

Callan



**Mendocino County Employees
Retirement Association:**
Asset Liability Study Discussions
Continued

**Private Infrastructure Manager
Interviews**

Greg DeForrest, CFA
Senior Vice President

Claire Telleen, CFA
Senior Vice President

Jan Mende
Senior Vice President

Agenda

- Background
- Infrastructure: Benefits and Considerations
- Selected Alternative Asset Mixes Revisited
 - Overview of Alternative Asset Mixes
 - Alternative Asset Mixes: Benefits and Considerations
- Appendix
- Open-End Infrastructure Search: Finalists Review

Background

Earlier Discussions:

- **August 2018** MCERA Board meeting: the following additional private real assets were considered as complements to real estate: Infrastructure, Timber, Agriculture, Public Real Assets. Unlisted open-end infrastructure appeared to offer the best fit to the MCERA portfolio
- **April 2019** MCERA Board meeting: the Board discussed potential additional asset categories for inclusion the upcoming Asset Liability Study: Non-U.S. Fixed Income, Private Credit, Hedge Funds, Multi Asset Class Strategies, Private Equity, Infrastructure, Commodities, Global Equity. The Board asked Callan to model potential target asset mixes including infrastructure and with and without private equity
- **June 2019** MCERA Board meeting: Callan asset class research specialists Jan Mende and Gary Robertson led a deep dive educational discussion on investing in Infrastructure, Real Estate Debt and Private Equity

August 2019

- At the August meeting, the Board reviewed an Asset Liability Study where we analyzed 1) the level of risk and return and 2) whether new asset classes (Private Equity and Infrastructure) should be introduced to the Plan
- The Board agreed that a change in the overall return and risk profile is not warranted
- However, a decision was made to continue to explore the potential benefits to the total portfolio of adding private infrastructure and/or private equity

September 2019

At the September meeting the Board continued discussion of Private Equity and Infrastructure and reviewed potential alternative target asset mixes that include each asset category. The Board agreed:

- NOT to add private equity to the portfolio
- To continue the evaluation of adding private infrastructure by conducting a search and hearing directly from managers that could potentially be hired for the mandate

Today

Callan conducted a search for private, open-end infrastructure managers on behalf of MCERA and identified two open-end private infrastructure funds for the Board's consideration:

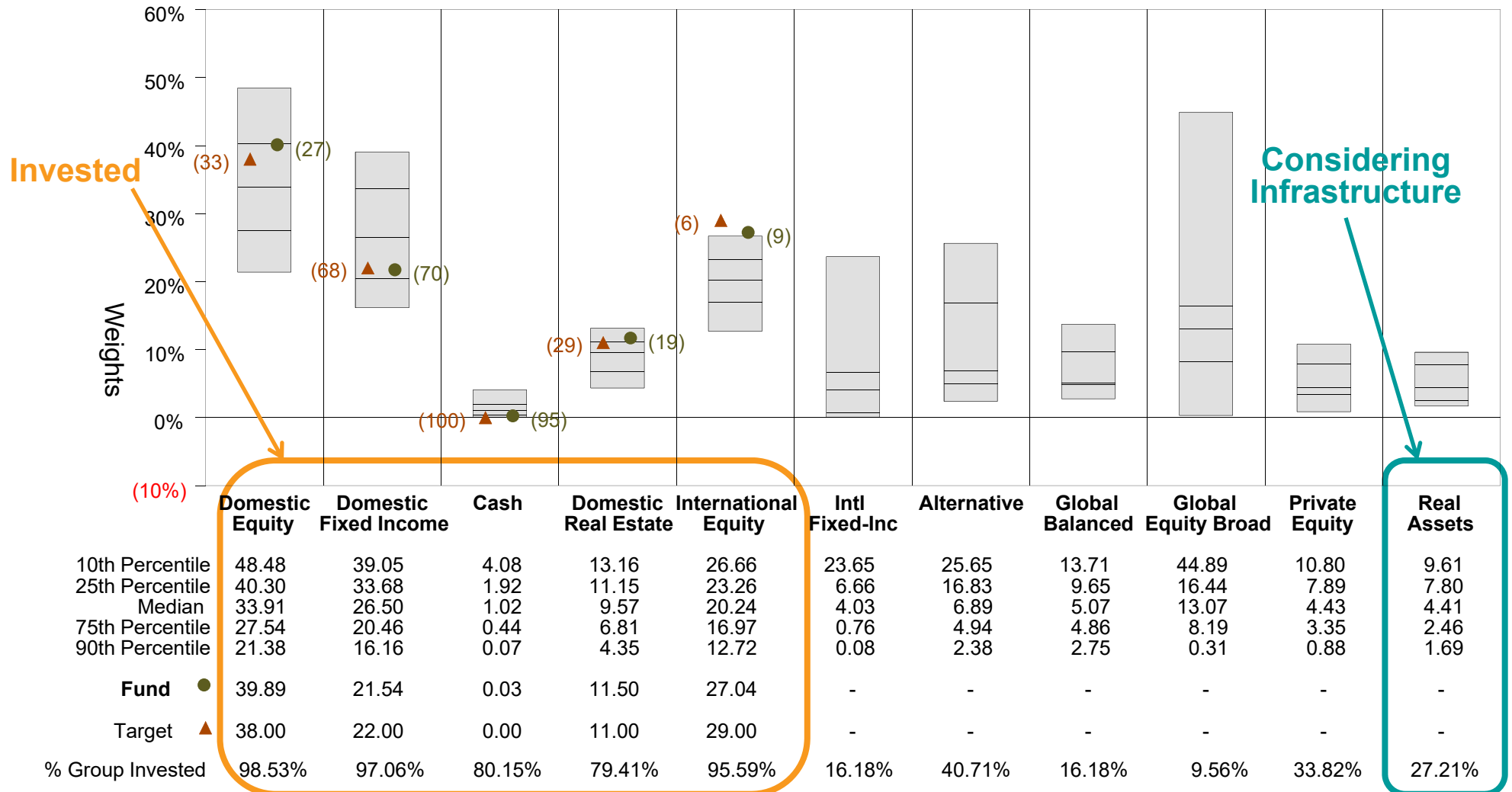
JP Morgan and IFM Investors

JP Morgan and IFM will each present today to discuss:

1. Why infrastructure?
2. Why should you invest in their strategy?

MCERA Asset Class Weights vs Callan Public Fund Sponsor Database

Asset Class Weights vs Callan Public Fund Sponsor Database

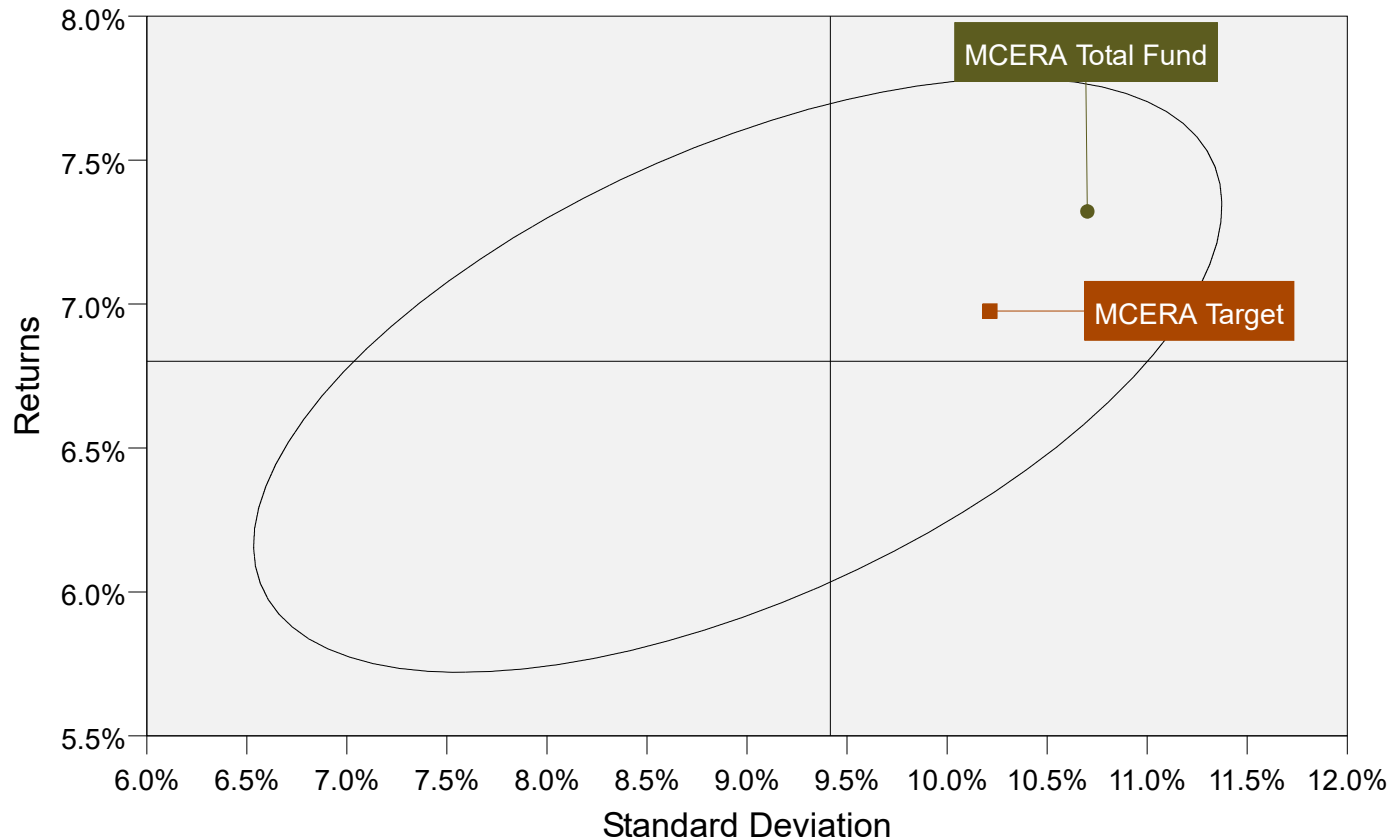


- The chart above ranks MCERA's asset allocation and the target allocation versus the Callan Public Fund Sponsor Database

MCERA Annualized Return vs Risk

15 Years Ended September 30, 2019

Group: Callan Public Fund Sponsor Database



- The chart above plots 15 year annualized return vs standard deviation of the MCERA Total Fund and the Total Fund Target. Over the trailing 15 year period the MCERA Total Fund has achieved an annualized return higher than the Total Fund Target with higher volatility.

Infrastructure

Unlisted Infrastructure Investments

Private infrastructure could improve the Investment Program by increasing exposure to Real Assets

- Impact on return and risk is minor in normal environments
- In practice private infrastructure should add a diversified source of returns with the potential for improved performance in inflationary environments

Benefits

- Cash flows may be durable with a measure of inflation linkage
- Access to long-lived assets which are hard to replicate and offer a range of defensive income streams, monopoly market positions with high barrier to entry or regulated markets
- Appraisal-based valuations thus reduced price volatility
- Global or non-U.S. funds provide exposure to non-dollar currencies and can serve as a further hedge against inflation as well as declines in the U.S. dollar

Considerations

- Diversification may be challenging due to large asset sizes
- Long hold periods, exit strategy may be unclear
- Appropriate benchmark undefined
- Some assets may become less-defensive as consumer demand, regulation or the competitive landscape changes
- Interest-rate movements could have significant impact on the value of assets, depending on the level of leverage

Asset Liability Study: Selected Alternative Mixes Revisited

Asset Classes	Current Target	Mix 4: + Infrastructure
Broad US Equity	38	37
Global ex US Equity	29	25
Domestic Fixed	22	21
Real Estate	11	11
Private Infrastructure	0	6
Private Equity	0	0
Totals	100	100
1-Year Return	7.53	7.55
10-Year Compound Return	6.79	6.80
Risk (Standard Deviation)	13.73	13.79

Public Equity	67	62
Total Equity	67	62
Bonds	22	21
Illiquid	11	17
Real Assets	11	17

Orange: Higher allocation than current target

Blue: Lower allocation from current target

Benefits and Considerations of Alternative Asset Mixes

	Change	Benefits	Considerations
Current Target:		<ul style="list-style-type: none"> Meets desired expected return High liquidity 	<ul style="list-style-type: none"> High public equity beta Volatile peer group comparison
MIX 4: Real Estate & Infrastructure	Equity: -1% Int'l Equity: -4% Fixed Income: -1% Infrastructure: +6%	<ul style="list-style-type: none"> Meets desired expected return Improves diversification Infrastructure provides differentiated return stream Increases real assets 	<ul style="list-style-type: none"> Increases illiquid portion of portfolio Increases complexity

Appendix

Real Assets

Potential Benefits

Portfolio diversification	Real assets tend to have complementary return profiles relative to stocks and bonds.
Predictable and steady streams of income	Real assets tend to have predictable and steady cash-flow streams supported by regulated or contractual revenues and attractive operating margins.
Capital appreciation potential	As the backbone of the global economy, real estate, infrastructure and sustainable resources are all subject to long-cycle fundamental drivers. Examples include population growth, urbanization trends and periodic supply constraints that can lead to capital appreciation.
Potentially higher risk-adjusted returns	Historically, the volatility of many real asset classes has been lower than that of equities, leading to higher risk-adjusted returns.
Inflation protection	History shows that real assets have outperformed stocks and bonds in periods of unexpected inflation, based on total return. One reason is that the cash flows of the underlying assets tend to rise with inflation.

Use by other Public Plan peers?

- Percent of Public Pension Plans Invested in Real Assets (excluding real estate): **25%**
- Median % of Portfolio Invested (when used): **5%**

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September 30, 2019



Open-End Infrastructure Search

Investment Measurement Service Quarterly Review

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IFM Investors As of September 30, 2019

History

Industry Funds Management ("IFM") was founded in 1994 as Industry Fund Services, and began making infrastructure investments through IFM Australia Infrastructure Fund in 1995. In 2004, IFM Investors was created as the result of a merger between Industry Fund Services and Development Australia Fund. Offices in London and New York were subsequently opened in 2006 and 2007, respectively. The Firm began to include global institutional investors in 2009, and has continued to expand since, opening offices in Sydney, Berlin, and Tokyo from 2011 to 2014. IFM Investors has nine offices around the world, including the headquarters in Melbourne Australia. IFM is owned by 27 major Australian not-for-profit pension funds, which the firm believes provides ownership structure and philosophical alignment. As of September 30, 2019 - IFM managed \$98 billion across infrastructure, debt, listed equities, and private capital.

Structure

Founded: 1994
Ownership: Industry Super Holdings Pty Ltd
Type of Firm: Other
Insurance: Yes
In compliance with SEC and DOL: Yes
Registered Investment Advisor: Yes

Contact: David Altshuler

Phone: (212) 784-2266

Email: david.altshuler@ifminvestors.com

Key Professionals

Brett Himbury - CEO
Valentina Abbott - Dir of Client Serv
Lounarda David - COO

Joined Investment Firm Experience

2010 1981
2011 1986
2018 1985

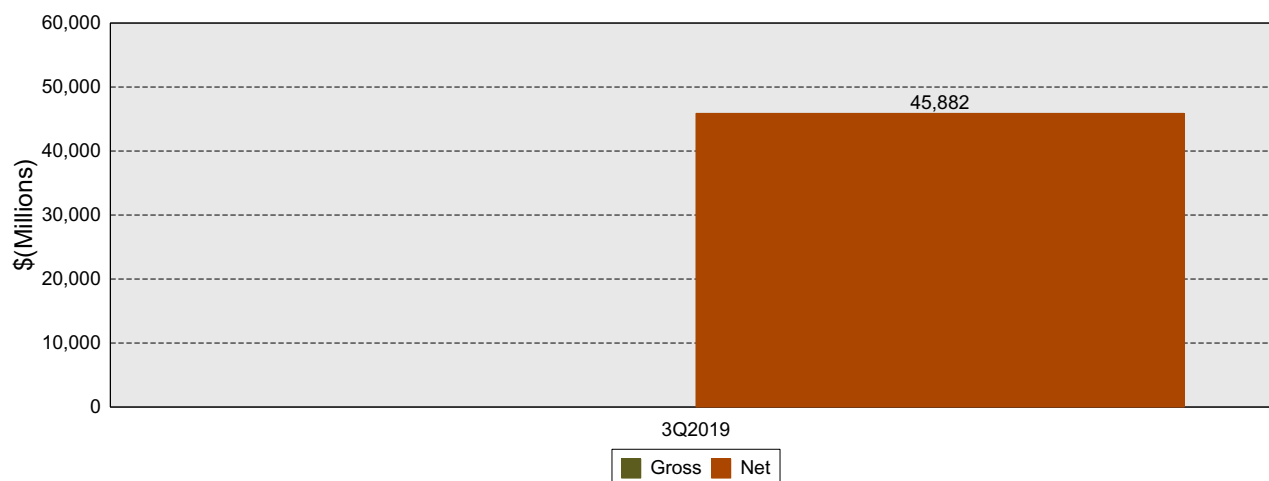
Employee Structure

Total 0

Gross Real Estate Assets by Client Type

	Number of Accounts	Assets (\$mm)
Corporate	136	6,421
Public (Government)	89	10,608
Foundation/Endowment	33	389
Insurance	24	5,546
High Net Worth	7	52
Superannuation	29	17,963
Other	85	4,902
Total Accounts	403	45,881

Total Firm Real Estate Assets



IFM Investors
As of September 30, 2019

Real Estate Account Information

Strategy	Discretionary Separate Account			Non-Discretionary Separate Account		
	Number of Accounts	Gross Asset Value (\$mm)	Net Asset Value (\$mm)	Number of Accounts	Gross Asset Value (\$mm)	Net Asset Value (\$mm)
Total	0	0	0	0	0	0

Strategy	Commingled Closed End			Commingled Open End		
	Number of Accounts	Gross Asset Value (\$mm)	Net Asset Value (\$mm)	Number of Accounts	Gross Asset Value (\$mm)	Net Asset Value (\$mm)
Core				0	0	0
Infrastructure				387	0	39,633
Real Estate Debt				31	0	6,249
Total	0	0	0	418	0	45,882

IFM Investors

IFM Global Infrastructure Fund

As of September 30, 2019

Key Professionals

Title	Year Started in Industry	Year Started With Firm
Christian Seymour	1991	2004
Michael Hanna	1991	2006
Werner Kersch	2001	2006
Kyle Mangini	1990	2007
Manoj Mehta	1995	2007
Lars Bespolka	1994	2008
Julio Garcia	1995	2008
Frederic Michel-Verdier	1993	2008
Adrian Croft	1997	2009
Jamie Cemm	2001	2010

Fund Overview

Inception Date:	June, 2016
Fund Structure:	Limited Partnership
Total Fund Assets - Gross:	\$23,746 million
Total Fund Assets - Net:	\$22,784 million
Current Leverage:	31.10%
Entry/Exit Queue (\$mm):	\$5,550 / N/A
Cash:	\$464 million
# of Institutional Investors:	335

Investment Strategy

The Fund targets core infrastructure assets with strong market positions, high barriers to entry, limited demand elasticity, long lives, and an inherent link to inflation. The Fund's primary focus is in Europe and the Americas and across all major sub-sectors of infrastructure, mostly in brownfield assets.

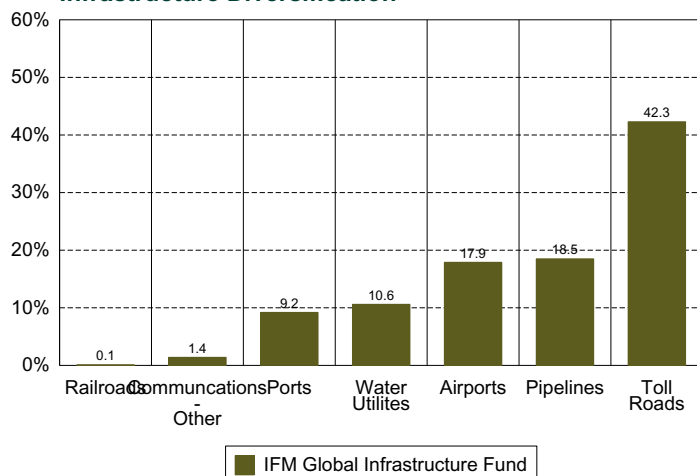
Portfolio Manager Kyle Mangini

% Dedication 100%

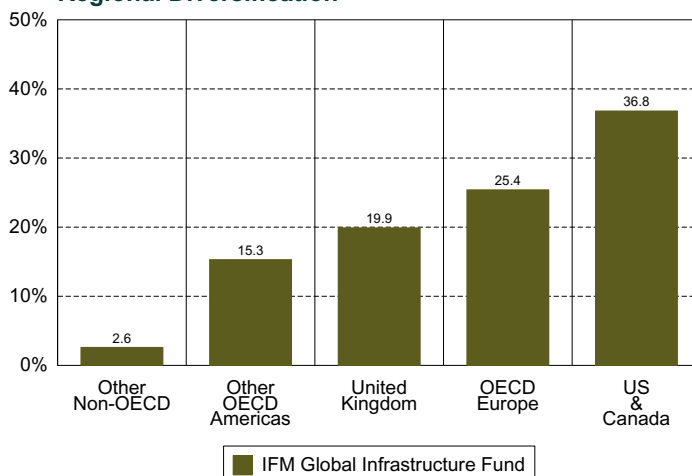
Responsibilities Kyle is responsible for IFM Investors' global infrastructure program, including the firm's Australian and global infrastructure funds.

Prior Experience Prior to joining IFM Investors, Kyle gained over 20 years of investment banking experience, focused primarily in the infrastructure sector. He has held senior positions with Credit Suisse First Boston and SBC Warburg in the United States, Asia and Australia. Kyle represents IFM Investors as an Alternate Director on the Board of Australia Pacific Airports Corporation.

Infrastructure Diversification



Regional Diversification

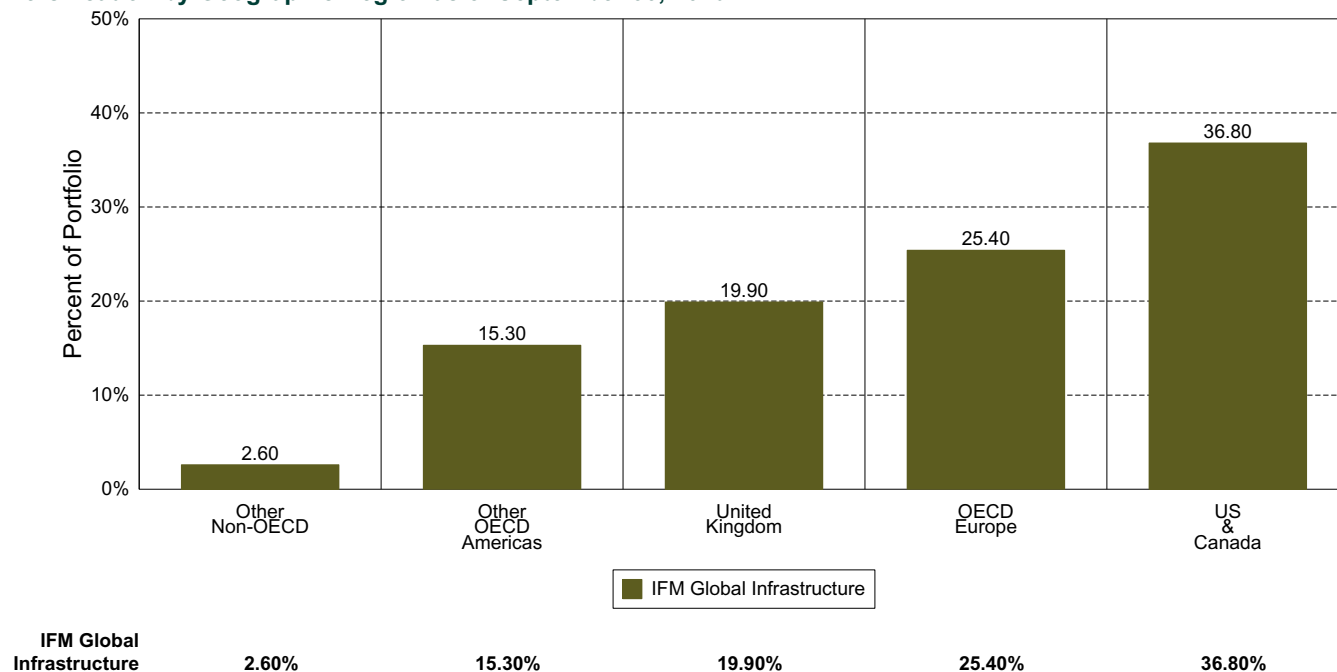


IFM Global Infrastructure Diversification Analysis as of September 30, 2019

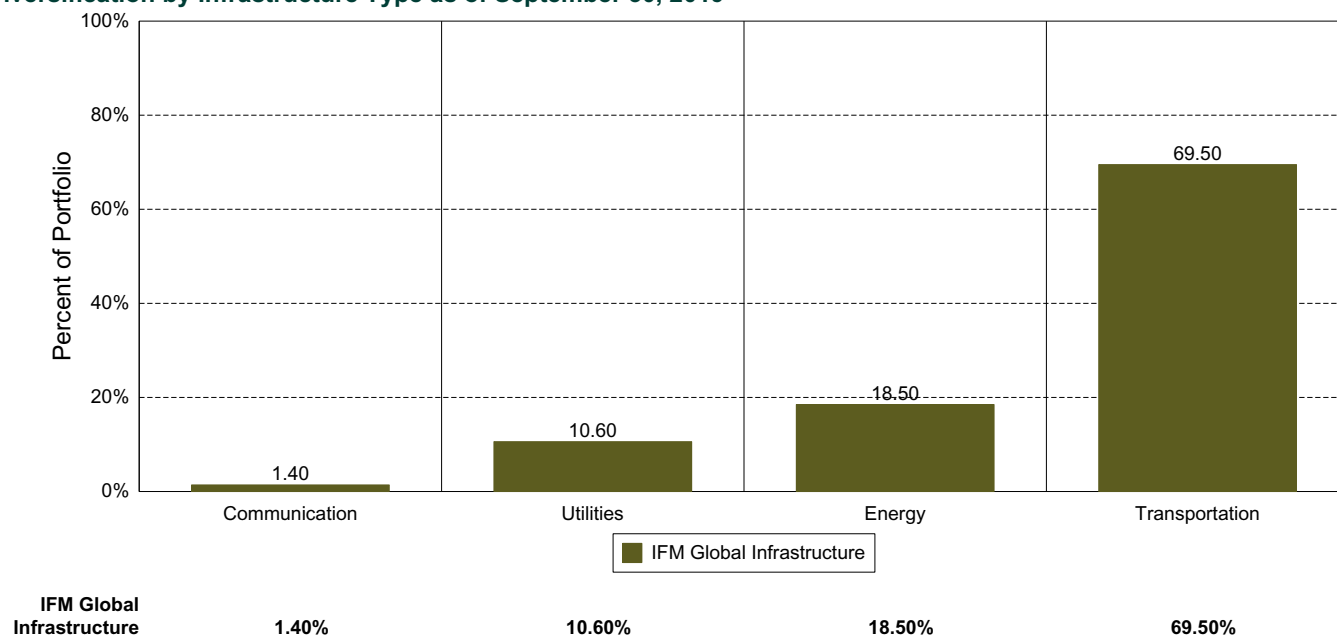
Diversification Analysis

The following charts provide information on the diversification of the portfolio with regards to both Geographic Region and Infrastructure Type. Similar information is provided on the relevant market index for comparison.

Diversification by Geographic Region as of September 30, 2019

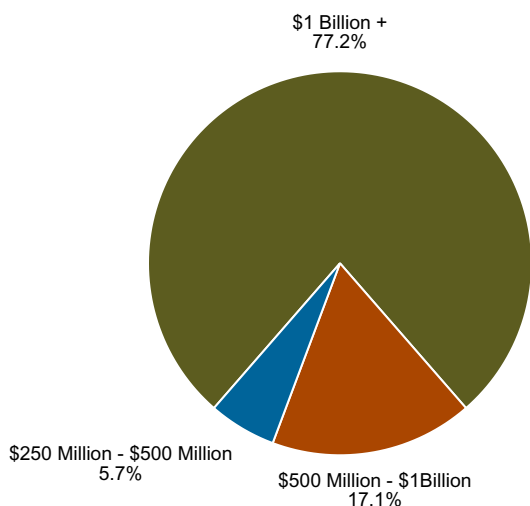


Diversification by Infrastructure Type as of September 30, 2019

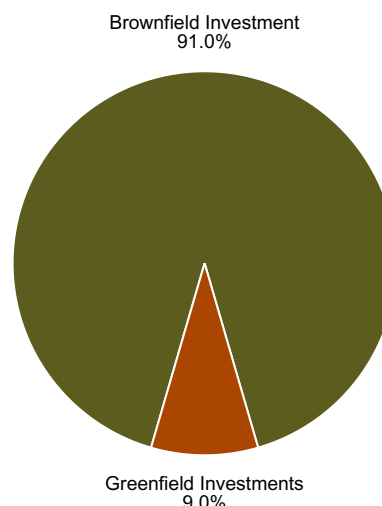


IFM Investors
IFM Global Infrastructure Fund
As of September 30, 2019

Investment Size Diversification



Investment Stage Diversification



Terms

Minimum Investment:	10 \$(mm)
Sponsor Commitment:	10
Total Return Target:	10% pa on a net basis over the long term
Income Return Target:	No formal return target 6-8% pa
Advisory Board:	Yes

Fees

Acquisition Fee:	N/A
Asset Management Fee:	0.77% p.a. on NAV <\$300 mil; 0.65% p.a. on NAV >\$300 mil
Disposition Fee:	N/A
Performance Fee:	10% of the net realized and unrealized appreciation in the NAV of the interests in the Partnership, in excess of a threshold return of 8% pa (net of Management Fees)
Other Fees:	N/A

Limitations

Cash:	15%
Portfolio Leverage:	60%
Geography:	Active approach in Europe and the Americas, with an opportunistic approach to other regions
Other:	Max 30% in social infra; Max 50% in a sub-sector; Max 25% in a single asset

Portfolio Characteristics

Average Investment Size:	1,484 \$(mm)
Average Age of Assets:	
# of Investments:	16
Dividend Policy:	Semi-annual
Redemption Policy:	No formal lock-up
Mark Debt to Market:	
Discount Rate:	

IFM Investors

IFM Global Infrastructure Fund

As of September 30, 2019

- As of September 30, 2019, the Fund had a contribution queue of approximately \$5.5 billion. The queue is large, but infrastructure investment sizes are bulky and the queue could be cleared with one or two new investments. The manager expects commitments to be called in twelve to eighteen months on average. Several investments have been announced, but have not reached financial close yet.
- Main Fund was launched in December 2004. The USD-hedged vehicle is the only vehicle open to new investors and was launched in 2016
- The Fund had 16 investments. The Fund has a significant amount of transport exposure. One of the largest investments is Aleatica - a diversified portfolio of transportation infrastructure concessions with 19 assets across five countries, headquartered in Madrid, Spain. The portfolio consists of 14 toll roads, three ports, one airport, and one light rail asset. The transaction represents the completion of IFM GIF's first investments in Spain, Chile, Peru and Colombia. Recent investments have included ports in the US, Canada and Poland. One investment was sold in 2017, a US electric transmission business. There are no Fund assets that are held with other IFM funds or separate account capital.
- Leverage: Typically, asset level leverage ranges from 30% to 70%, with a weighted average limit of no more than 60% and a target of under 50%.
- Redemption Policy: No formal lockup period. An investor may request to withdraw all or a portion of its interest in the fund, redemption will occur at the prevailing unit price when funds are actually available. Redemption requests typically met at the beginning of the quarter after which the redemption request was received, and otherwise the Manager will use commercially reasonable best efforts to enable the investor to withdraw or transfer within 36 months from the end of the quarter in which the request was received. Redemptions are serviced by cash at the fund level, by pre-emptive offering to existing investors, by drawdown of commitments from new investors (at their discretion), or by other means deemed appropriate by the manager. Redemption requests in a quarter are equal in priority to all requests received during that quarter. There will be a meeting of all investors to agree to an approach, if after 36 months there are redemptions still outstanding. If >10% of the fund is subject to redemption requests, notice will be given to all investors and all redemption requests will rank equally. If >25% of the fund is subject to redemption requests, there will be a meeting of all investors to agree on an orderly process.
- Dividend Policy: A portion of the Funds cash yield is typically retained for liquidity purposes and the remainder is typically distributed to investors. Investors can elect to either receive a cash yield or re-invest their distributions. The Fund expects to make distributions semi-annually but the level of cash yield and payment of distributions are not guaranteed.
- Hedging Policy: From June 2016, the Master Fund offers currency hedging protection for all investors (unhedged exposure is no longer offered to new investors).
- Appraisal Policy: Infrastructure investments are valued at the end of each quarter by independent valuation firms.
- Allocation Policy: There is no competing product, all eligible investments will be allocated to the Fund.
- ESG: IFM is a signatory of the UN Principles of Responsible Investment and incorporates ESG practices into the investment strategy of the Fund.

J.P. Morgan Asset Management
277 Park Avenue 9th Floor
New York, NY 10017
As of September 30, 2019

History

J.P. Morgan Asset Management ("JPMAM") was incorporated in Delaware in February 1984 and began operations in July 1984. The company evolved from the Trust and Investment Division of Morgan Guaranty Trust Company, which acquired its first tax-exempt account in 1913 and its first pension fund account in 1940. JPMAM was a wholly owned subsidiary of J.P. Morgan & Co. Incorporated, a bank holding company founded in 1861 and which also owns Morgan Guaranty Trust Company, J.P. Morgan Securities Inc. and J.P. Morgan Futures Inc. In January 2001, Chase Manhattan and J.P. Morgan merged and renamed the firm J.P. Morgan Chase & Co., a publicly traded corporation that is listed on the New York Stock Exchange (Ticker: JPM). On July 1, 2004, JPMorgan Chase & Co. and Bank One Corporation merged. The combined company retained the name of J.P. Morgan Chase & Co. In May 2008, J.P. Morgan Chase acquired Bear Stearns.

Structure

Founded: 1984
Ownership: JPMorgan Chase & Co.
Type of Firm: Publicly Owned
Insurance: Yes
In compliance with SEC and DOL: Yes
Registered Investment Advisor: Yes

Contact: Gerard Fancovic

Phone: (415) 315-7526

Email: gerard.r.fancovic@jpmorgan.com

Key Professionals

Paul Bateman - Chairman

Joined Investment

Firm Experience
1967 1967

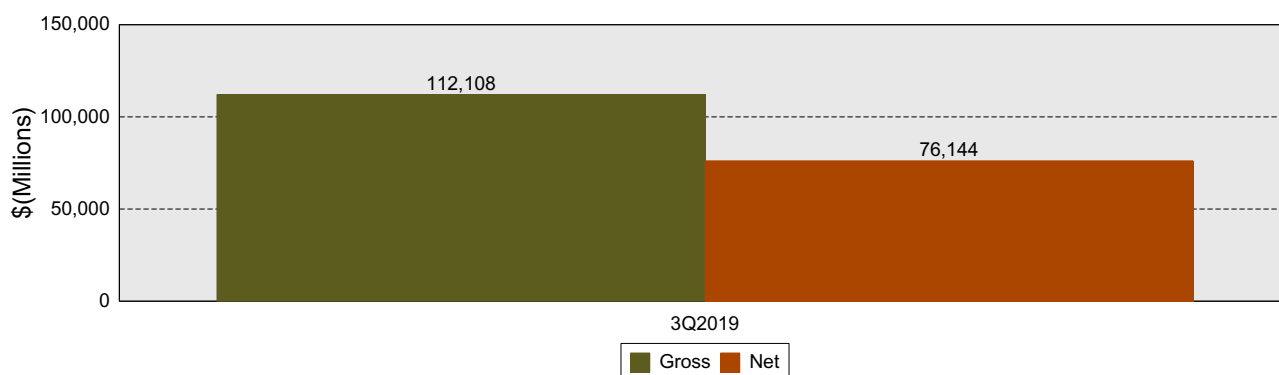
Employee Structure

Central Research Analyst	330
Operations	762
Other	2860
Portfolio Manager	494
Real Estate	301
System/Information Technology	1466
Trader	67
Total	6280

Gross Real Estate Assets by Client Type

	Number of Accounts	Assets (\$mm)
Corporate	34	23,889
Public (Government)	224	28,436
Foundation/Endowment	30	553
Union/Multi-Employer	7	291
Health Care	4	347
Insurance	55	2,630
High Net Worth	510	473
Sovereign Wealth Funds	15	4,274
Sub-Advised	1	24
Other	473	7,648
Total Accounts	1353	68,566

Total Firm Real Estate Assets



Real Estate Account Information

Strategy	Discretionary Separate Account			Non-Discretionary Separate Account		
	Number of Accounts	Gross Asset Value (\$mm)	Net Asset Value (\$mm)	Number of Accounts	Gross Asset Value (\$mm)	Net Asset Value (\$mm)
Core	1	43	17	15	7,027	4,300
Infrastructure	14	1,744	1,687			
Opportunistic	2	70	33			
Real Estate Debt	2	120	120	1	568	568
Value Added	4	923	462	8	7,022	5,024
Total	23	2,901	2,319	24	14,617	9,892

Strategy	Commingled Closed End			Commingled Open End		
	Number of Accounts	Gross Asset Value (\$mm)	Net Asset Value (\$mm)	Number of Accounts	Gross Asset Value (\$mm)	Net Asset Value (\$mm)
Core				535	48,043	35,586
Infrastructure				316	25,630	12,205
Opportunistic	92	2,778	1,362			
Real Estate Securities				140	10,709	10,709
Value Added				159	7,430	4,070
Total	92	2,778	1,362	1150	91,812	62,570

J.P. Morgan Asset Management Infrastructure Equity As of September 30, 2019

Key Professionals

	Title	Year Started in Industry	Year Started With Firm
Paul Ryan	Portfolio Manager	1987	2002
Hai-Gi Li	Portfolio Manager	1990	1999
Brian Goodwin	Portfolio Manager	1992	2000
Mark A. Walters	Portfolio Manager	2000	2009
Robert Hardy	Portfolio Manager	1998	2010

Fund Overview

Inception Date:	July, 2007
Fund Structure:	3c7
Total Fund Assets - Gross:	\$25,744 million
Total Fund Assets - Net:	\$12,028 million
Current Leverage:	53.00%
Entry/Exit Queue (\$mm):	\$4,078 / \$102
Cash:	
# of Institutional Investors:	574

Investment Strategy

IIF was launched in 2006 and is an open-ended investment vehicle offering investors a moderate-risk approach to infrastructure investing that is diversified both geographically and by sub-sector. The Fund seeks to invest in a broad range of infrastructure and infrastructure-related assets located primarily in the US, Canada, Western Europe and Australia, and secondarily in other OECD countries. These assets may include, without limitation: Toll roads, parking garages, bridges and tunnels, oil and gas pipelines, electricity transmission and distribution assets, contracted power generation assets, communications assets, water distribution and wastewater collection and processing assets, railway lines and rapid rail links, seaports, airports, The Fund focuses on core/core-plus infrastructure assets, but it has the flexibility to invest in value-added assets over time.

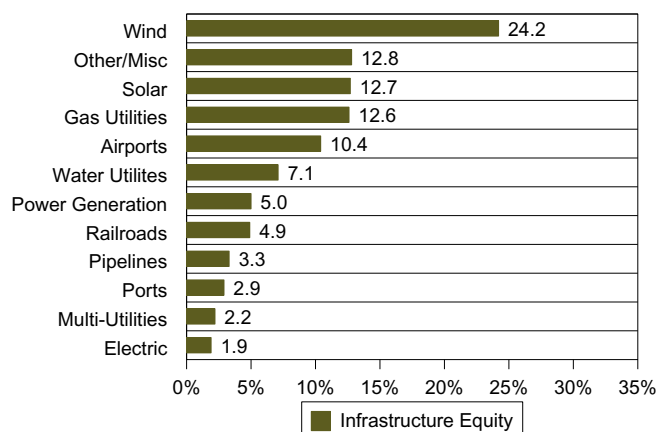
Portfolio Manager Paul Ryan

% Dedication 100%

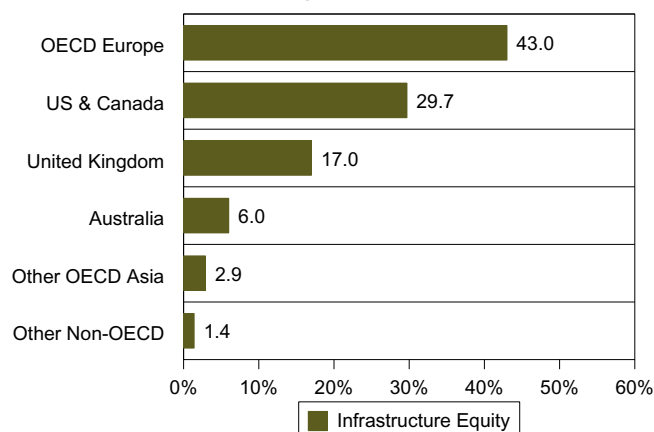
Responsibilities Mr. Ryan is the CEO and Portfolio Manager of the OECD Infrastructure Equity and Debt strategies, and serves on the boards of Southern Water Services, Electricity North West, North Queensland Airports and Noatum Ports. He is also a member of the Investment Committee.

Prior Experience Prior to his current role, Mr. Ryan was the co-head of Public Finance Banking at J.P. Morgan with primary coverage for transport and energy infrastructure. In that role, Mr. Ryan structured and financed many of the largest deals in the infrastructure sector. Earlier in his career, Mr. Ryan ran Equity Capital Markets for JPMorgan in Australia, with a strong focus on the real estate and infrastructure sectors.

Infrastructure Diversification



Regional Diversification



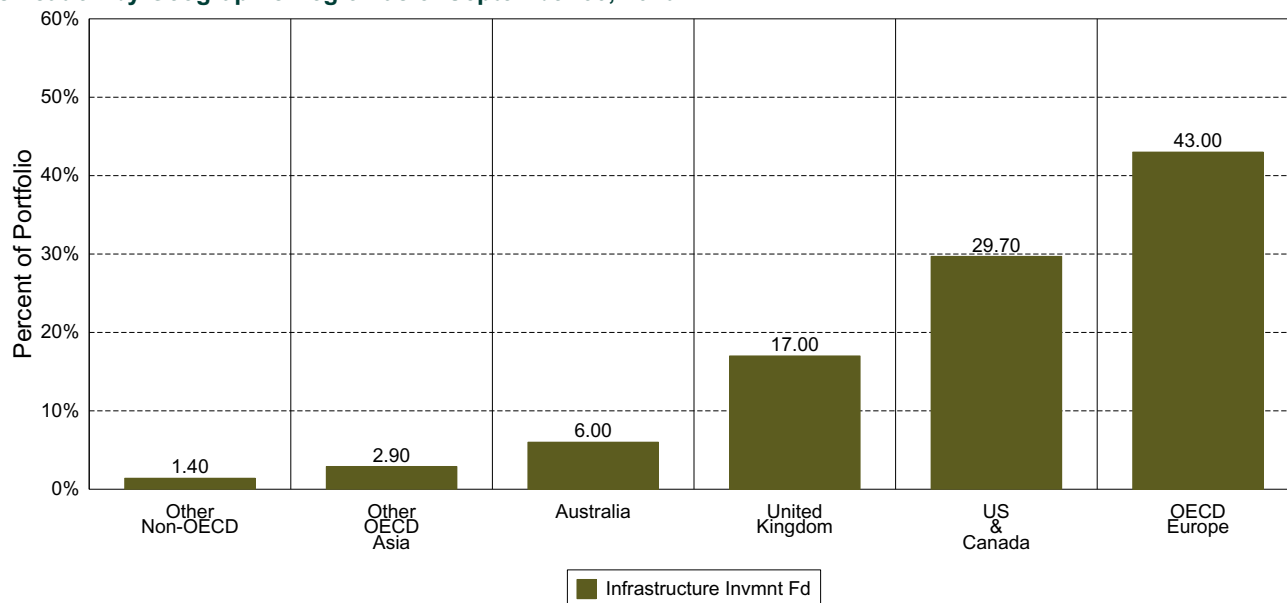
Infrastructure Invmnt Fd

Diversification Analysis as of September 30, 2019

Diversification Analysis

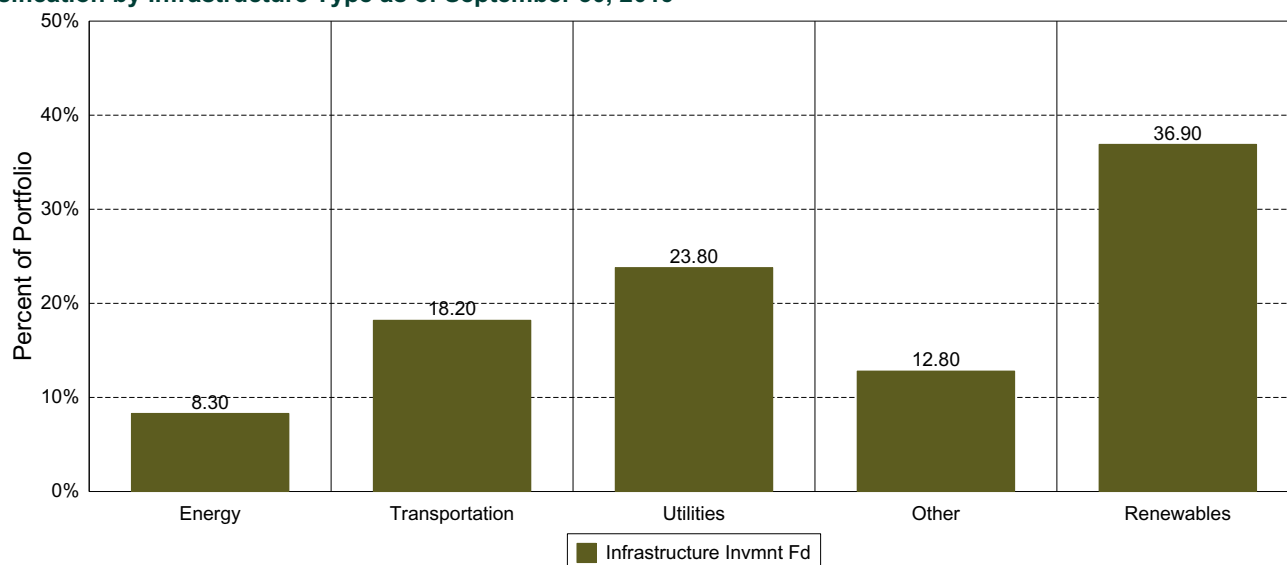
The following charts provide information on the diversification of the portfolio with regards to both Geographic Region and Infrastructure Type. Similar information is provided on the relevant market index for comparison.

Diversification by Geographic Region as of September 30, 2019



Infrastructure Invmnt Fd	1.40%	2.90%	6.00%	17.00%	29.70%	43.00%
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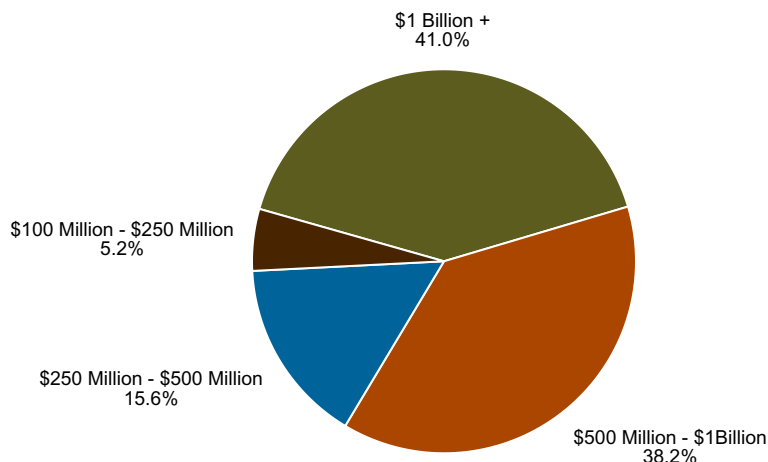
Diversification by Infrastructure Type as of September 30, 2019



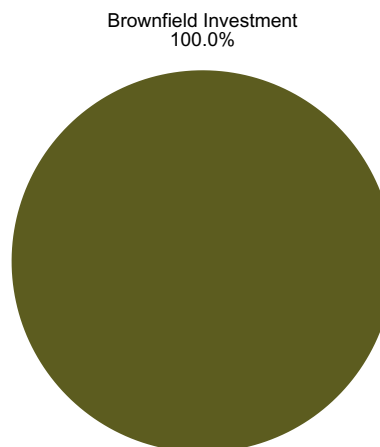
Infrastructure Invmnt Fd	8.30%	18.20%	23.80%	12.80%	36.90%
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J.P. Morgan Asset Management
Infrastructure Equity
As of September 30, 2019

Investment Size Diversification



Investment Stage Diversification



Terms

Minimum Investment:	10 \$(mm)
Sponsor Commitment:	4,967
Total Return Target:	8 - 12%
Income Return Target:	5- 7
Advisory Board:	Yes

Fees

Acquisition Fee:	N/A
Asset Management Fee:	4 Year Soft Lock - < USD 100mm:1.00%; USD 100mm to USD 300mm: 0.90%; USD 300mm and above: 0.80%
Disposition Fee:	N/A
Performance Fee:	Hurdle Return: 7% (with no catch-up); Incentive Fee: 15%; Cap: 13.5% net of fees and expenses
Other Fees:	N/A

Limitations

Cash:	N/A
Portfolio Leverage:	75% (maximum guideline)
Geography:	U.S., Canada, Western Europe, and other OECD
Other:	Max 20% in a single asset

Portfolio Characteristics

Average Investment Size:	689 \$(mm)
Average Age of Assets:	5 years
# of Investments:	19
Dividend Policy:	Quarterly
Redemption Policy:	Investors can submit redemption notices to the Fund on a semi-annual basis. 4 year soft lock.
Mark Debt to Market:	
Discount Rate:	

J.P. Morgan Asset Management
Infrastructure Equity
As of September 30, 2019

- As of September 30, 2019, the Fund had a \$4.1 billion contribution queue. J.P. Morgan expects to call new capital commitments in six to twelve months, although this may vary based on deal pace.^{^L}
- Investments: The Fund had 19 investments. The majority of the Funds investments are in the United States and Europe, with only 7% in Asia and Australia. A significant portion of the Funds investments are in renewables.^{^L}
- Leverage: The Fund uses leverage at the asset level. While there is no stated target leverage, the Fund approaches debt and liquidity management practices consistent with a core/core+ risk profile. The individual assets are typically levered at LTV ratios below or close to sector averages that are often investment grade rated (or the equivalent thereof). There is no^{^L}cross collateralization of debt between individual portfolio companies. The Fund has also secured a USD 1.5bn revolving line of credit.
- Redemption Policy: The Fund has a four-year lockup. After which, redemption dates occur two times a year on March 31 and September 30. For the March 31 redemption date, notices must be received between November 15 and December 31 of the previous year. Redemption requests for the September 30 date must be received between May 15 and June 30 of the same year.
- Dividend Policy: Expected to be quarterly based on available cashflow.
- Hedging Policy: The Fund is denominated in USD and was initially offered as an unhedged vehicle - whereby the Manager does not hedge currencies, other than certain high value cash flows such as initial investments or larger distributions. In 2019, the Manager offered a USD-hedged feeder based on investor demand.
- Appraisal Policy: The Funds assets will be valued externally on a quarterly basis, and the current Fair Market Value of the assets will be determined by a third party appraiser at least once per year on a rolling cycle. The Fund has typically used KPMG, Deloitte & Touche and Ernst & Young as independent appraisers, with PwC providing year-end audits on a fair market value basis. Internal valuations will utilize best practices in the industry for its valuation methodologies and will incorporate all relevant US GAAP valuation guidelines, particularly Accounting Standards Codification (ASC) 820, (formerly SFAS 157), and other U.S. GAAP valuation standards. JP Morgan has a Director of Valuations who is responsible for implementing the valuation policy by selecting independent valuation firms and signing off on all internal and external valuations, as well as periodically reviewing and updating the policy.
- Allocation Policy: IIF is the sole infrastructure investment vehicle managed by J.P Morgan.
- ESG: J.P. Morgan is a signatory of the UN Principles of Responsible Investment and incorporates ESG practices into the investment strategy of the Fund. Each Investment Committee memo and related board papers to consider an investment opportunity contain a specific section dedicated to ESG considerations, including identification of risks and mitigating factors related thereto.
- The Fund has an Investor Advisory Committee that annually provides an update on the Funds investments and performance, as well as an overview of current investment opportunities available to the Fund. Investors with commitments over \$100 million are eligible to serve in the IAC.

Q3 2019		
Fund Name	IFM Global Infrastructure Fund	Infrastructure Investments Fund
ORGANIZATION		
Parent Company	IFM Investors	JPMorgan Chase & Co.
Assets Under Management (Gross and Net)	\$98 billion	\$1.7 trillion
VEHICLE		
Inception Date	12/2004	07/2007
Net Asset Value (\$mm)	\$23,746 million	\$ 25,744 million
Uninvested Commitments/Entry Queue (\$mm)	\$5,550 million	\$12,028 million
Est. time before new commitments called	12-18 months	6-12 months
Leverage Percentage	31.1% (average gearing D/EV)	53.0%
Number of Institutional Investors	335	574
Minimum Initial Contribution (\$mm)	\$10 million	\$10 million
Portfolio Manager	Kyle Mangini	Paul Ryan
Start Year with Fund	2007	2007
Years of Infrastructure Experience	28	12 years
Advisory Board	Yes	Yes
Total Return Target	10% pa net, range of 8%-12% pa	8-12 % net
Income Return Target	No formal target, expect 6-8%	5 - 7% cash yield (income & ROC)
Redemption Policy	<ul style="list-style-type: none"> Quarterly, best efforts within 36 months of request Investor meeting on approach, if after 36 months there are redemptions still outstanding If >10% of the fund is subject to redemption requests, notice will be given to all investors and all redemption requests will rank equally. If >25% of the fund is subject to redemption requests, there will be a meeting of all investors to agree on an orderly process. 	4 year soft lock. Redemption dates on March 31 and September 30. For the March 31 redemption date, notices must be received between November 15 and December 31 of the previous year. Redemption requests for the September 30 date must be received between May 15 and June 30 of the same year.
Dividend Policy	Semi-annually but the level of cash yield and payment of distributions are not guaranteed. A portion of the fund's cash yield is typically retained for liquidity purposes and the remainder is typically distributed to investors.	N/A
Appraisal Policy	Infrastructure investments are valued at the end of each quarter by independent valuation firms.	Fair Market Value of the assets will be determined by a third party appraiser at least once per year on a rolling cycle.
ASSET CHARACTERISTICS		
Number of Investments	16	19
Share of ownership (By # of Investments) - Note:ownership can be consolidated among Sponsor controlled entities (e.g. coinvest or other funds)	0-49% ownership (12), 50-99% (3), 100% ownership (1)	0-49% ownership (2), 50-99% ownership (9), 100% ownership (8)
Range of Equity Invested Per Invested (By % of Investments)	\$0-\$249 (0%), \$250-\$499 (6%), \$500-\$999 (17%), \$1,000 - Up (77%)	\$0-\$249 (5%), \$250-\$499 (16%), \$500-\$999 (38%), \$1,000 - Up (41%)
Investment stage (% of NAV)	Greenfield 9.0% of the fund's NAV	Vast majority existing assets (brownfield)
Average Investment Size (\$mm)	\$1,484 million	\$689 million
FEES		
Asset Management Fees (by fee break) All management fees are stated, p.a. and based on NAV	<ul style="list-style-type: none"> No fees on undrawn capital 0.77% for commitments <\$300 million 0.65% for commitments > or =\$300 million 	<ul style="list-style-type: none"> No fees on undrawn capital 1% for commitments < \$ 100mm 0.9% for commitments \$ 100mm to \$ 300mm 0.80% for commitments > \$ 300mm *See Fee Loss page for Proposed Fee Change
Performance Fees	<ul style="list-style-type: none"> 10% over 8% per annum 33.3% catch-up 50% held back each year to cover underperformance in subsequent year Paid annually 	<ul style="list-style-type: none"> 15% over 7% return hurdle No catch-up The incentive fee is capped at 13.5%
NOTES		
Fund Limitations	<ul style="list-style-type: none"> Max 50% in an individual sub-sector except social infrastructure, which has a max of 30% Max 25% in an individual investment Minimum US\$20 million total invested No investments will be made in pooled funds Focus on investment grade, long-term credit rated countries. 	Max Geography: N.America : 70%; Europe: 60% Canada: 25%; Aus, Asia: 25% Mexico, Chile: 20% <ul style="list-style-type: none"> No more than 20% in a single asset

Total Fee Load - Management and Performance Fees for Open End Infrastructure Funds			
Management Fee Detail ¹	IFM	JP Morgan	JP Morgan Proposed Fee Change ⁴
Management Fee on NAV	0.77%	1.00%	0.95%
Fee on Uncalled Capital	N/A	N/A	N/A
Performance Fee Detail			
Net Return Target	8-12%	8-12%	8-12%
Hurdle	8%	7%	7%
Performance Share	10% ²	15% ³	15% ³
Effective Fees (at Various Returns)			
5%	0.77%	1.00%	0.95%
8%	0.77%	1.01%	0.95%
10%	1.18%	1.30%	1.19%
12%	1.84%	1.55%	1.43%

Note

1. Management fee reflects a commitment of \$50M or less for all strategies.

2. 33.3% catch-up. 50% held back each year to cover underperformance in a subsequent year.

3. No catch up. JP Morgan gets 15% of performance fees in excess of the hurdle, up to 13.5% maximum of all excess performance.

4. The proposed fee schedule is subject to an election process that is expected to conclude February, 2020.

Comparative Manager Performance

Net of Fee Returns for Periods Ended September 30, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
IFM Global Infrastructure hedged (USD)	2.20	12.01	14.66	--	--	--
IFM Global Infrastructure hedged (AUD)	2.95	14.16	18.39	16.26	14.18	14.22
JPMAM:Infrastructure Invmt Fd	0.30	4.67	6.87	4.77	5.03	4.79
S&P:500	1.70	4.25	13.39	10.84	13.26	13.24
Blmbg:Aggregate	2.27	10.30	2.92	3.38	2.72	3.75
60% S&P / 40% BB BC Agg	1.93	7.09	9.33	7.97	9.10	9.62
NFI-ODCE VW (Net)	1.08	4.64	6.34	8.36	9.29	9.84

Net of Fee Returns for Periods Ended September 30, 2019

	3 Qtrs. 2019	2018	2017	2016	2015
IFM Global Infrastructure hedged (USD)	8.93	18.11	14.86	--	--
IFM Global Infrastructure hedged (AUD)	10.96	22.75	17.99	14.64	13.14
JPMAM:Infrastructure Invmt Fd	3.64	4.72	14.51	1.05	3.08
S&P:500	20.55	(4.38)	21.83	11.96	1.38
Blmbg:Aggregate	8.52	0.01	3.54	2.65	0.55
60% S&P / 40% BB BC Agg	15.72	(2.26)	14.26	8.21	1.20
NFI-ODCE VW (Net)	3.08	7.36	6.66	7.79	13.95

Comparative Manager Performance

Net of Fee Returns for 12 Quarter Rolling Periods 7 Years Ended September 30, 2019

	9/30/19	9/30/18	9/30/17	9/30/16	9/30/15
IFM Global Infrastructure hedged (USD)	14.66	--	--	--	--
IFM Global Infrastructure hedged (AUD)	18.39	18.09	13.93	11.08	10.41
JPMAM:Infrastructure Invmnt Fd	--	6.37	4.23	2.51	3.83
S&P:500	13.39	17.31	10.81	11.16	12.40
Blmbg:Aggregate	2.92	1.31	2.71	4.03	1.71
60% S&P / 40% BB BC Agg	9.33	10.74	7.60	8.36	8.14
NFI-ODCE VW (Net)	6.34	7.83	9.84	11.42	12.39

Net of Fee Returns for 12 Quarter Rolling Periods 7 Years Ended September 30, 2014

	9/30/14	9/30/13	9/30/12	9/30/11	9/30/10
IFM Global Infrastructure hedged (USD)	--	--	--	--	--
IFM Global Infrastructure hedged (AUD)	10.00	13.26	14.30	(0.47)	(0.88)
JPMAM:Infrastructure Invmnt Fd	6.76	6.86	4.23	(3.64)	(3.03)
S&P:500	22.99	16.27	13.20	1.23	(7.16)
Blmbg:Aggregate	2.43	2.86	6.19	7.97	7.42
60% S&P / 40% BB BC Agg	14.56	11.13	10.85	4.78	(0.83)
NFI-ODCE VW (Net)	11.27	13.17	11.13	(7.22)	(11.33)

Comparative Manager Performance

Income Net of Fee Returns for Periods Ended September 30, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
IFM Global Infrastructure hedged (USD)	0.00	0.60	11.99	--	--	--
IFM Global Infrastructure hedged (AUD)	1.55	1.97	11.03	8.31	7.31	5.06
JPMAM:Infrastructure Invmt Fd	--	--	--	--	--	--

Appreciation Returns for Periods Ended September 30, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
IFM Global Infrastructure hedged (USD)	1.18	11.25	13.37	--	--	--
IFM Global Infrastructure hedged (AUD)	1.53	11.50	15.67	13.66	11.05	10.58
JPMAM:Infrastructure Invmt Fd	--	--	--	--	--	--

List of Callan's Investment Manager Clients

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Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor and disclose potential conflicts on an on-going basis.

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please note that if an investment manager receives a product or service on a complimentary basis (e.g. attending an educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance Department.

Manager Name
Aberdeen Standard Investments
Acadian Asset Management LLC
AEGON USA Investment Management Inc.
Alcentra
AllianceBernstein
Allianz Global Investors
Allianz Life Insurance Company of North America
American Century Investments
Amundi Pioneer Asset Management
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Atlanta Capital Management Co., LLC
Aurelius Capital Management
Aviva Investors Americas
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
BlackRock
BMO Global Asset Management
BNP Paribas Asset Management
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
BrightSphere Investment Group
Brown Brothers Harriman & Company
Cambiar Investors, LLC
Capital Group
Carillon Tower Advisers
CastleArk Management, LLC
Causeway Capital Management LLC
Chartwell Investment Partners

Manager Name
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.
Columbia Threadneedle Investments
Columbus Circle Investors
Corbin Capital Partners, L.P.
Cooke & Bieler, L.P.
Credit Suisse Asset Management
DePrince, Race & Zollo, Inc.
Diamond Hill Capital Management, Inc.
Dimensional Fund Advisors LP
Doubleline
Duff & Phelps Investment Management Co.
DWS
EARNEST Partners, LLC
Eaton Vance Management
Epoch Investment Partners, Inc.
Fayez Sarofim & Company
Federated Investors
Fidelity Institutional Asset Management
Fiera Capital Corporation
Financial Engines
First Hawaiian Bank Wealth Management Division
First State Investments
Fisher Investments
Franklin Templeton
Fred Alger Management, Inc.
GAM (USA) Inc.
Glenmeade Investment Management, LP
GlobeFlex Capital, L.P.
Goldman Sachs
Green Square Capital Advisors, LLC
Guggenheim Investments
GW&K Investment Management
Harbor Capital Group Trust
Hartford Investment Management Co.

Manager Name
Heitman LLC
Hotchkis & Wiley Capital Management, LLC
HSBC Global Asset Management
Income Research + Management, Inc.
Insight Investment Management Limited
Intech Investment Management, LLC
Intercontinental Real Estate Corporation
Invesco
Investec Asset Management North America, Inc.
Ivy Investments
J.P. Morgan
Janus
Jarislowsky Fraser Global Investment Management
Jennison Associates LLC
Jobs Peak Advisors
KeyCorp
Lazard Asset Management
Legal & General Investment Management America
Lincoln National Corporation
LMCG Investments, LLC
Logan Circle Partners, L.P.
Longview Partners
Loomis, Sayles & Company, L.P.
Lord Abbett & Company
Los Angeles Capital Management
LSV Asset Management
Mackay Shields LLC
Macquarie Investment Management (MIM)
Manulife Investment Management
Marathon Asset Management, L.P.
McKinley Capital Management, LLC
Mellon
MFS Investment Management
MidFirst Bank
Mondrian Investment Partners Limited
Montag & Caldwell, LLC
Morgan Stanley Investment Management
Mountain Lake Investment Management LLC
Mountain Pacific Advisors, LLC
MUFG Union Bank, N.A.
Natixis Investment Managers
Neuberger Berman
Newton Investment Management
Nikko Asset Management Co., Ltd.
Northern Trust Asset Management
Nuveen
OFI Global Asset Management

Manager Name
Osterweis Capital Management, LLC
P/E Investments
Pacific Investment Management Company
Pathway Capital Management
Peregrine Capital Management, LLC.
Perkins Investment Management
PGIM Fixed Income
PineBridge Investments
PNC Capital Advisors, LLC
Polen Capital Management
Principal Global Investors
Putnam Investments, LLC
QMA LLC
RBC Global Asset Management
Regions Financial Corporation
Robeco Institutional Asset Management, US Inc.
Rockefeller Capital Management
Rothschild & Co. Asset Management US
Russell Investments
Schroder Investment Management North America Inc.
Smith Graham & Co. Investment Advisors, L.P.
South Texas Money Management, Ltd.
State Street Global Advisors
Strategic Global Advisors
Stone Harbor Investment Partners, L.P.
Sun Life Investment Management
T. Rowe Price Associates, Inc.
The TCW Group, Inc.
Thompson, Siegel & Walmsley LLC
Thornburg Investment Management, Inc.
Tri-Star Trust Bank
UBS Asset Management
VanEck
Versus Capital Group
Victory Capital Management Inc.
Virtus Investment Partners, Inc.
Vontobel Asset Management, Inc.
Voya
WCM Investment Management
WEDGE Capital Management
Wellington Management Company, LLP
Wells Fargo Asset Management
Western Asset Management Company LLC
Westfield Capital Management Company, LP
William Blair & Company LLC