.a.	n.a.	n.a.
	CFP	Charter Hall	Jan-13	4,151.20	3,396.91	16.06%	0.00	6.34%	3.48%	2.97%	0.25%	-0.17%	0.42%	5.08%	6.14%	11.06%	11.66%	10.46%	10.78%	9.84%	n.a.
DIVERSIFIED	ADPF	AMP	Nov-14	5,895.31	5,495.86	4.78%	0.00	4.96%	2.84%	2.07%	0.28%	0.03%	0.25%	1.98%	4.67%	4.39%	6.96%	8.11%	8.61%	n.a.	n.a.
	DWPF	Dexus	Aug-09	10,875.10	9,318.83	12.30%	0.00	4.44%	1.88%	2.51%	0.29%	-0.03%	0.32%	2.33%	4.01%	8.03%	10.18%	11.36%	12.44%	11.33%	11.00%
	ISPTcore	ISPT	Jun-03	16,208.26	13,751.96	12.66%	0.00	3.72%	1.17%	2.52%	0.23%	-0.14%	0.37%	1.67%	3.44%	6.47%	8.50%	9.96%	11.12%	10.77%	10.28%
	QACPF	QJC	Oct-16	646.02	502.46	20.73%	0.00	1.50%	-1.61%	3.16%	0.54%	0.00%	0.54%	0.16%	0.73%	4.16%	6.85%	8.30%	n.a.	n.a.	n.a.

* Rolling Return
 ** Rolling Return (Annualised)
 FYTD = Financial Year (July - June) To Date

Gross return report – Q4 2019

ANREV AUSTRALIA CORE OPEN END FUND MONTHLY INDEX - OCTOBER TO DECEMBER 2019 - NET / GROSS RETURN REPORT

Release Date: 21/01/2020

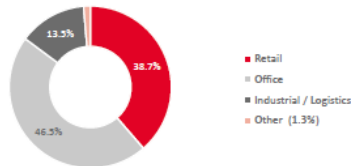
TOTAL RETURN IN AUD (FUND GEARING ≤ 35%)

All Funds	Oct 2019	Nov 2019	Dec 2019	2019 (FYTD)	3 Months*	6 Months*	1 Year**	2 Years**	3 Years**	5 Years**	7 Years**	10 Years**
Total Gross Return (%)	0.41%	0.30%	1.17%	3.44%	1.89%	3.44%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total Net Return (%)	0.37%	0.27%	0.98%	3.01%	1.63%	3.01%	5.87%	7.96%	9.50%	10.62%	10.14%	9.77%
# of Funds	19	19	19									
Gearing (% of GAV)	16.87%	16.69%	15.81%									
Total GAV (AUD billion)	113.56	113.70	113.78									

FYTD = Financial Year To Date (July - June)
* Rolling Return
** Rolling Return (Annualised)

ALLOCATION BY GAV (FUND GEARING ≤ 35%)*

Sector Allocation



Geographical Allocation



*as of 31/12/2019

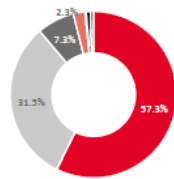
TOTAL RETURN IN AUD (FUND GEARING ≤ 35%)

All Funds	Dec 2019	3 Months*	6 Months*	1 Year**	2 Years**	3 Years**	5 Years**	7 Years**	10 Years**
Gross	1.17%	1.89%	3.44%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net	0.98%	1.63%	3.01%	5.87%	7.96%	9.50%	10.62%	10.14%	9.77%
Office	Gross 2.29%	3.00%	5.65%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net	2.22%	2.85%	5.35%	10.93%	12.12%	13.04%	13.76%	12.47%	11.20%
Retail	Gross -1.41%	-0.95%	-1.22%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net	-1.91%	-1.51%	-1.96%	-1.64%	1.41%	4.71%	6.65%	7.13%	7.64%
Industrial	Gross 4.95%	5.92%	8.63%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net	4.88%	5.75%	8.12%	11.94%	14.90%	13.26%	n.a.	n.a.	n.a.
Diversified	Gross 1.23%	2.15%	4.09%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net	1.19%	2.03%	3.87%	6.59%	8.75%	10.04%	11.00%	10.54%	10.22%

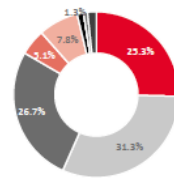
* Rolling Return
** Rolling Return (Annualised)

GEOGRAPHIC ALLOCATION BY SECTOR STRATEGY

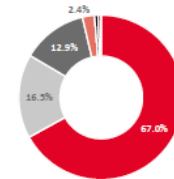
Office Funds



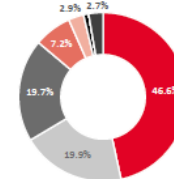
Retail Funds



Industrial Funds



Diversified Funds



*as of 31/12/2019

DISCLAIMER

The ANREV Index is a distillation of information provided to ANREV by non-listed funds in order to give a view on the performance of the Asian non-listed property funds market over a particular period of time. It provides (and is only intended to provide) general information on any particular market featured. The ANREV Index does not represent or contain investment information on, or constitute advice in respect of specific funds or investments, nor should it be used as a basis for investment decisions. These are matters on which specific professional advice should be taken.

We receive the information used to create the ANREV Index in good faith from a number of fund managers. As each fund manager may have compiled the information under a different accounting standard, the ANREV Index does not provide information in accordance with a particular accounting standard. We are not in the position to confirm its accuracy or completeness or whether it is representative of any particular market. ANREV has not verified the information it has received. We do not accept responsibility for any loss which may arise from any use of or reliance on the ANREV Index or its contents by ANREV members or any third parties. All rights reserved.

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Returns compiled and calculated by ANREV.



IRR Index

IRR index specifications



First launched: 2017

Constituents (as of Q3 2019): 72 funds

Data range: since inception to date (2003 ~ present)

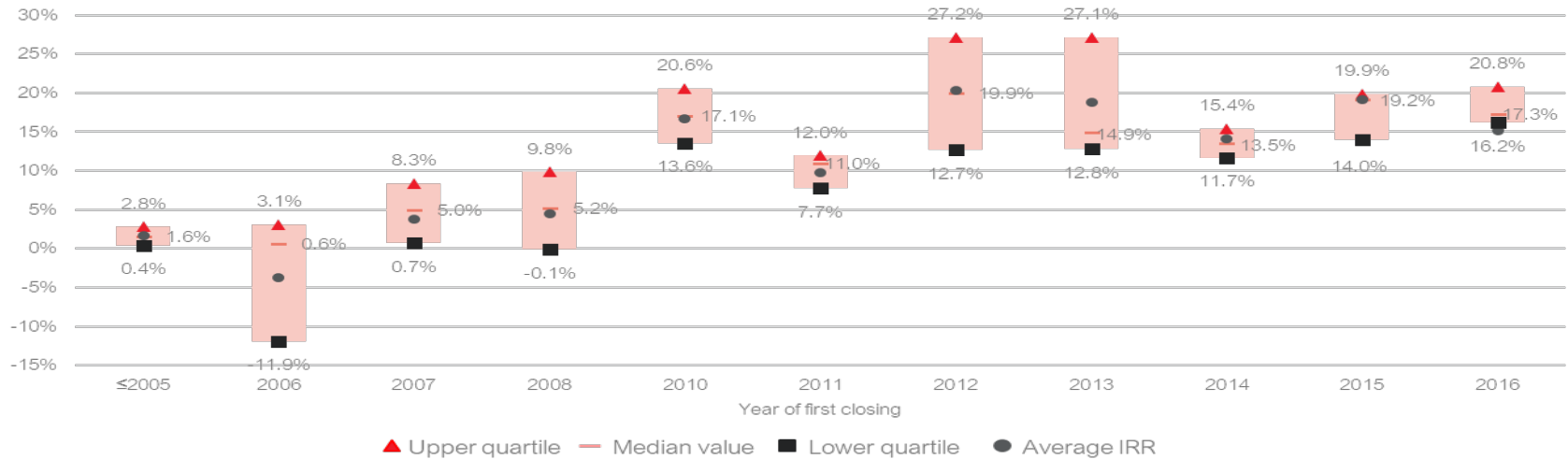
Publication timeline: quarterly, 14 weeks after quarter end

Inclusion criteria:

- 1) Opportunity and value-added funds (manager defined)
- 2) Closed end
- 3) Single country and multi-country funds
- 4) Funds invested in Asia Pacific, >90% of GAV invested in Asia Pacific real estate
- 5) Funds which also have retail investors should target at least a 50% institutional holding in order to be included in the Index
- 6) Commingled fund, >2 investors
- 7) Full historical cashflows since inception on a quarterly basis
- 8) Performance is included only when a vehicle has at least 6 quarters of cash flows

IRR index- since inception performance for closed end vehicles

Distribution of since inception IRR

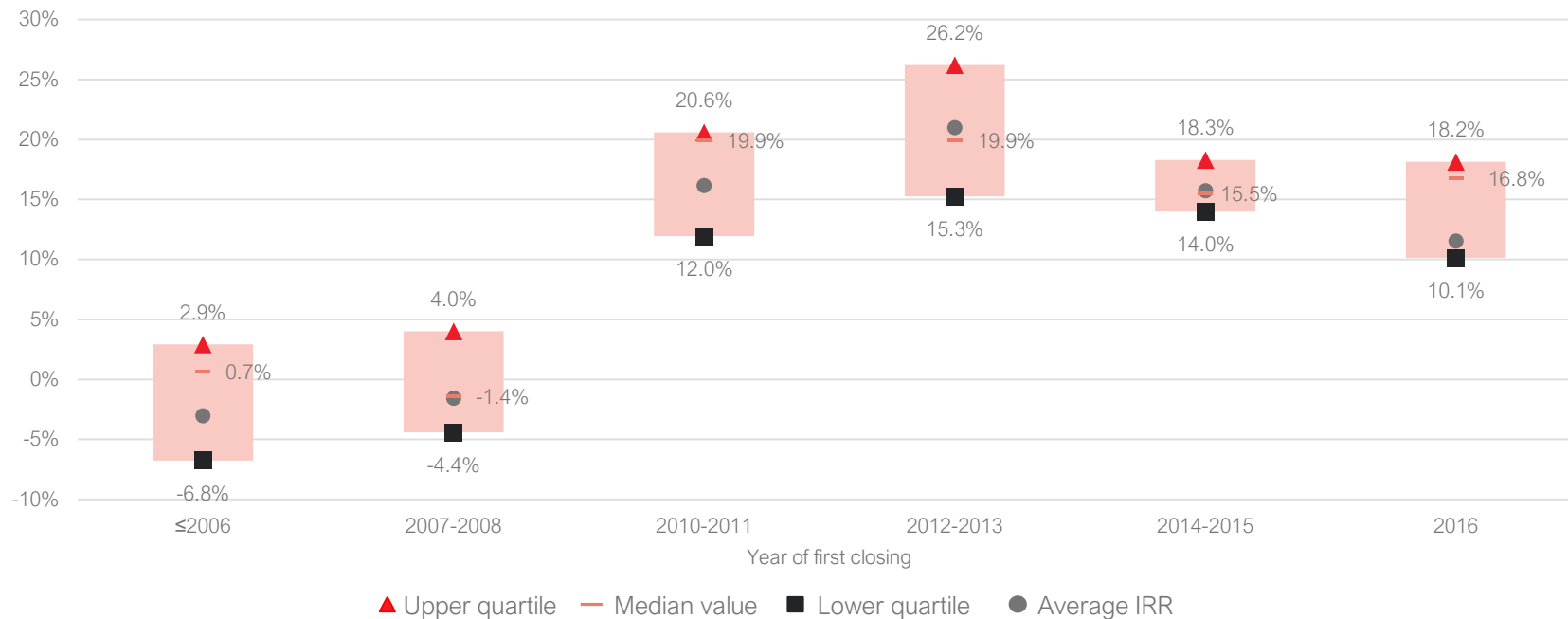


	≤2005	2006	2007	2008	2010	2011	2012	2013	2014	2015	2016
Sample size	8	9	13	4	5	5	6	5	5	7	5
# of operating funds	-	2	6	3	1	3	3	3	5	7	5
Dispersion (IRR)	2.4%	13.0%	7.6%	7.2%	4.2%	7.8%	9.3%	8.5%	6.5%	8.6%	14.0%
Average IRR	1.7%	-3.7%	3.8%	4.5%	16.7%	9.8%	20.3%	18.8%	14.1%	19.2%	15.1%
Pooled IRR	0.9%	-3.7%	3.2%	8.0%	15.7%	8.1%	21.9%	12.7%	13.0%	19.9%	21.0%

- 72 closed end funds
- Vintage starting from 2003
- Net IRR and equity multiples
- Spreads, medians and averages per vintage

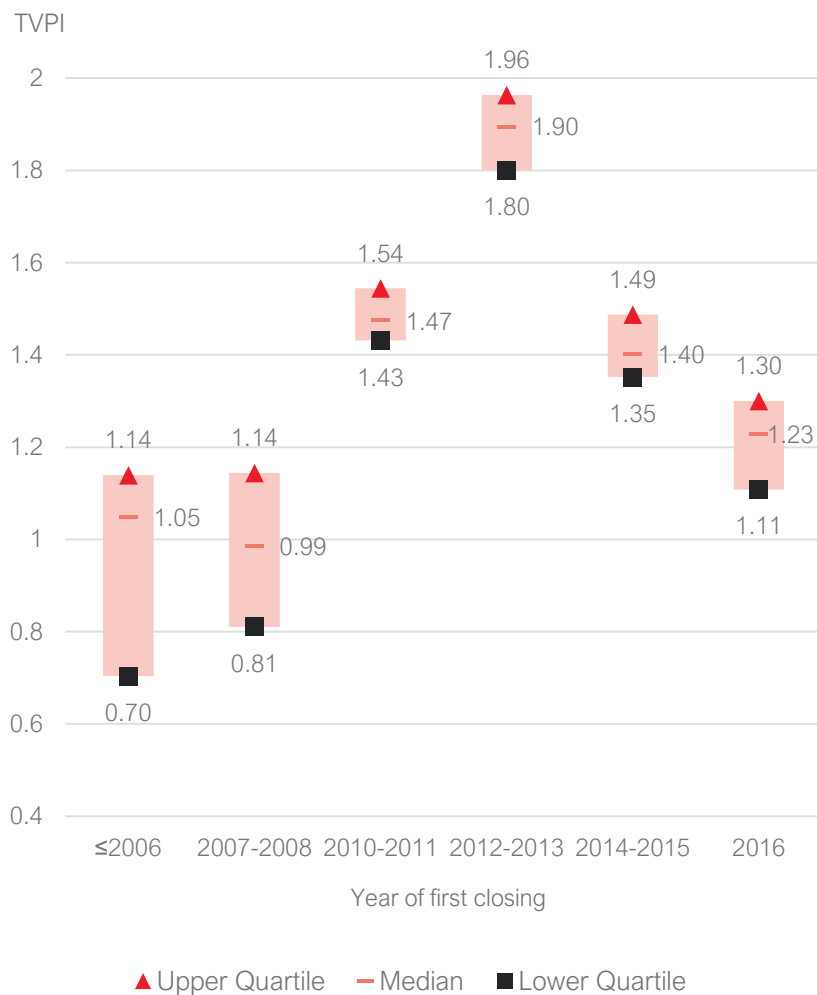
Value added funds - net IRR

Distribution of since inception IRR



	≤2006	2007-2008	2010-2011	2012-2013	2014-2015	2016
Sample size	11	6	5	6	6	4
# of operating funds	0	3	1	3	6	4
Dispersion (TVPI)	0.38	0.29	0.21	1.08	0.14	0.21
Dispersion (IRR)	11.6%	7.0%	6.0%	8.1%	3.6%	13.3%
Average IRR	-3.0%	-1.5%	16.2%	21.0%	15.7%	11.5%

Value added funds - net investment multiple



≤2006	IRR	DPI	RVPI	TVPI
Dispersion	11.6%	0.37	0.04	0.38
Upper Quartile	2.9%	1.14	0.001	1.14
Median	0.7%	0.98	0.00	1.05
Lower Quartile	-6.8%	0.70	0.00	0.70

2007-2008	IRR	DPI	RVPI	TVPI
Dispersion	7.0%	0.46	0.45	0.29
Upper Quartile	4.0%	1.06	0.068	1.144
Median	-1.4%	0.77	0.02	0.99
Lower Quartile	-4.4%	0.57	0.00	0.81

2010-2011	IRR	DPI	RVPI	TVPI
Dispersion	6.0%	0.21	0.03	0.21
Upper Quartile	20.6%	1.48	0.01	1.54
Median	19.9%	1.47	0.00	1.47
Lower Quartile	12.0%	1.42	0.00	1.43

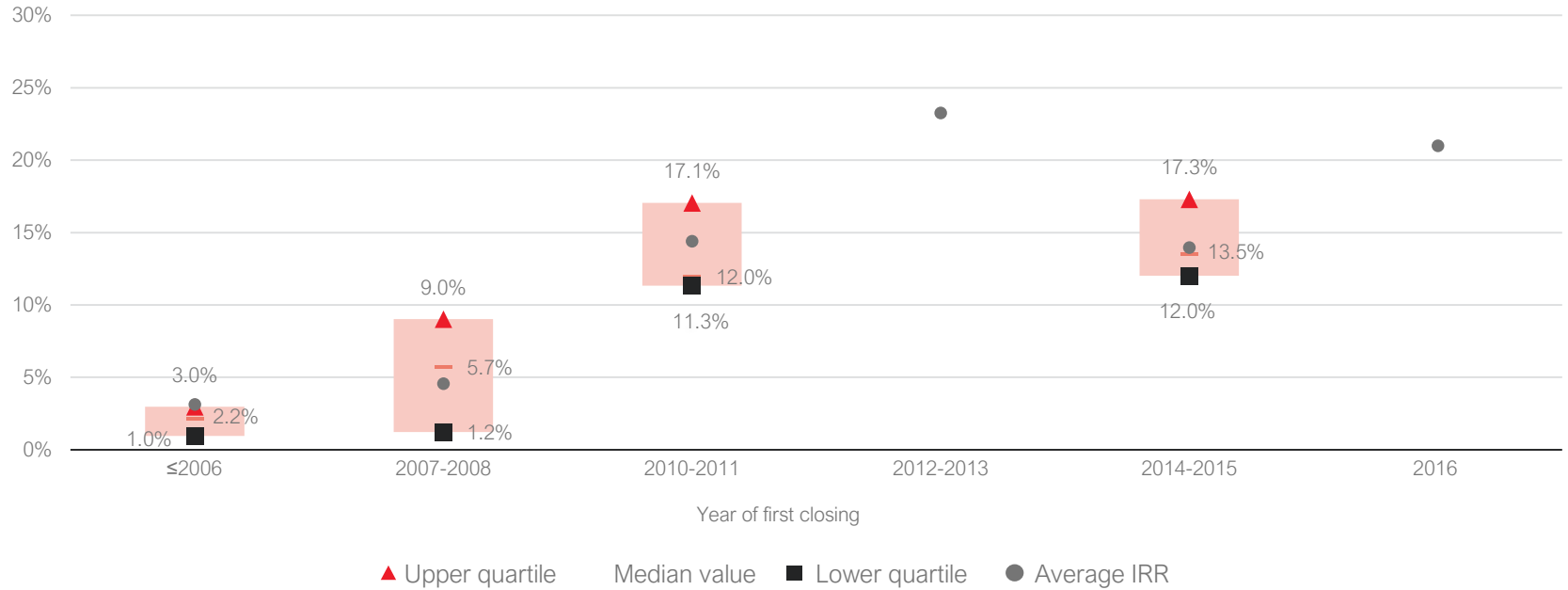
2012-2013	IRR	DPI	RVPI	TVPI
Dispersion	8.1%	0.90	0.90	1.08
Upper Quartile	26.2%	1.91	1.42	1.96
Median	19.9%	1.79	0.67	1.90
Lower Quartile	15.3%	0.93	0.02	1.80

2014-2015	IRR	DPI	RVPI	TVPI
Dispersion	3.6%	0.39	0.36	0.14
Upper Quartile	18.3%	0.77	1.05	1.49
Median	15.5%	0.59	0.84	1.40
Lower Quartile	14.0%	0.28	0.74	1.35

2016	IRR	DPI	RVPI	TVPI
Dispersion	13.3%	0.19	0.19	0.21
Upper Quartile	18.2%	0.22	1.09	1.30
Median	16.8%	0.13	0.96	1.23
Lower Quartile	10.1%	0.09	0.88	1.11

Multi country vehicles

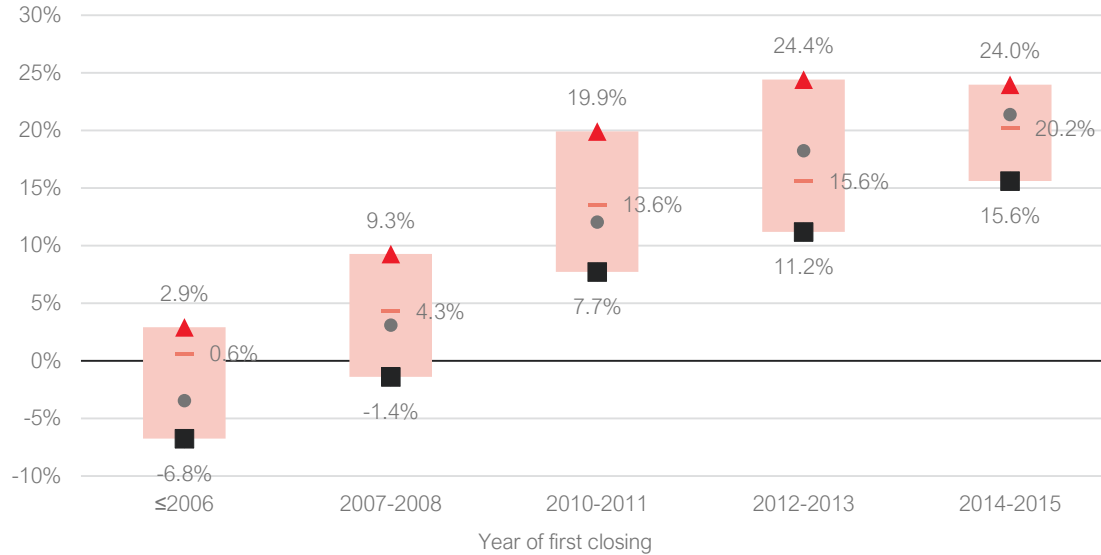
Distribution of since inception IRR



	≤2006	2007-2008	2010-2011	2012-2013	2014-2015	2016
Number of vehicles	6	10	5	3	7	3
Average IRR	3.1%	4.6%	14.4%	23.3%	14.0%	21.0%
Median IRR	2.2%	5.7%	12.0%	-	13.5%	-
Dispersion (IRR)	4.8%	5.9%	4.3%	9.1%	4.7%	7.4%

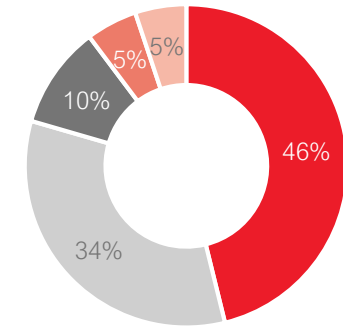
Single country vehicles

Distribution of since inception IRR



▲ Upper quartile — Median Value ■ Lower quartile ● Average IRR

By number of funds



■ Japan ■ China ■ Australia
■ Korea ■ Others

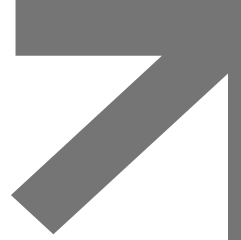
* Based on all vintages

	≤2006	2007-2008	2010-2011	2012-2013	2014-2015	2016
Number of vehicles	11	7	5	8	5	2
Average IRR	-3.5%	3.1%	12.0%	18.2%	21.4%	-
Median IRR	0.6%	4.3%	13.6%	15.6%	20.2%	-
Dispersion (IRR)	11.1%	9.4%	9.2%	8.5%	9.9%	-



Global Real Estate Funds Index (GREFI)

Global index specifications



First launched: 2014

Constituents (as of Q3 2019): 490 funds

Data range: (2005 ~ present)

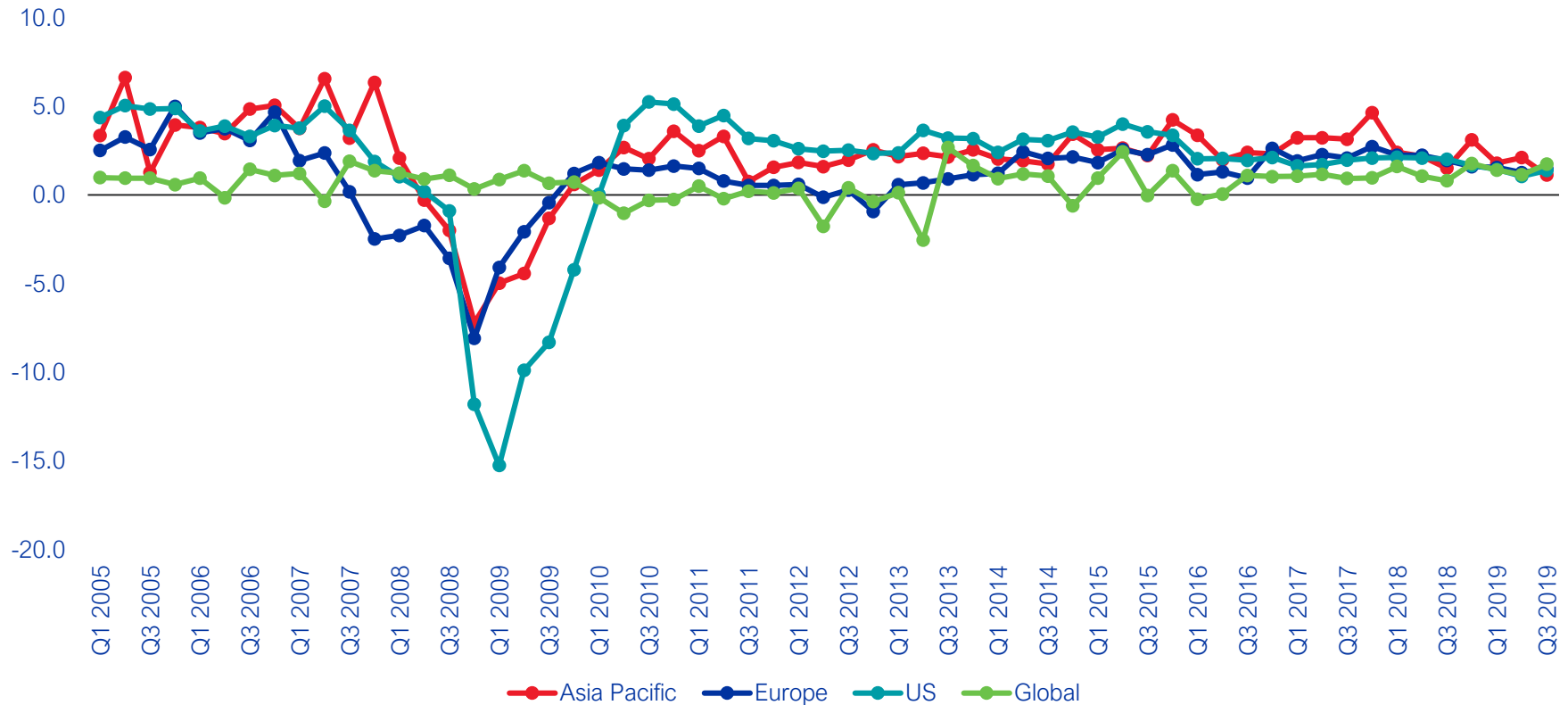
Publication timeline: quarterly, 13 weeks after quarter end

Inclusion criteria:

- 1) All funds included in ANREV- core, value added and opportunity
- 2) All funds included in INREV- core, value added
- 3) Single country and multi-country funds
- 4) US core funds – NCREIF Fund Index Open End Diversified Core Equity, NFI – ODCE
- 5) US non-core funds – NCREIF Fund Index Open End, NFI – OE
- 6) US closed end funds (CEVA funds) are included in the index from Q1 2010 to Q2 2018 performance. Since Q3 2018, GREFI no longer includes them.

GREFI: a truly global index

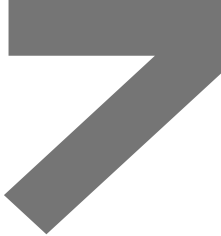
Total returns in local currency (%)



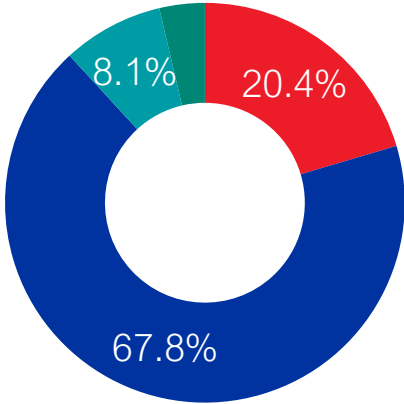
- In partnership with INREV (Europe) and NCREIF (US)
- Performance history since 2005
- 490 funds with USD \$794+ billion GAV
- Includes Global strategy funds

Global real estate fund index

Regional composition

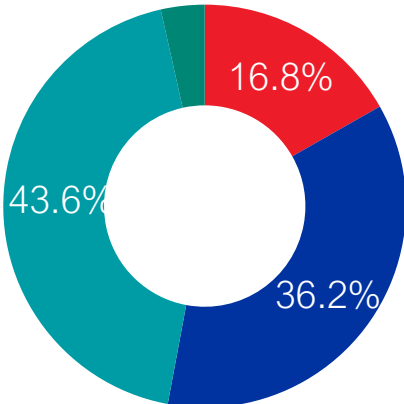


Number of funds



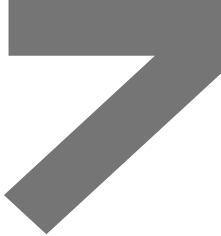
- Asia Pacific
- Europe
- US
- Global strategy (3.7%)

GAV

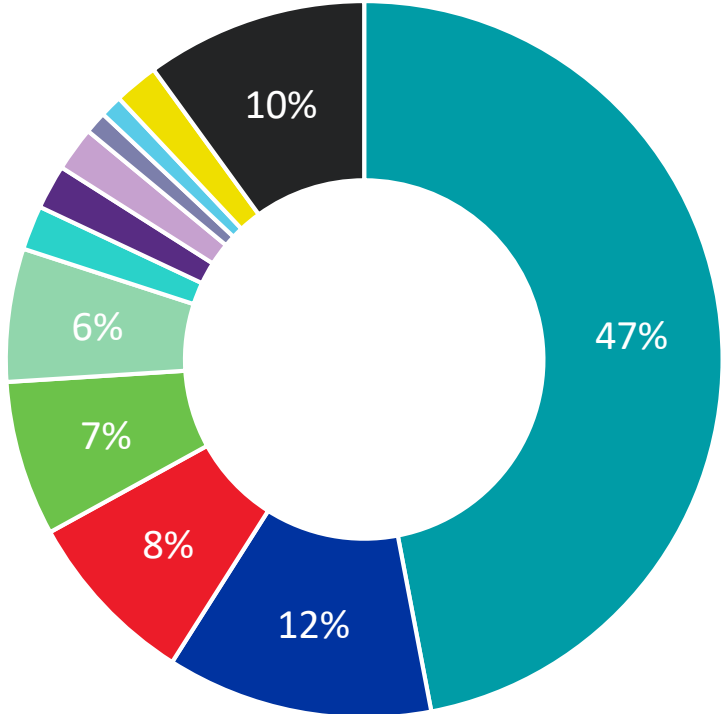


- Asia Pacific
- Europe
- US
- Global strategy (3.4%)

Global real estate fund index country composition



Country Allocation
(% of current GAV/GRE) (US\$ billion)



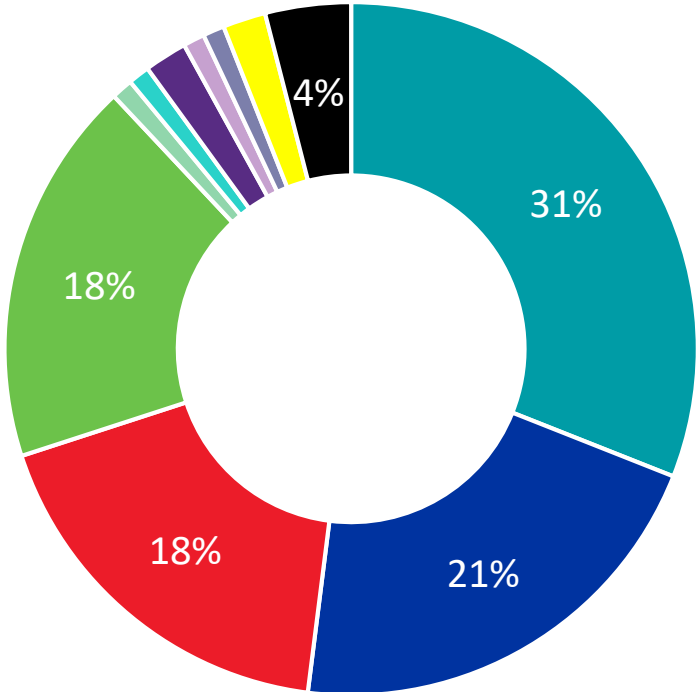
- United States of America
- Australia
- United Kingdom
- Germany
- Netherlands
- France
- Switzerland (2%)
- China (2%)
- Japan (1%)
- Singapore (1%)
- Not reported (2%)
- Other

Data as of September, 30, 2016

Global real estate fund index sector composition



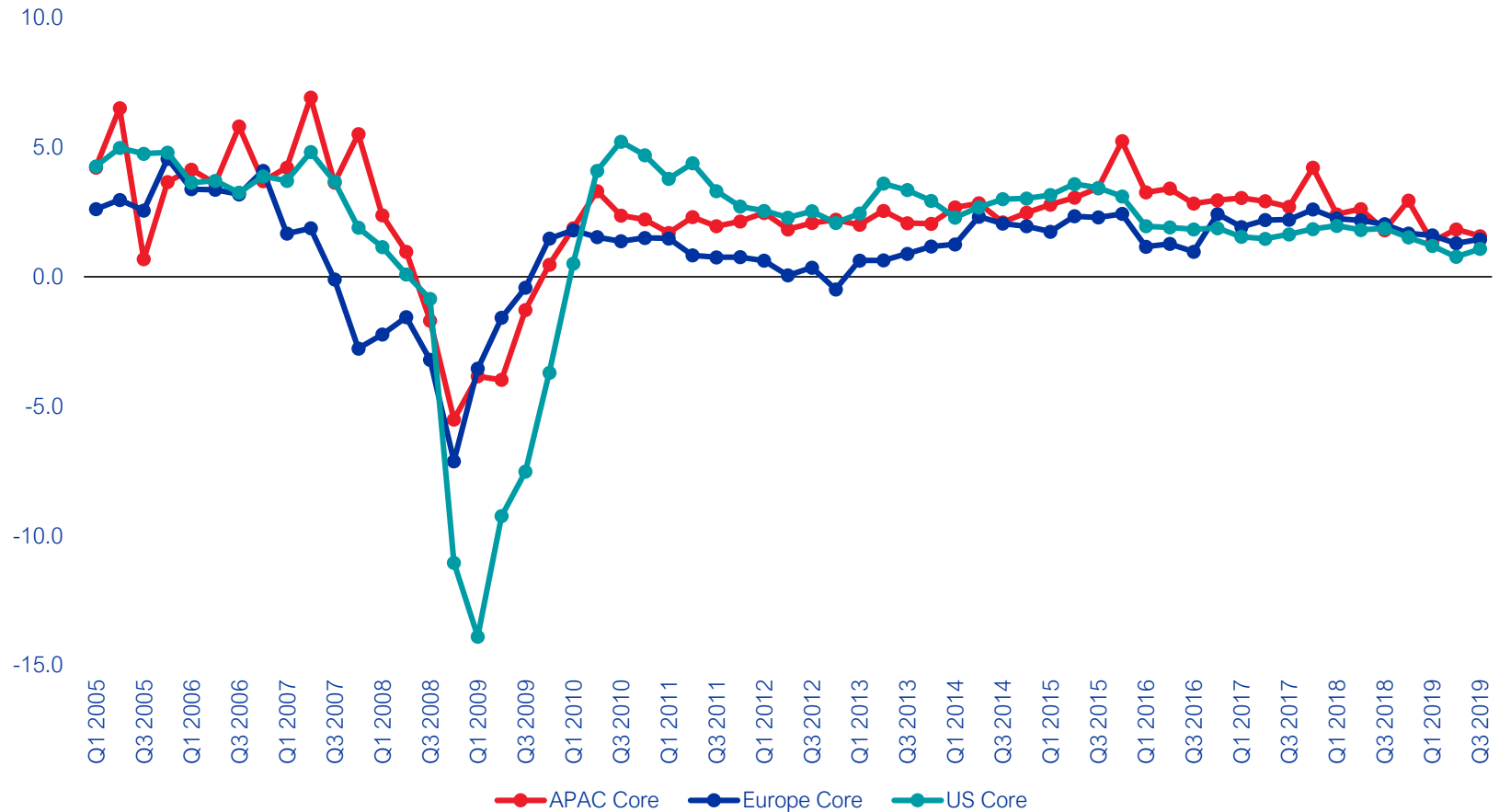
Sector Allocation
(% of current GAV/GRE) (US\$ billion)



- Office
- Retail
- Apartment / Residential
- Industrial / Logistics
- SelfStorage (1%)
- Mixed (1%)
- Hotel (2%)
- Healthcare (1%)
- Student Housing (1%)
- Not reported (2%)
- Other

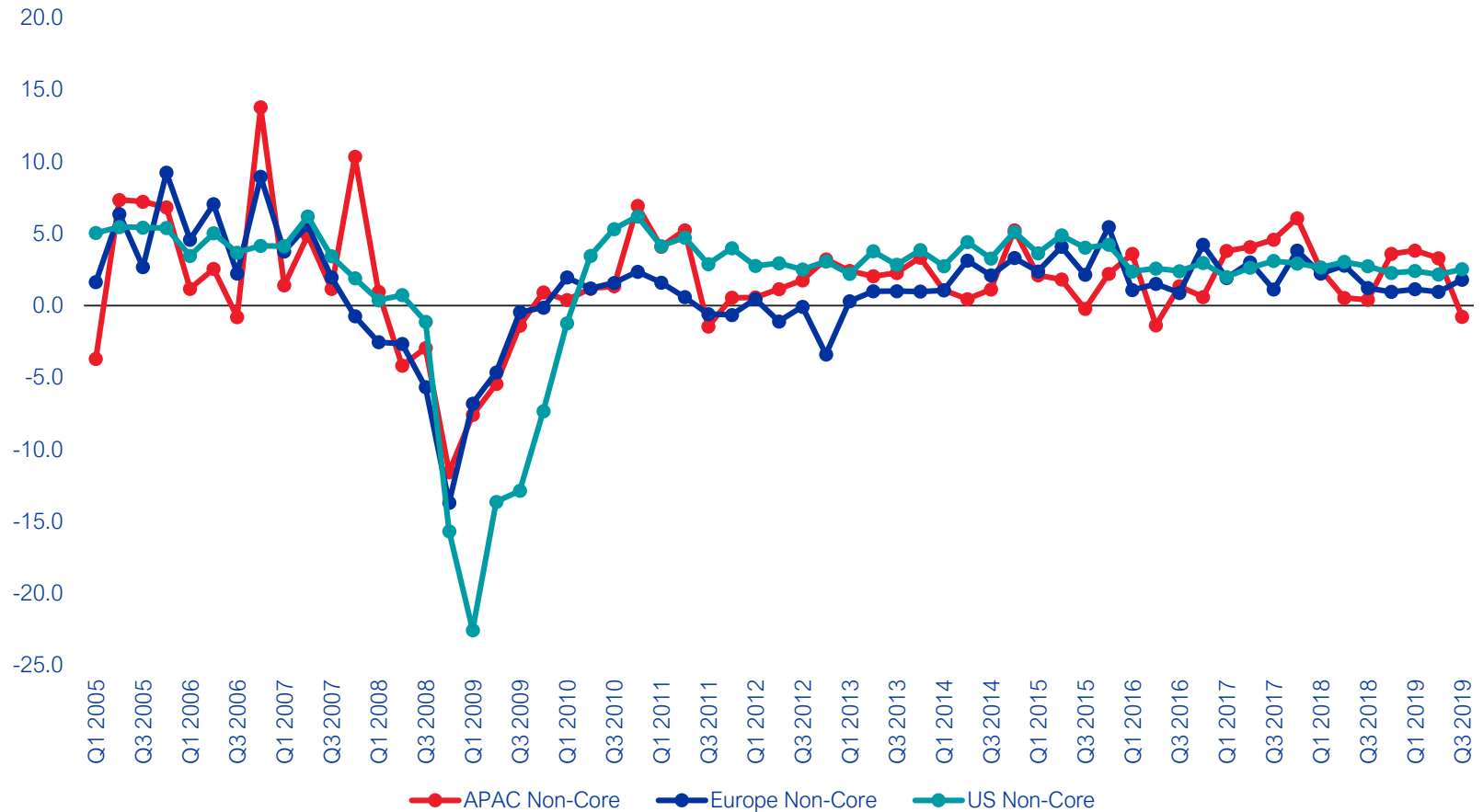
Regional indices- core

Total returns in local currency (%)

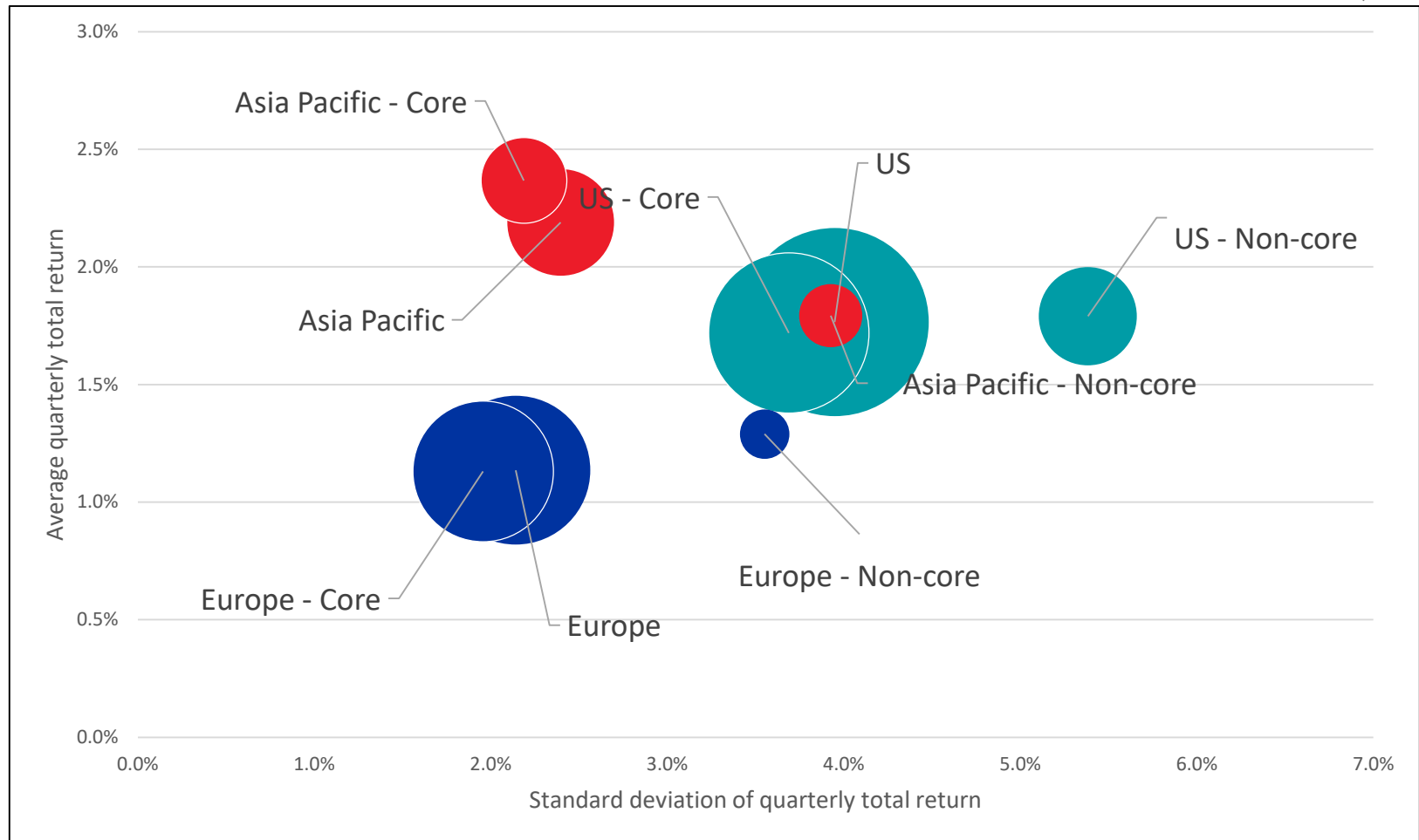


Regional indices- non core

Total returns in local currency (%)



Risk and return analysis





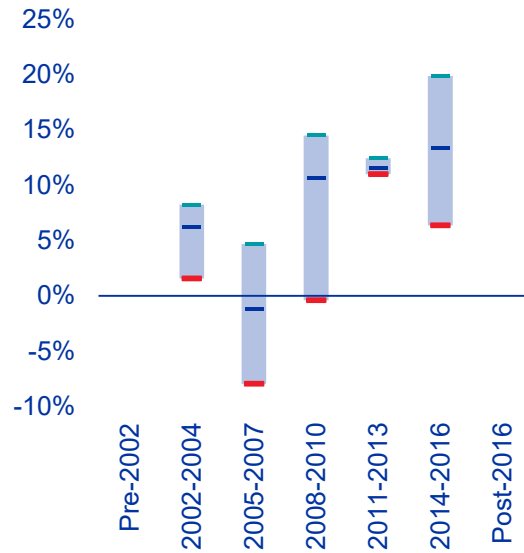
What's next?

Global IRR

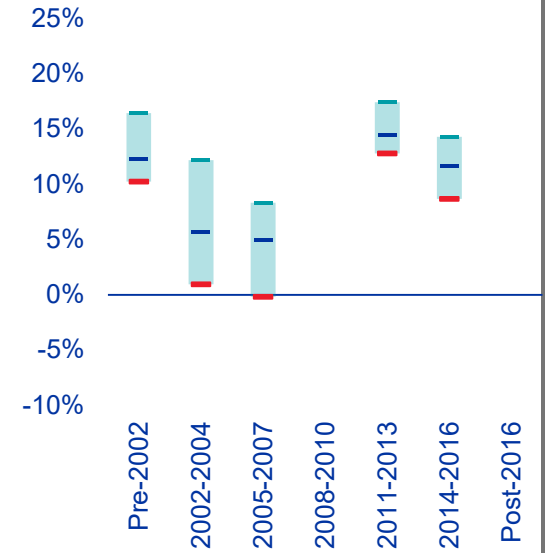
Asia Pacific



Europe



US



Number of vehicles	Pre-2002	2002-2004	2005-2007	2008-2010	2011-2013	2014-2016	Post-2016	Total
Asia Pacific	0	3	27	8	16	14	0	68
Europe	3	8	34	14	13	22	5	99
US	17	17	32	7	17	20	6	116

Attribution analysis and reconciliation



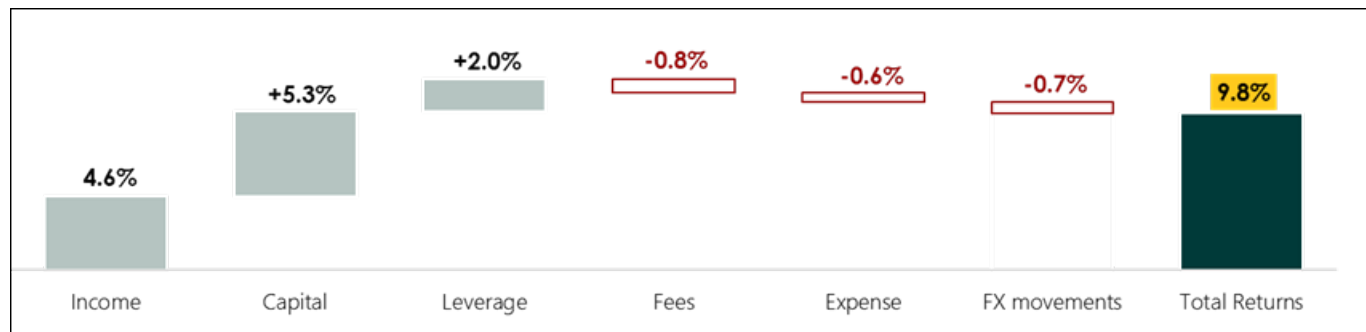
Why do we need attribution analysis?

The ANREV ODCE Fund index has the particularity that all the funds report in US\$ but none of the funds invest into US\$ properties.

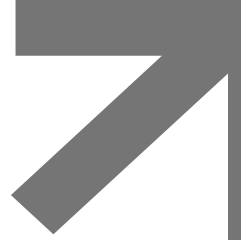
The need to provide more transparency regarding the details of the Index is essential. This has lead ANREV to develop the asset level performance report.

Next steps are to collect other effects contribution to the total return in order to give more understanding of the funds' return.

$$\sum \text{Contribution Effects} = \text{Total Return}$$



The ANREV/INREV IT roadmap



This IT roadmap (started in October 2018) lays out a blueprint to radically improve the value proposition to members while establishing the foundation to provide new digital services. Through the implementation of this roadmap, ANREV and INREV will:

- Enable members to access data easily and centrally by linking all data collection processes to a single repository “Data Warehouse”
- Reduce the reporting burden for investment managers by having a unified user experience of all data reporting obligations
- Create the foundation for a new generation of data tools and replace end-of-life tools Applying best practices in data collection and add automatic data-checks
- Manage all user, vehicles and assets permissions centrally
- Establish highest standards of security, governance and audit standards in data collection and storage



Conclusion / Questions