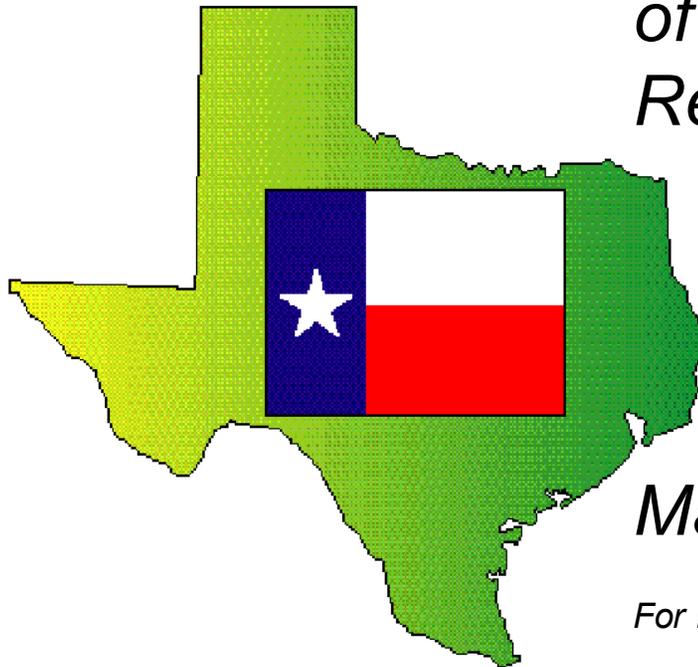




TEXPERS Office Locations

Austin, TX: 1504 San Antonio St., Austin, TX 78701 713-622-8018	Houston, TX: 13111 Northwest Freeway, Suite 100, Houston, TX 77040 713-622-8018
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*The Texas Association
of Public Employee
Retirement Systems*



May 2021

For Periods Ending September 30, 2020

Key Findings

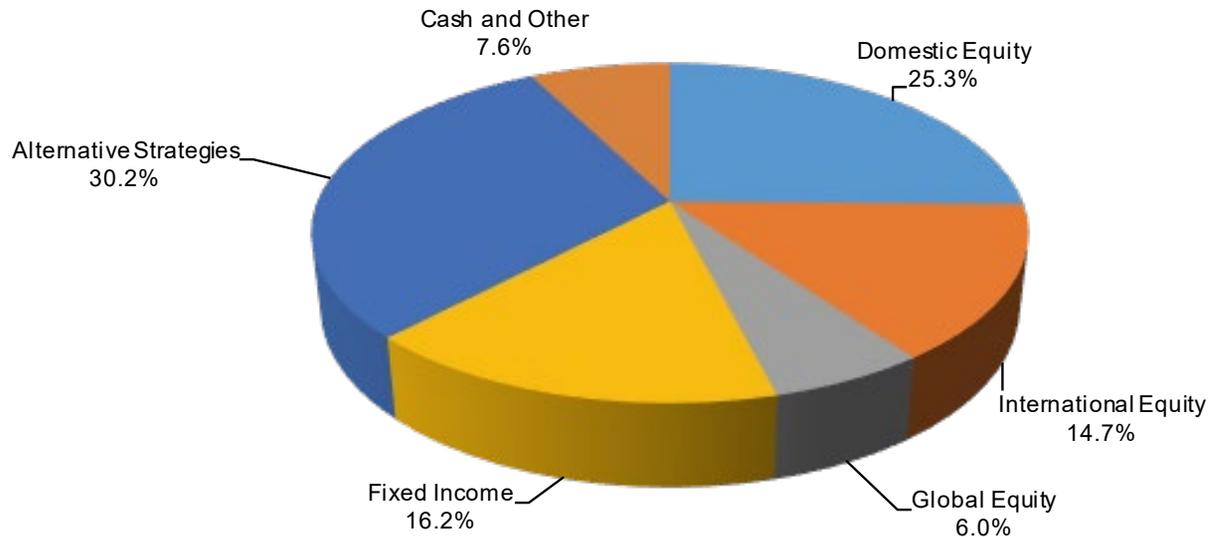
Forty-two participating members contributed data for the fiscal year 2020 Asset Allocation and Investment Performance of Texas Public Employee Retirement Systems, and represented approximately \$54.98 billion in total assets.

- Participating TEXPERS members' FY 2020 dollar-weighted asset allocation (for the fiscal year ending September 30, 2020) was: equities (domestic, international, and global), 45.99%; alternative strategies, 30.20%; fixed income, 16.22%; and short-term securities/cash/other, 7.59%. As Equities and alternatives have performed well relative to traditional fixed income over the last several years the TEXPERS plans have benefited with significant allocations to both areas.
- In terms of relative performance, TEXPERS members have on a weighted average basis performed in line with the current average actuarial target of 7.4% over the 5 and 10 year time horizons. The group's weighted average performance has also outperformed a global 60/40 benchmark over long-term periods (10, 15 & 20 years), but slightly underperformed the benchmark over shorter horizons (1, 3 & 5 years).
- The S&P 500 experienced a peak to trough decline of over 35% during March and April of 2020 in response to the Covid-19 pandemic. Despite that significant recent decline, TEXPERS programs averaged a positive one year return of 4.6% for the year ending September 30, 2020.

Weighted Average TEXPERS Asset Allocation

Figure 1

Market Value \$54.98 Billion
As of September 30, 2020

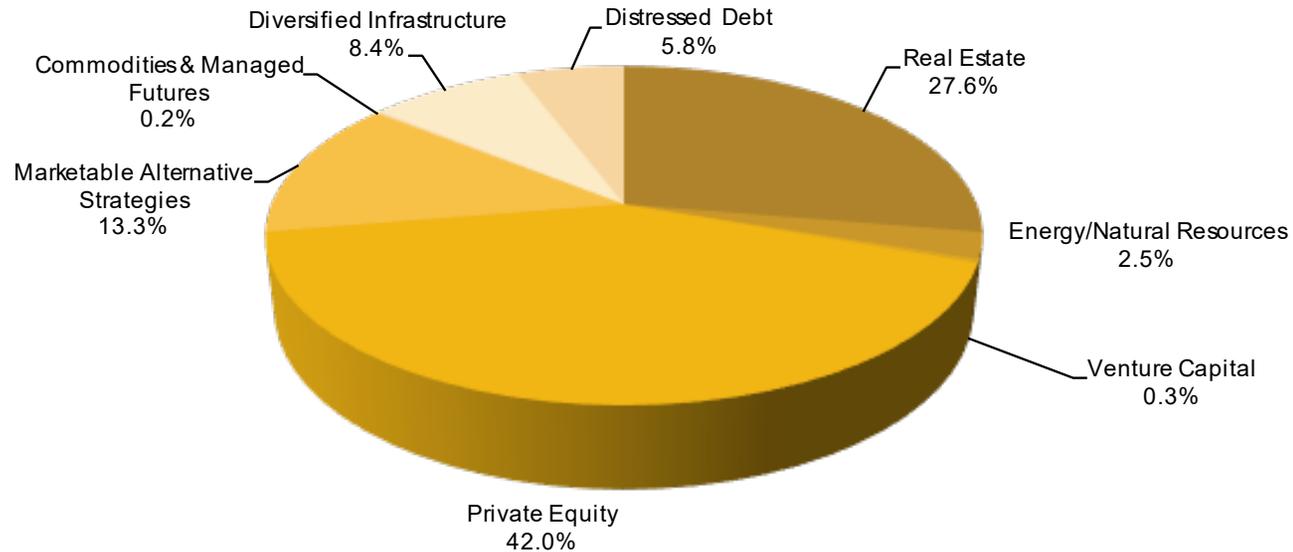


The asset allocation demonstrates that, in aggregate, the respondents have a level of diversification within the norm for public pension systems.

** Dollar-weighted means that individual responses are weighted according to size of the asset base when calculating the average results – meaning that responses from large participants have a greater impact on average results than those of smaller participants.*

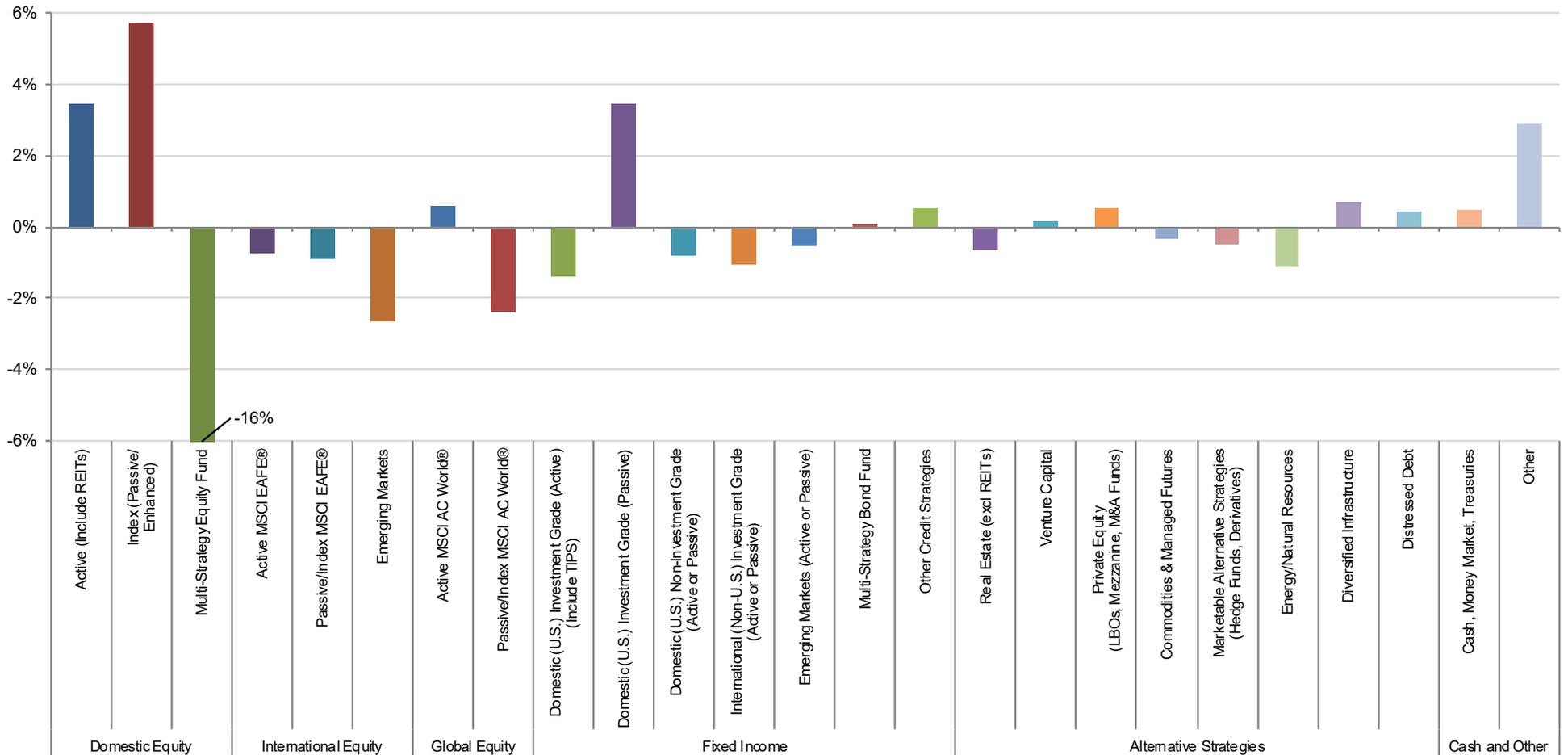
Weighted Average TEXPERS Allocation to Alternatives

Figure 2
Alternative Strategies Breakout

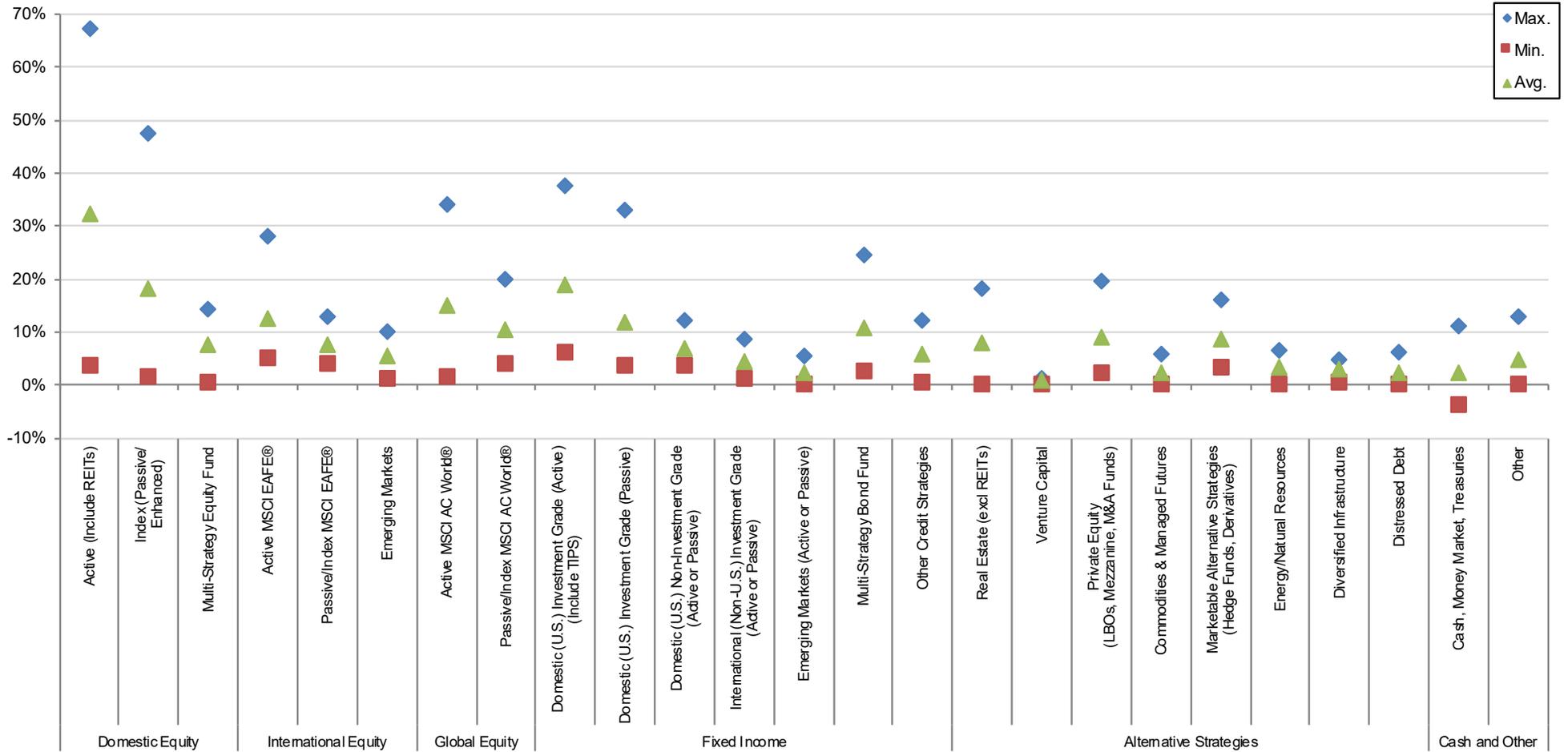


* Marketable Alternative Strategies include Hedge Funds, Absolute Return, Market Neutral, Long/Short, 130/30 Strategy, Event Driven and Derivatives

Variance of Average Asset Allocation: 2021 vs 2020



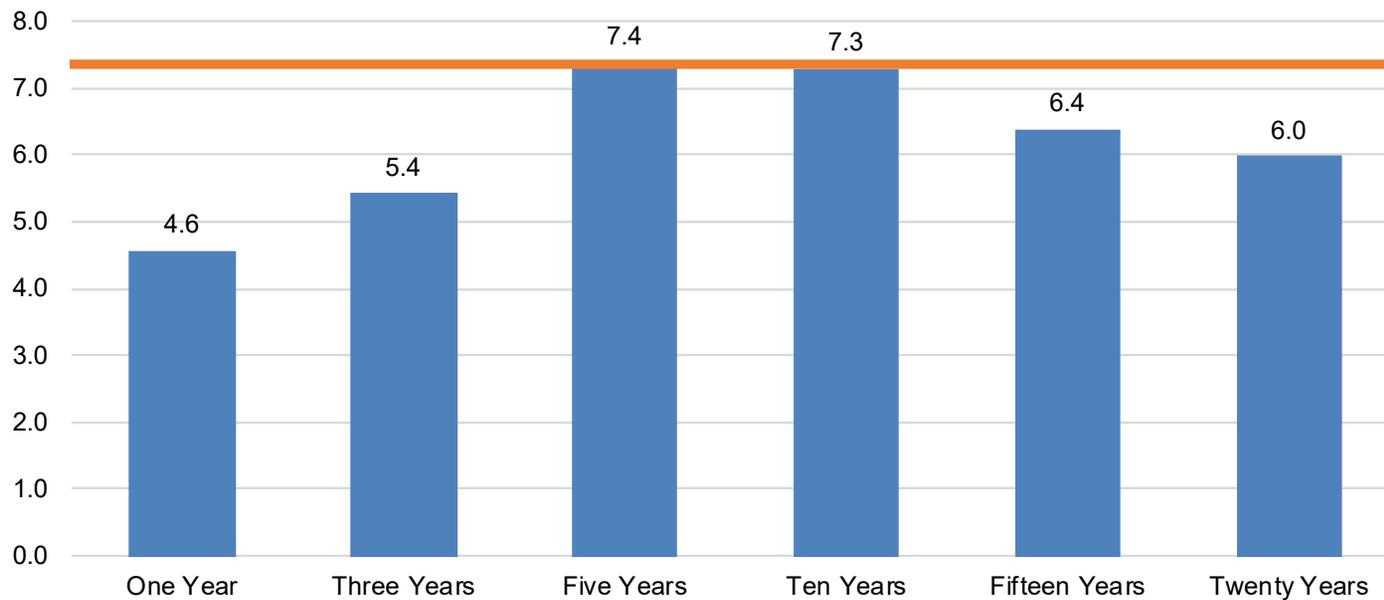
Allocation Dispersion



Investment Performance

Trailing Period Returns - Chart
Figure 3

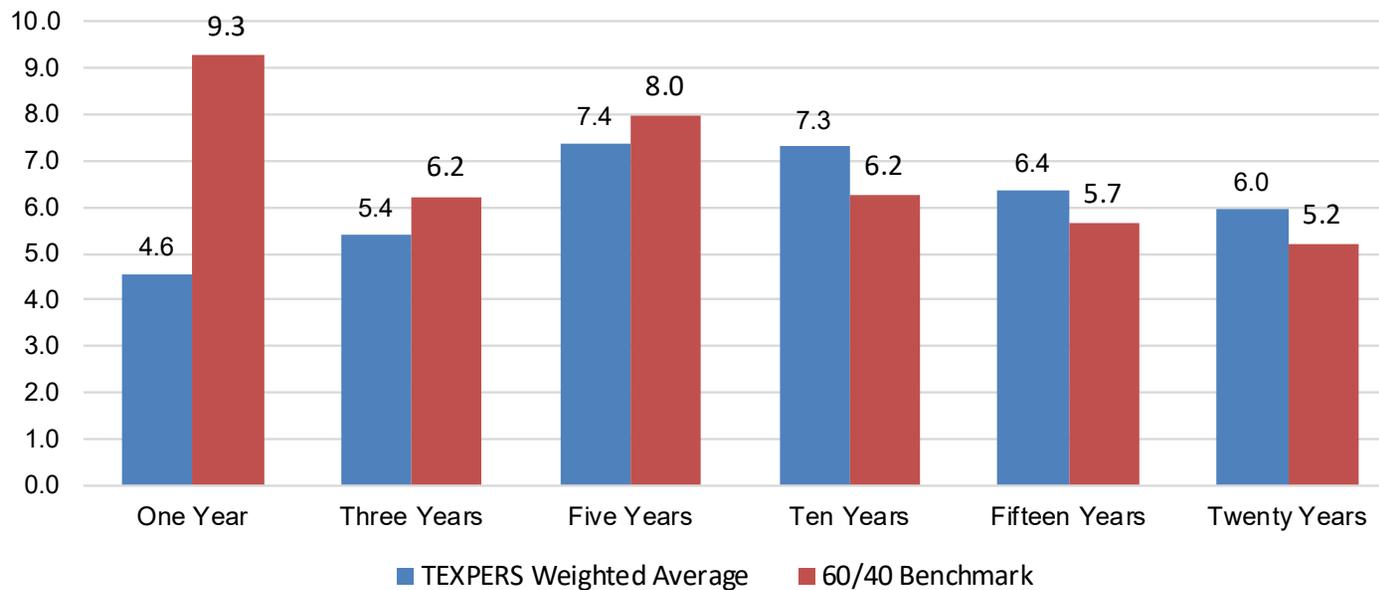
Returns vs. Average Actuarial Assumption*
For periods ending September 30, 2020



* This year's actuarial assumption of 7.4% is the average of what was reported among participating TEXPERS members.

Investment Performance

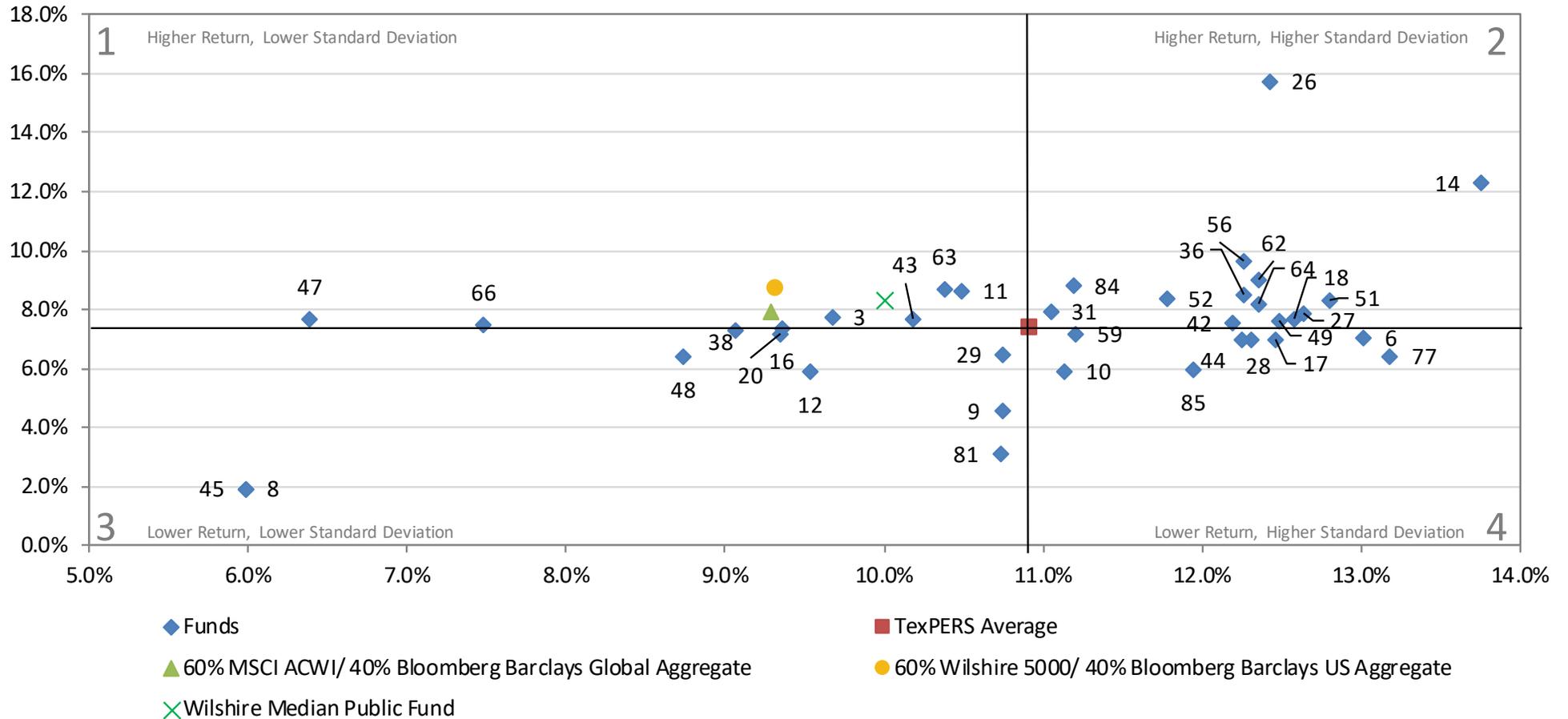
Annualized Returns for the Periods Ending 9/30/2020	One Year	Three Years	Five Years	Ten Years	Fifteen Years	Twenty Years
TEXPERS Weighted Average	4.6	5.4	7.4	7.3	6.4	6.0
60/40 Benchmark*	9.3	6.2	8.0	6.2	5.7	5.2



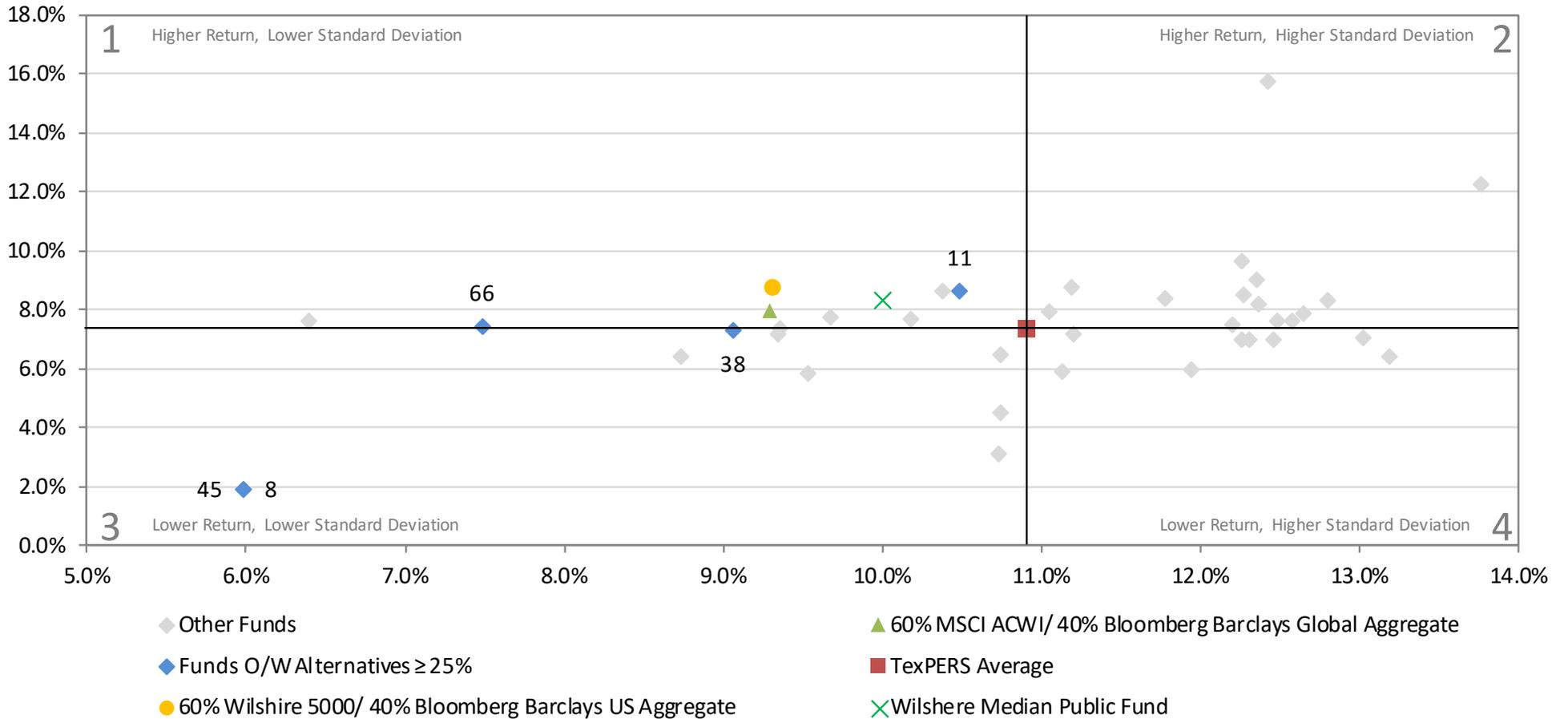
* 60% MSCI ACWI / 40% Bloomberg Barclays Global Aggregate

Quadrants by TEXPERS Average

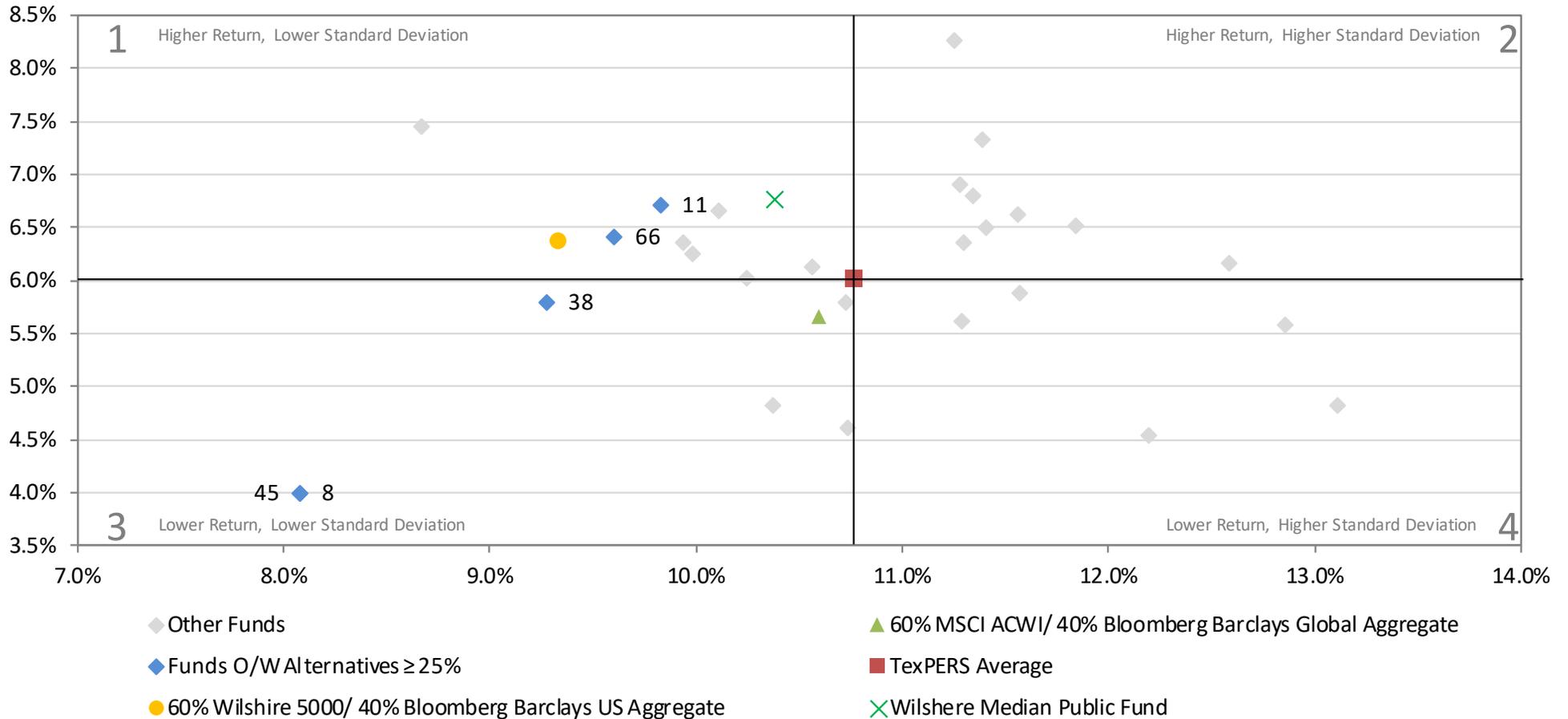
Risk vs Return: 5 Year Time Horizon



Risk vs Return: 5 Year Time Horizon



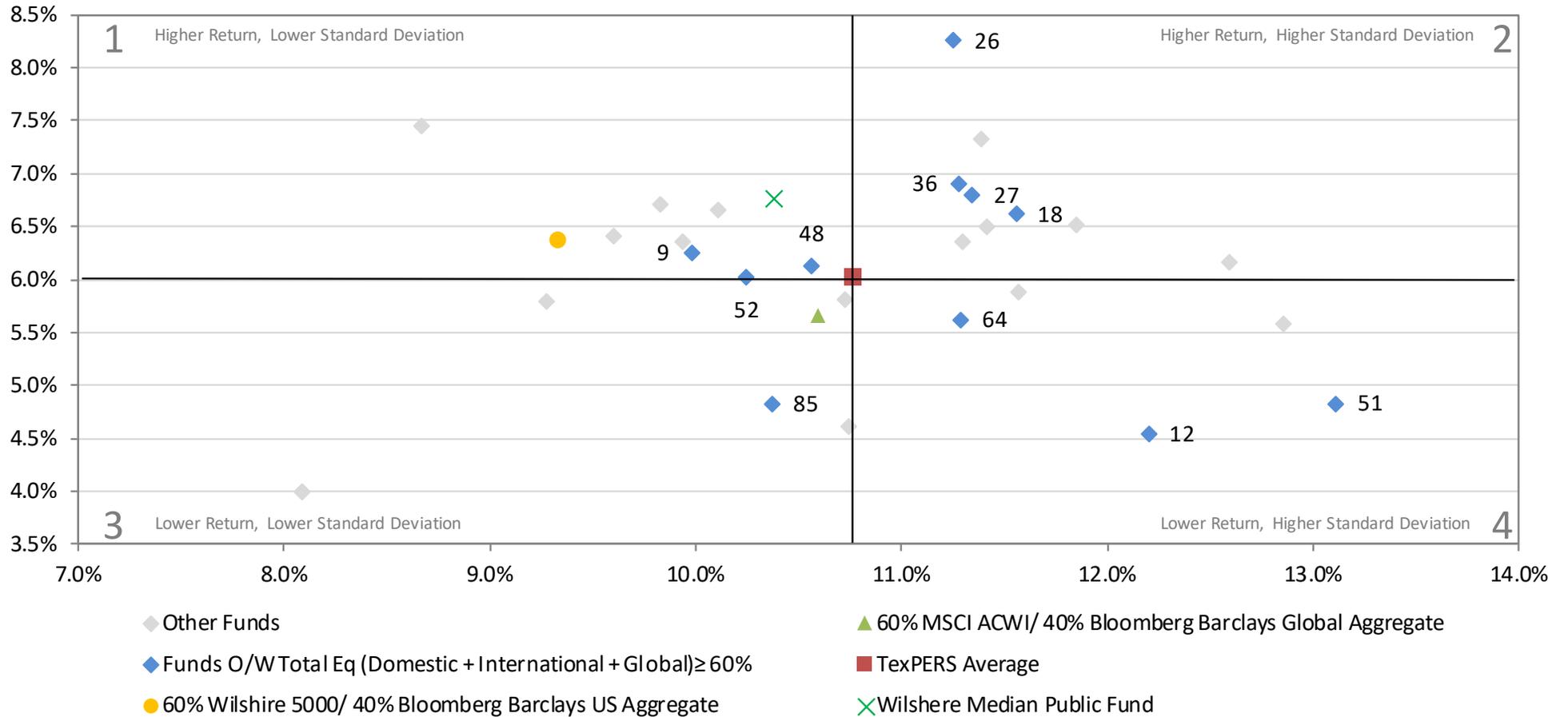
Risk vs Return: 15 Year Time Horizon



Quadrants by TEXPERS Average – Funds Overweight Equity ≥ 60%



Risk vs Return: 15 Year Time Horizon



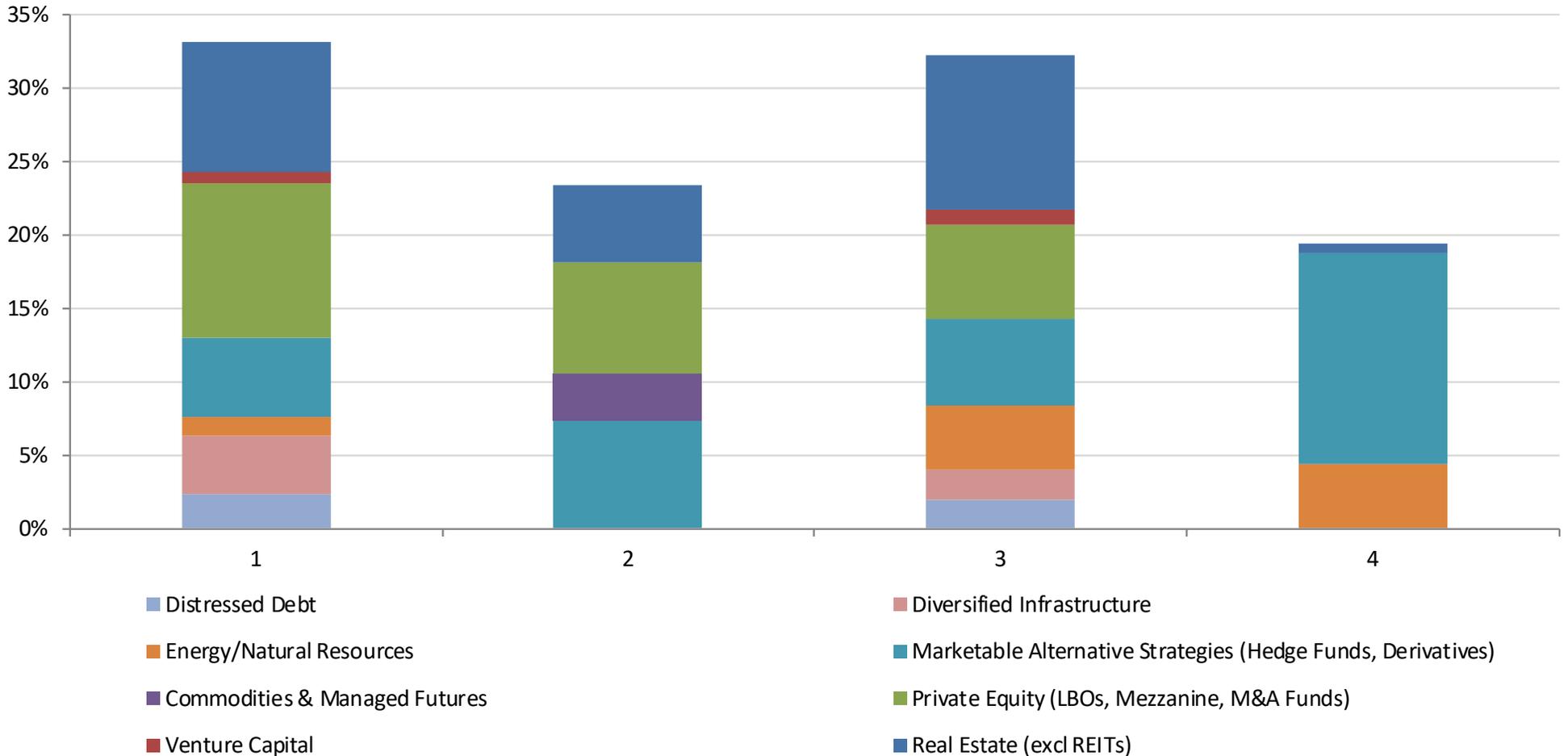
Average Asset Allocation Comparison

Asset	5 Year Quadrant			
	1	2	3	4
Domestic Equity	32.33%	47.57%	30.18%	46.15%
International Equity	11.08%	16.83%	12.90%	15.53%
Global Equity	11.12%	0.96%	7.84%	0.35%
Fixed Income	20.42%	25.25%	28.63%	25.92%
Alternative Strategies	22.90%	7.72%	17.48%	7.88%
Cash and Other	2.14%	1.67%	2.97%	4.18%

Detailed Average Asset Allocation Comparison

Asset	5 Year			
	1	2	3	4
Domestic Equity	32.33%	47.57%	30.18%	46.15%
International Equity	11.08%	16.83%	12.90%	15.53%
Global Equity	11.12%	0.96%	7.84%	0.35%
Fixed Income	20.42%	25.25%	28.63%	25.92%
Alternative Strategies	22.90%	7.72%	17.48%	7.88%
Real Estate (excl REITs)	8.91%	5.33%	10.48%	0.65%
Venture Capital	0.70%	-	0.99%	-
Private Equity (LBOs, Mezzanine, M&A Funds)	10.54%	7.61%	6.44%	-
Commodities & Managed Futures	-	3.15%	0.00%	-
Marketable Alternative Strategies (Hedge Funds, Derivatives)	5.37%	7.36%	5.95%	14.33%
Energy/Natural Resources	1.33%	-	4.33%	4.40%
Diversified Infrastructure	3.90%	-	2.04%	-
Distressed Debt	2.40%	-	2.00%	-
Cash and Other	2.14%	1.67%	2.97%	4.18%

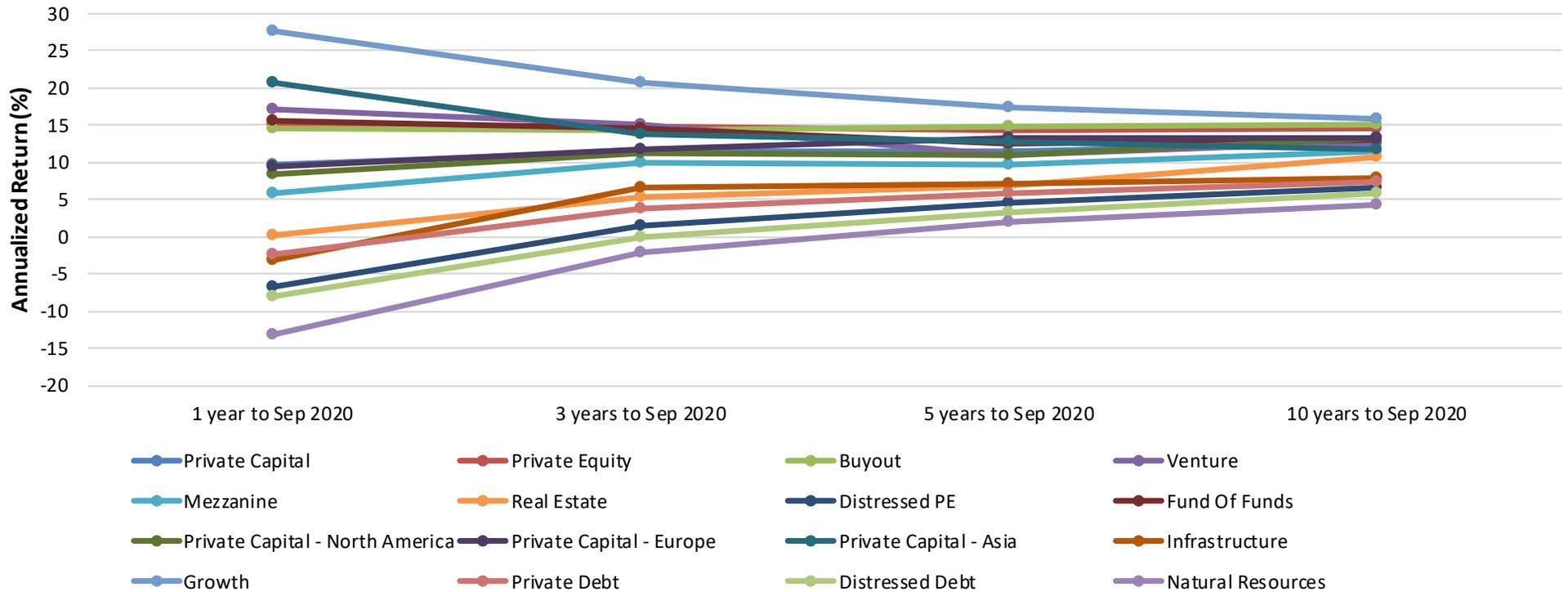
Comparison of Quadrants using Allocation to Alternatives



Private Equity Performance

With the strong performance of private equity, the decision by quadrant 1 plans to overweight private equity may be one contributor to the outperformance.

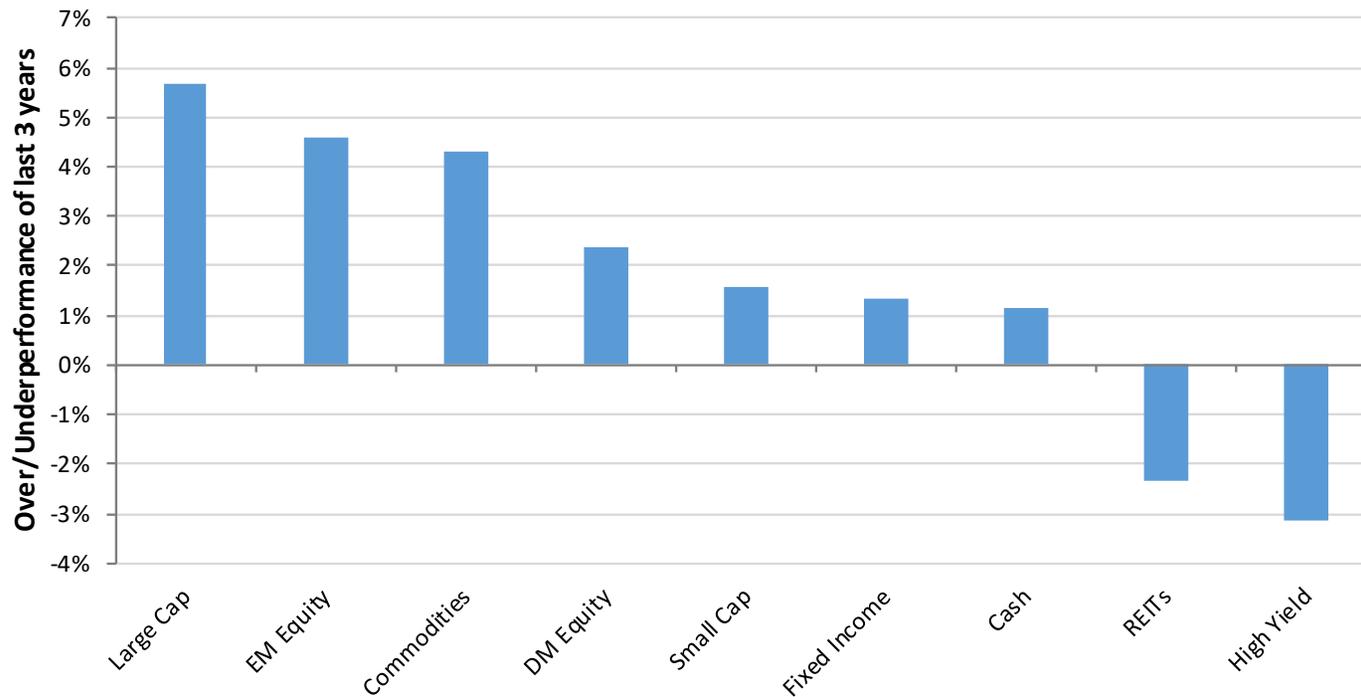
Horizon IRRs (as at Sep 2020)



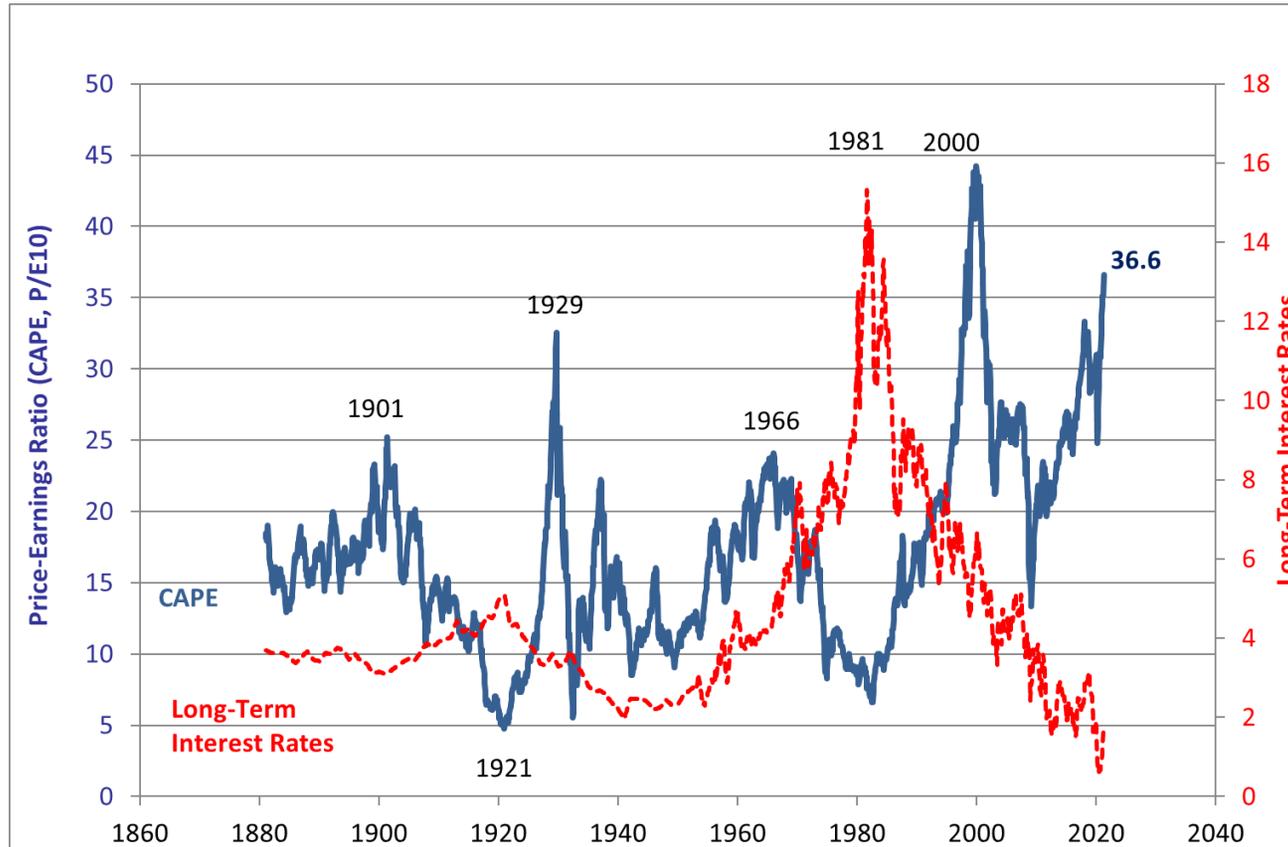
Source: Preqin

Asset Class Returns: Last 3 Years vs Previous 10 Years

The below chart shows the delta between the annualized asset class performance over the last 3 years (2018-2020) compared with the annualized asset class performance over the previous 10 years (2007-2017).



US Valuation Metrics



Source: <http://www.econ.yale.edu/~shiller/data.htm>

US Valuation Metrics

Valuations vs. 15-year median as of 31 December 2020

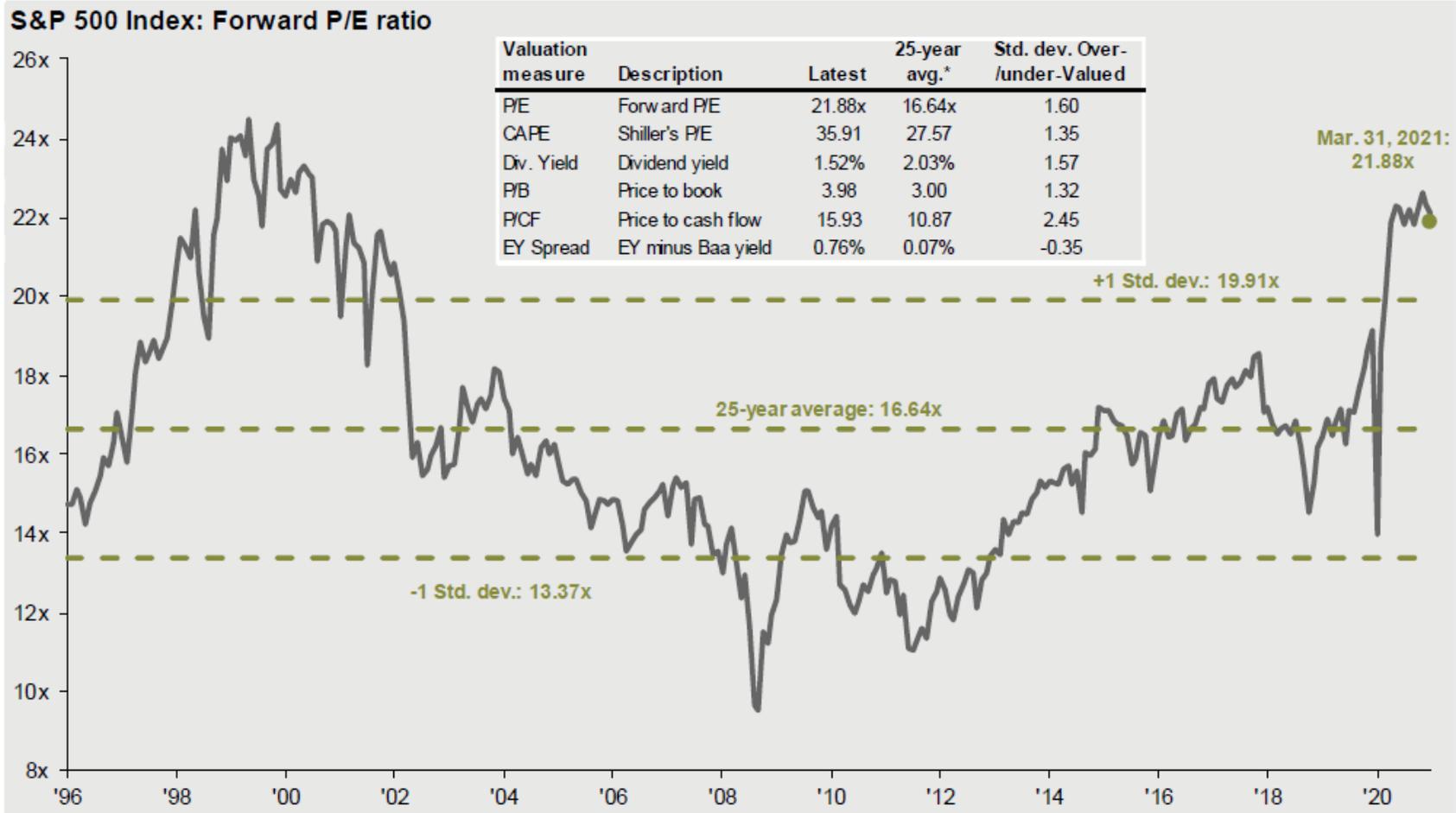
Equity market	CAPE	Forward P/E	Trailing P/E	P/B	Dividend yield
US	33 (23)	23 (15)	32 (19)	4.4 (2.8)	1.5 (2.0)
UK	13 (13)	14 (12)	18 (14)	1.6 (1.8)	3.3 (3.8)
Europe ex. UK	21 (16)	18 (13)	24 (16)	2.0 (1.7)	2.2 (3.2)
Japan	21 (23)	18 (14)	25 (16)	1.5 (1.3)	2.0 (2.0)
EM	16 (15)	15 (11)	22 (14)	2.0 (1.7)	2.0 (2.6)

Key: >20% 10-20% 0-10% 0-10% 10-20% +20%

Expensive Cheap

Source: Cazenove Capital

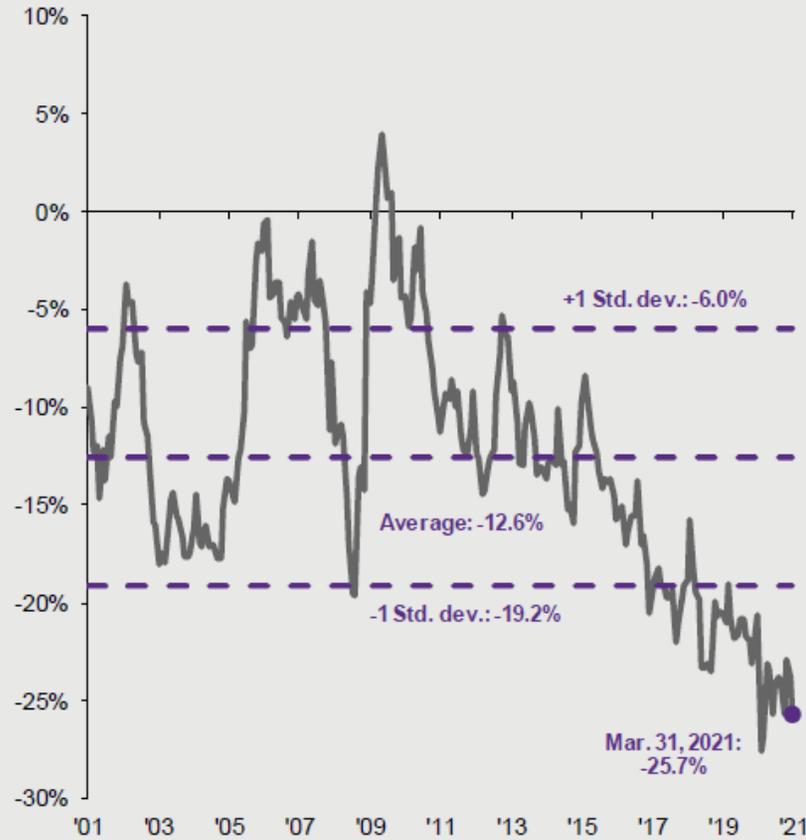
US Valuation Metrics



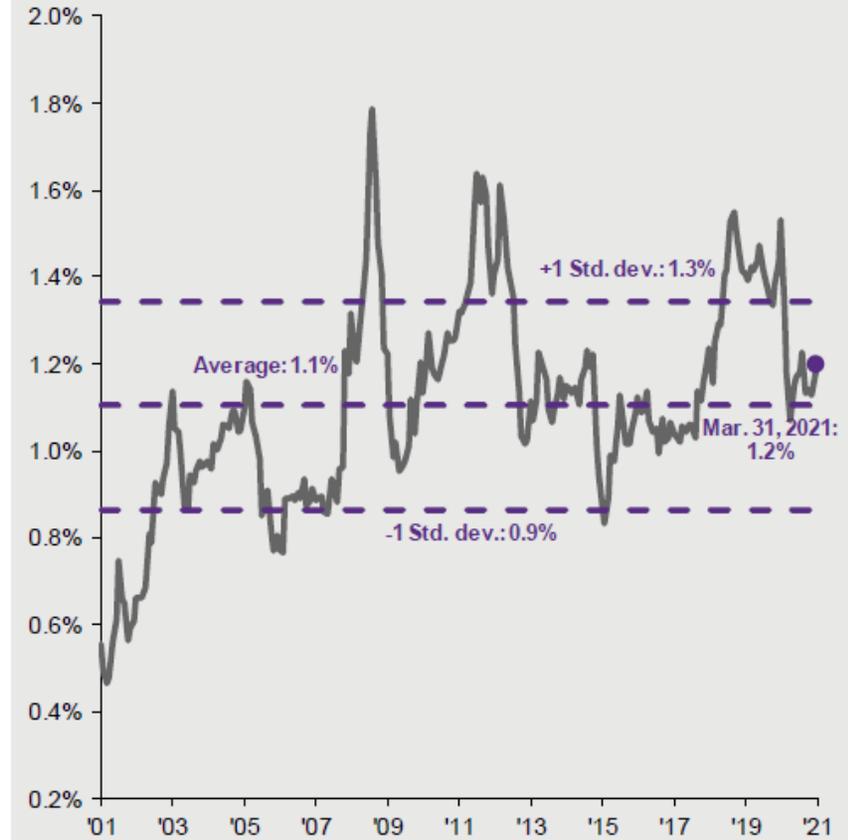
Source: JPMAM

US Valuation Metrics

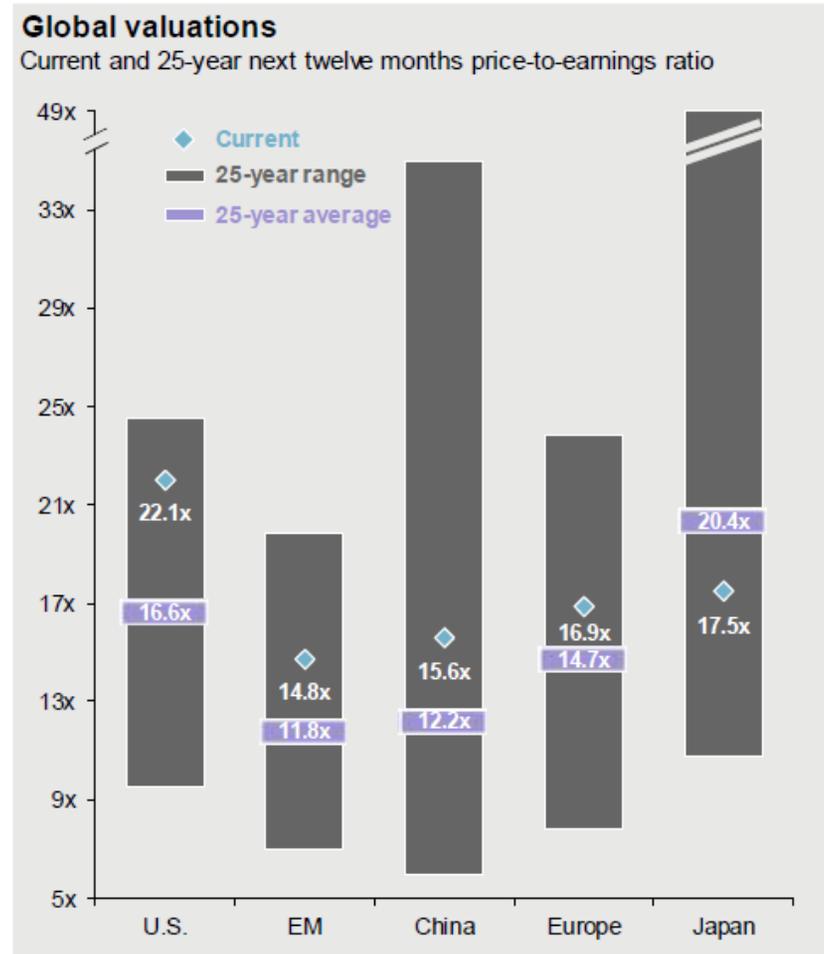
International: Price-to-earnings discount vs. U.S.
 MSCI AC World ex-U.S. vs. S&P 500 Indices, next 12 months



International: Difference in dividend yields vs. U.S.
 MSCI AC World ex-U.S. minus S&P 500 Indices, next 12 months

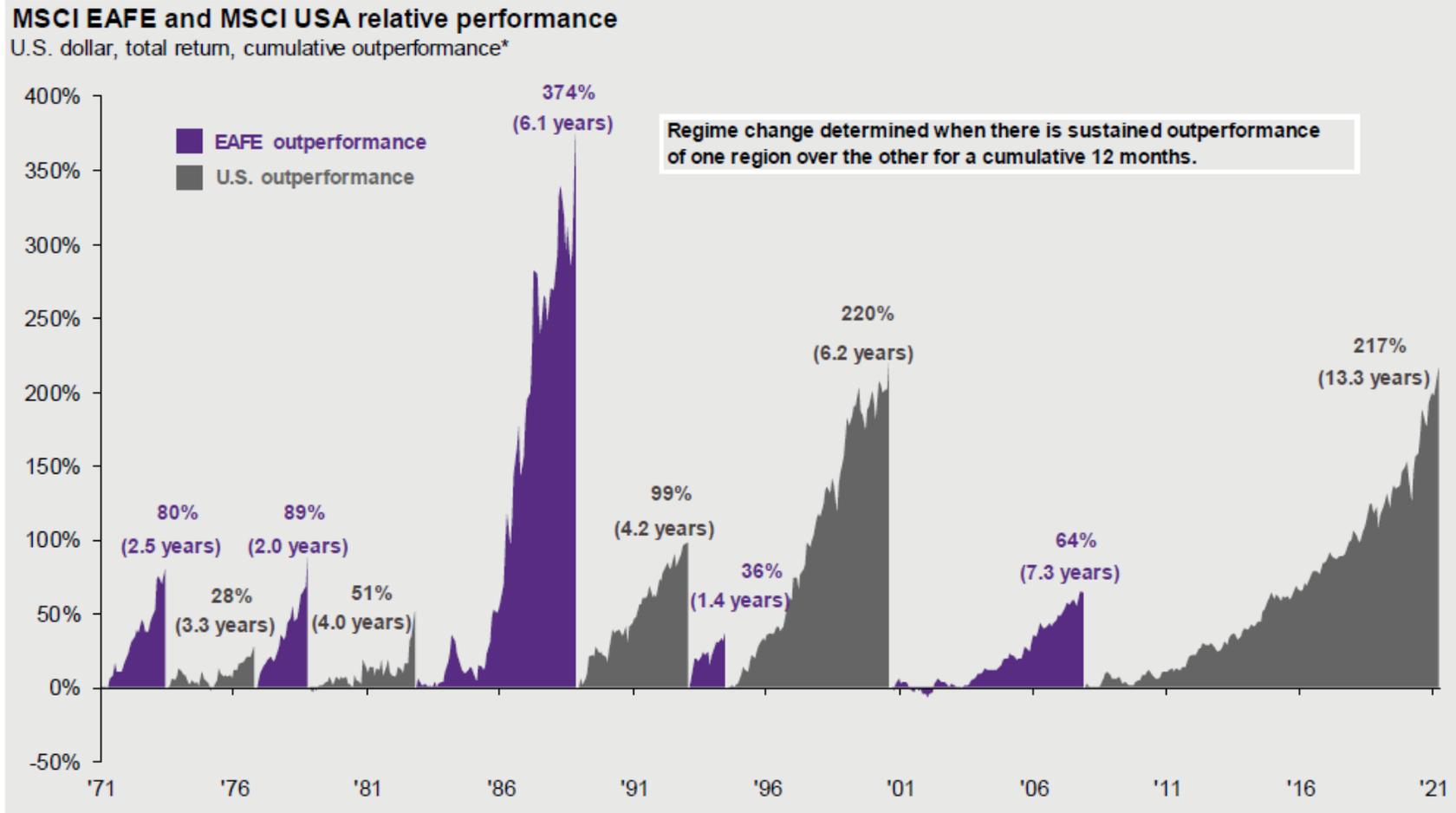


Source: JPMAM



Source: JPMAM

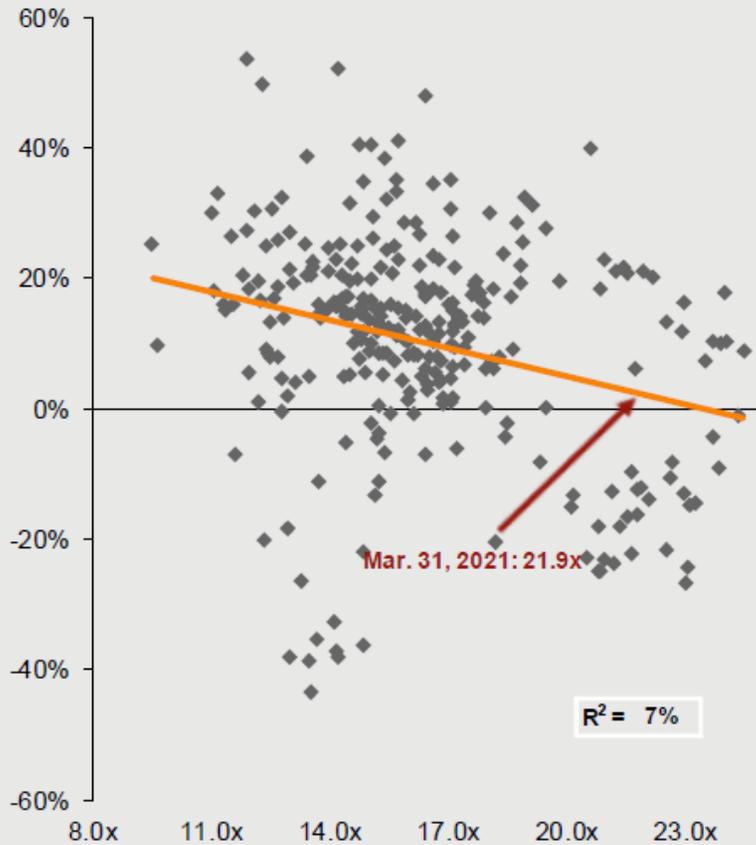
US Valuation Metrics



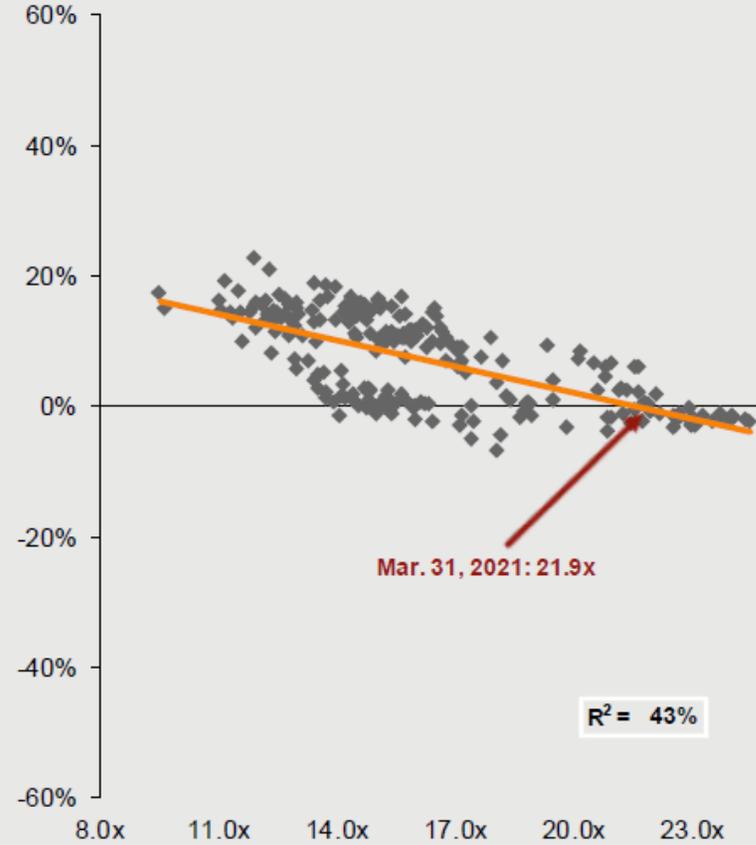
Source: JPMAM

US Valuation Metrics

Forward P/E and subsequent 1-yr. returns
S&P 500 Total Return Index

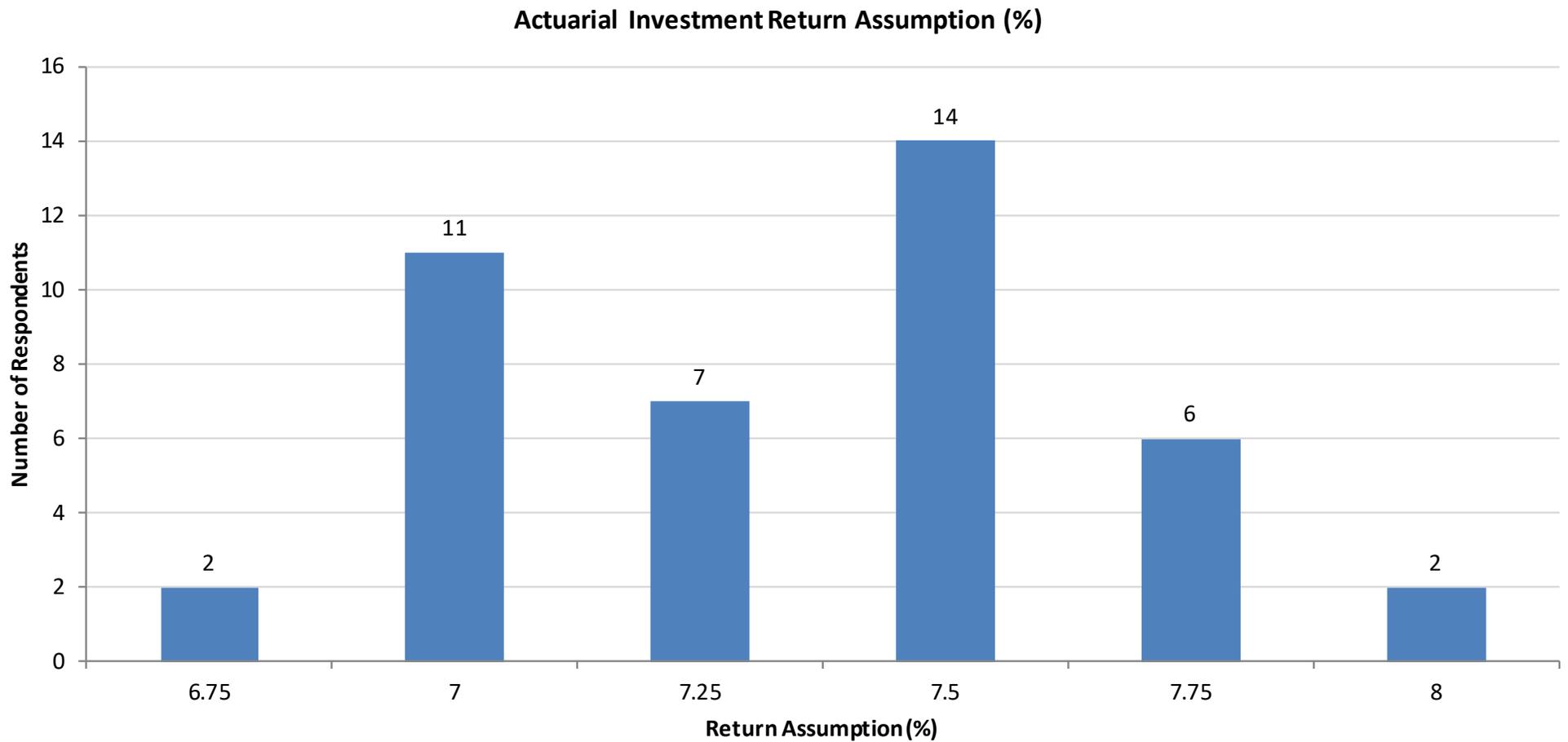


Forward P/E and subsequent 5-yr. annualized returns
S&P 500 Total Return Index

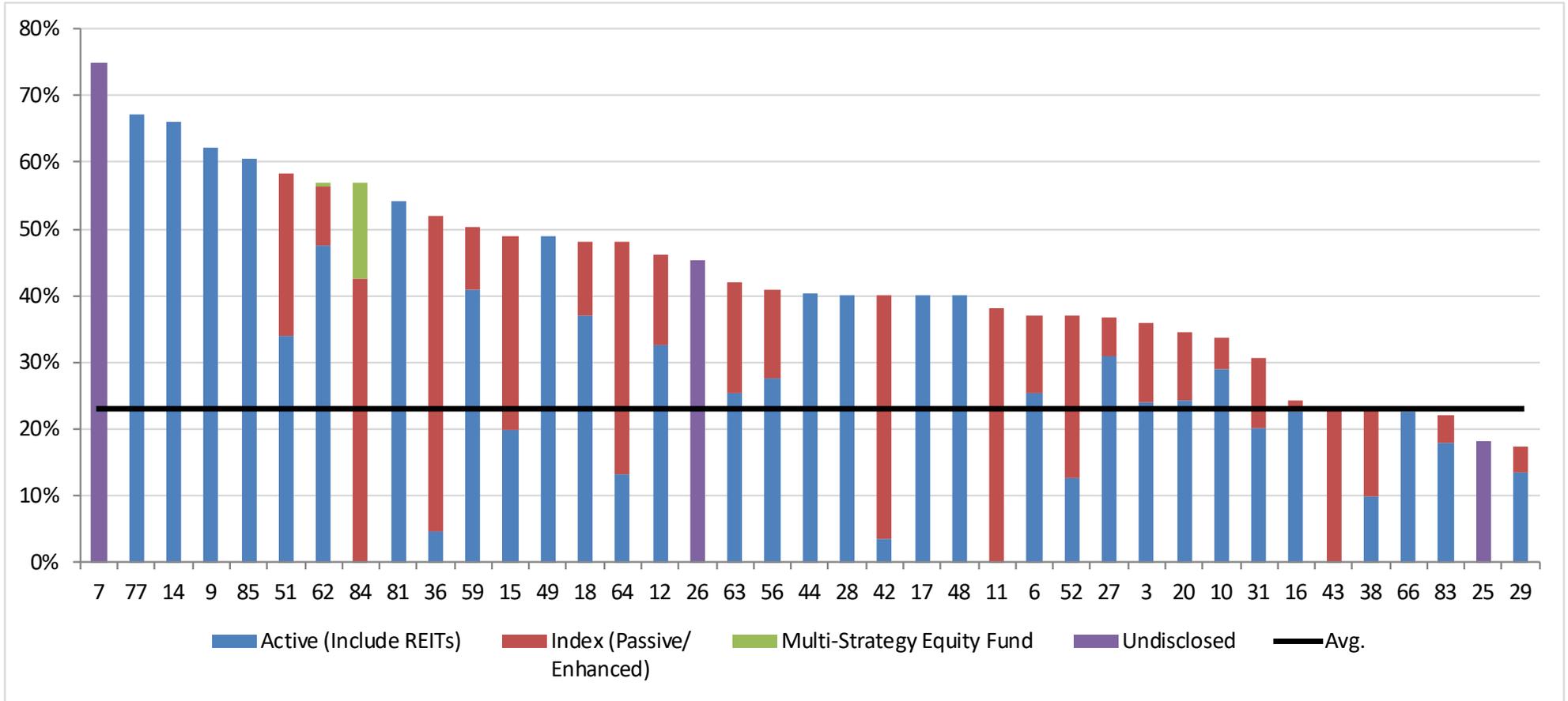


Source: JPMAM

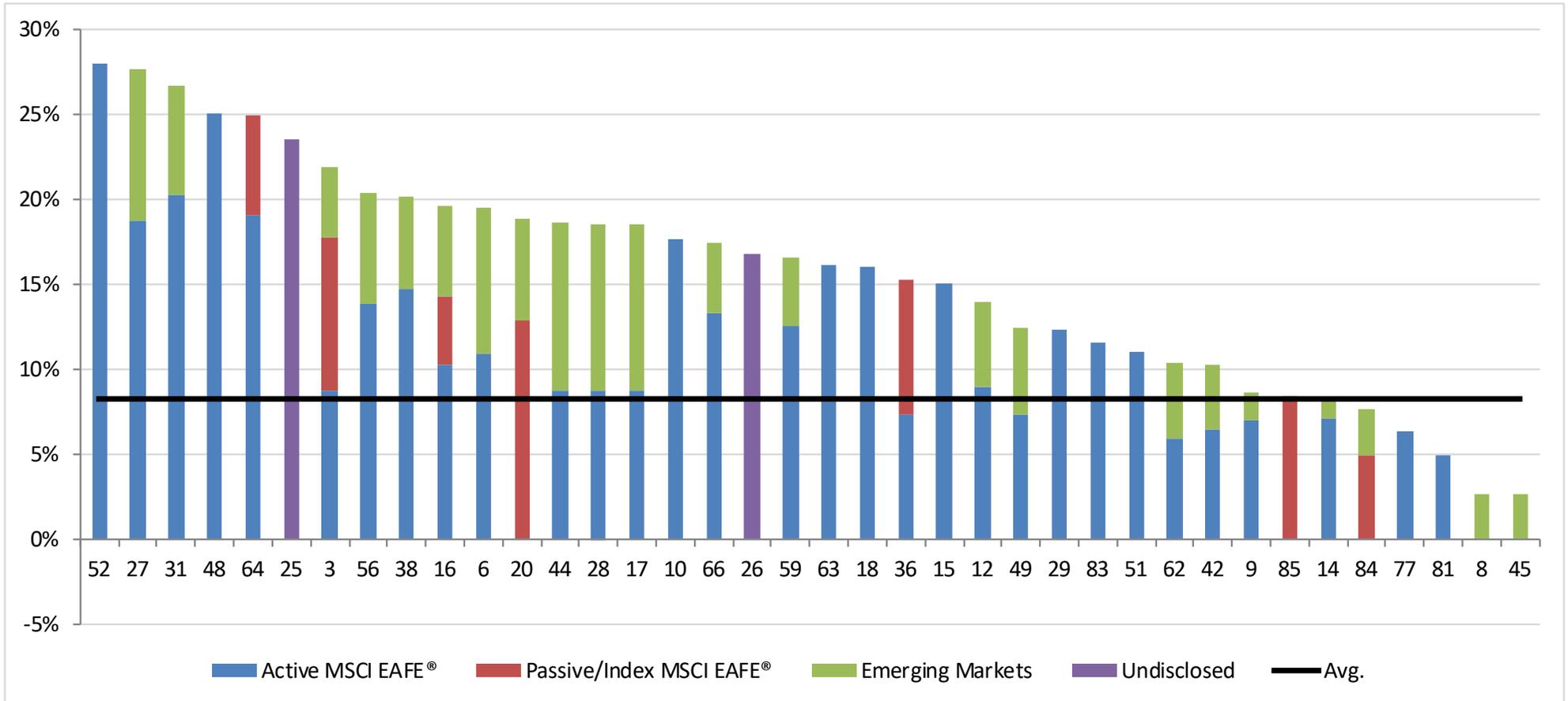
Appendix – Dispersion of Actuarial Investment Return Assumptions



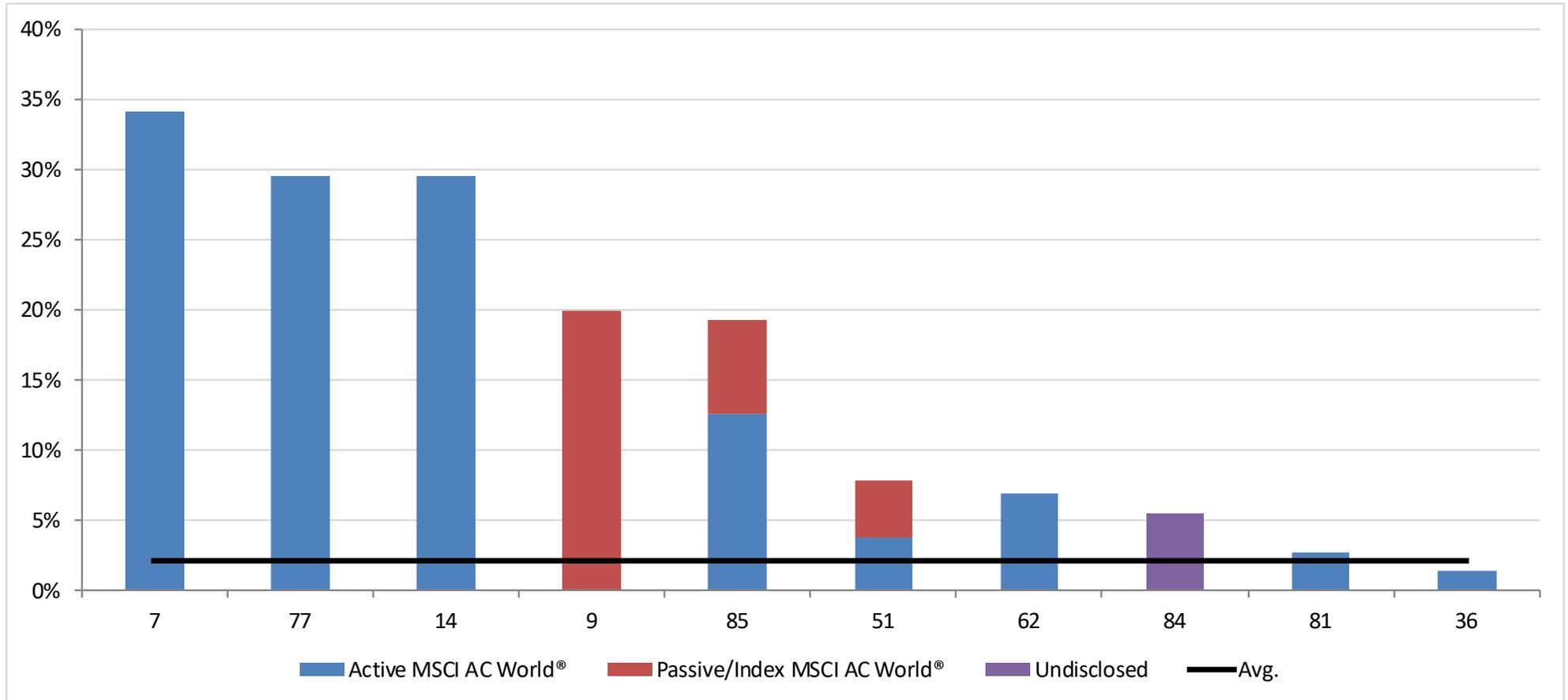
Domestic Equity



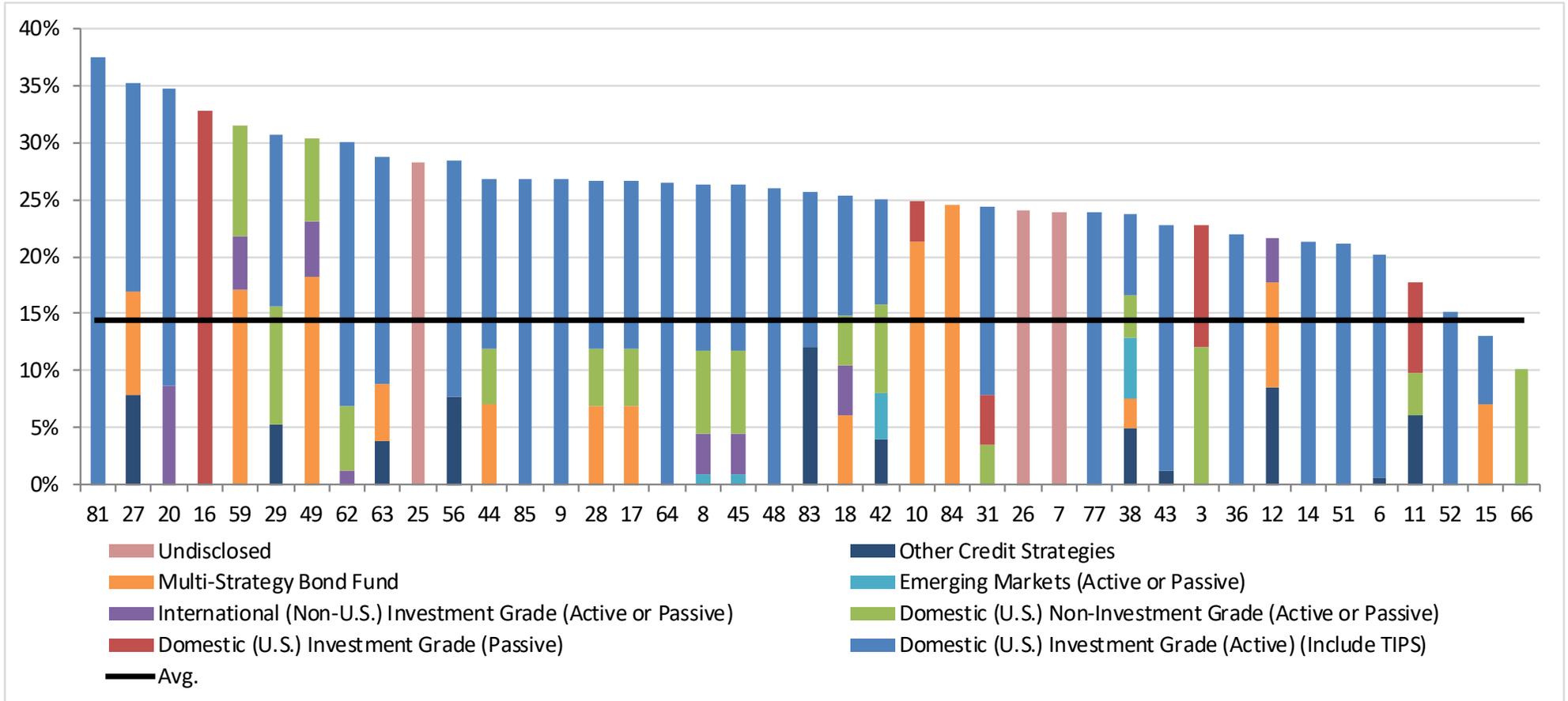
International Equity



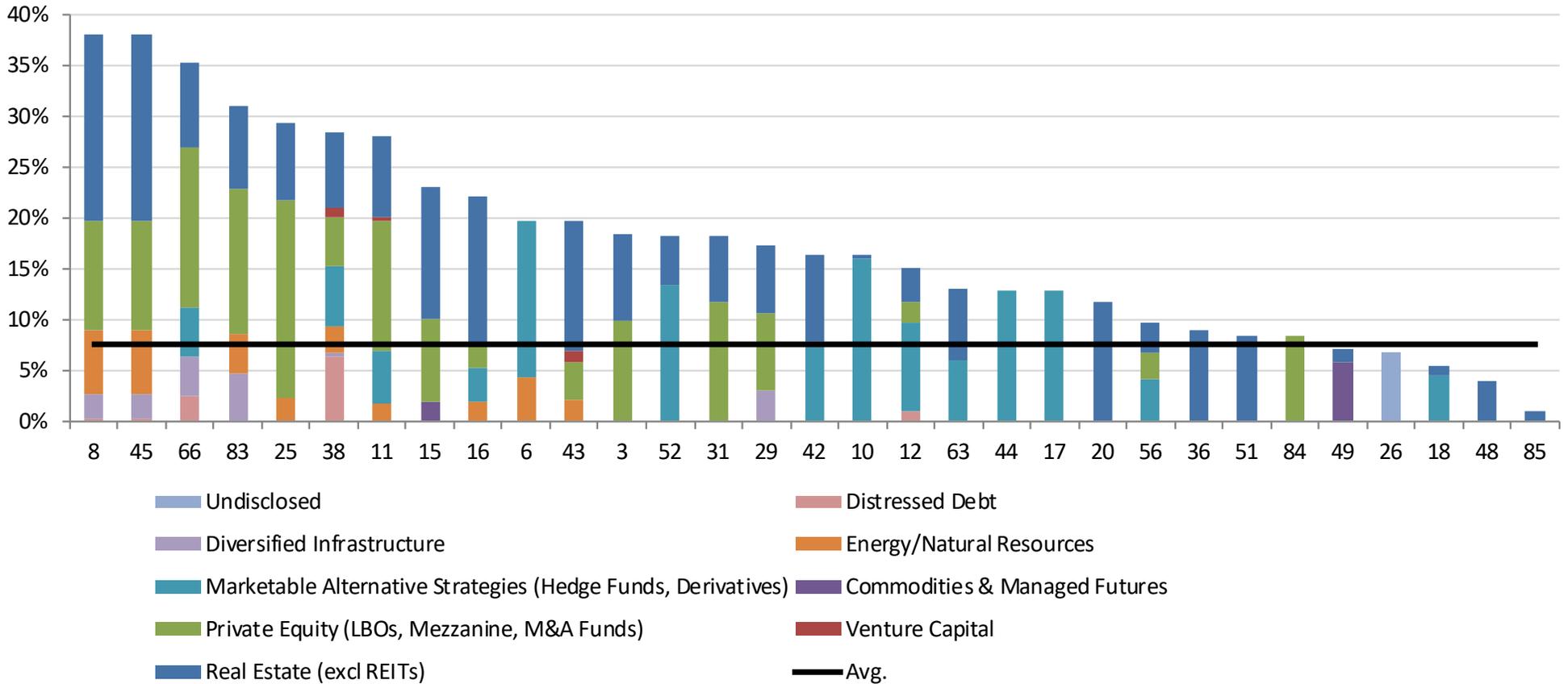
Global Equity



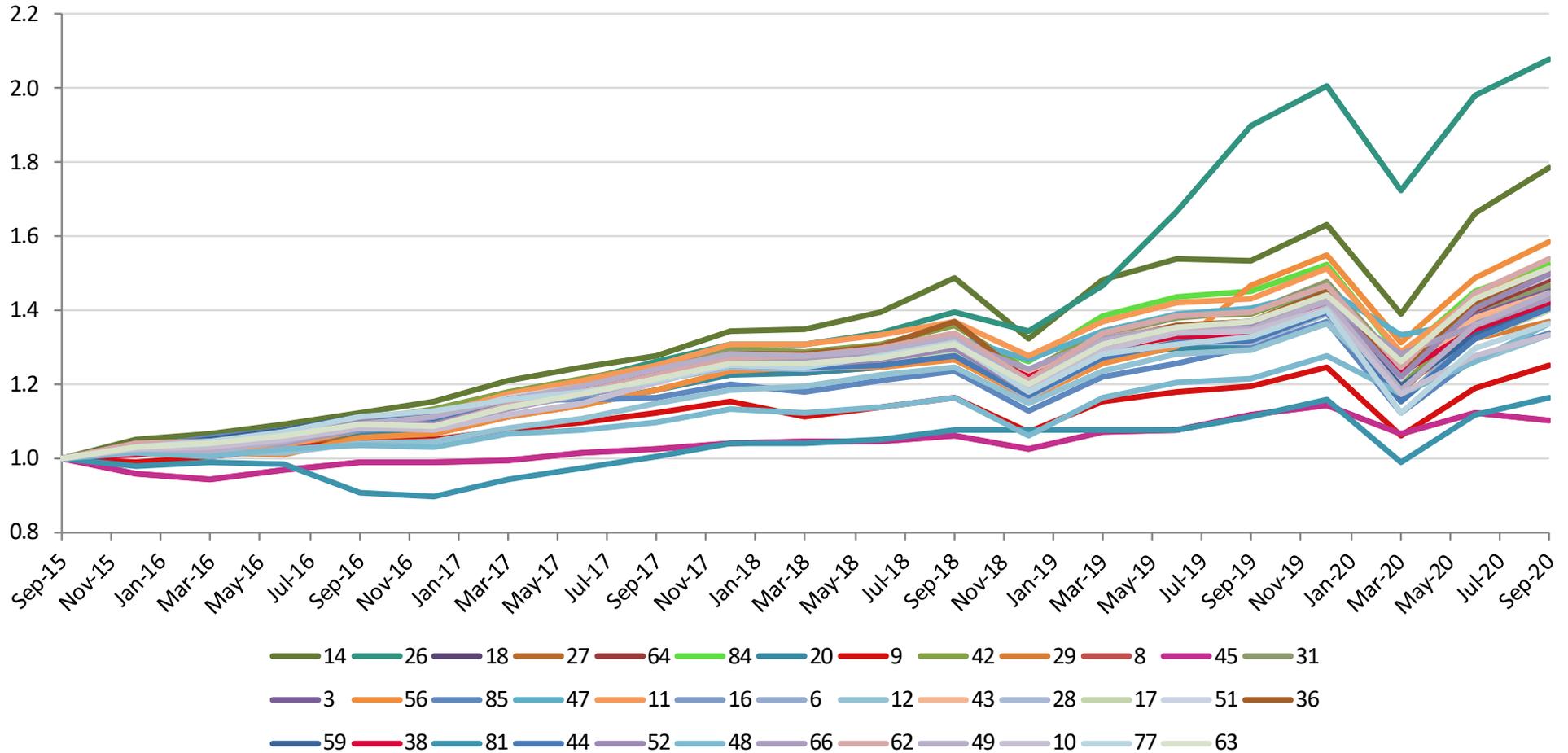
Fixed Income



Alternative Strategies

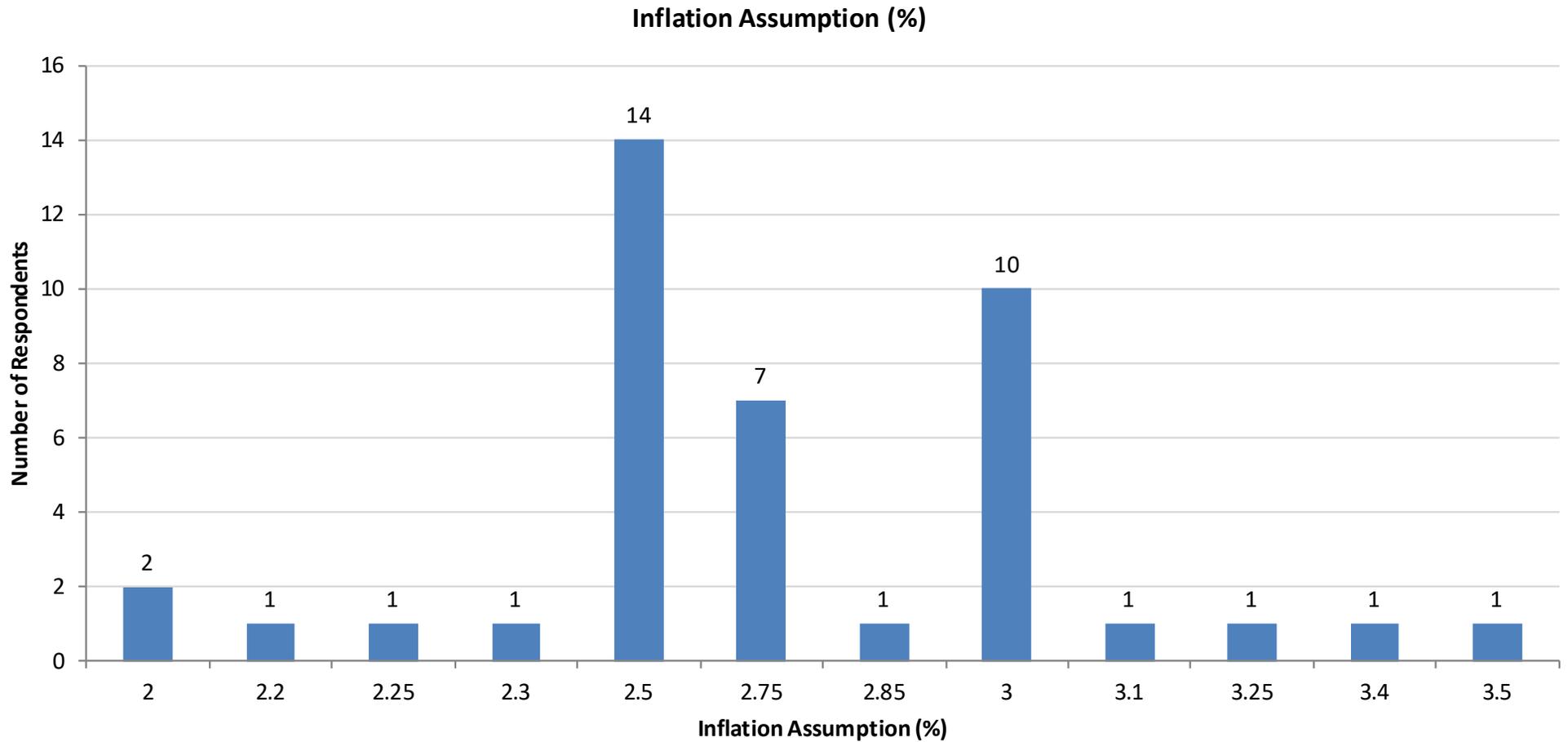


Appendix – 5 Year Growth of \$1

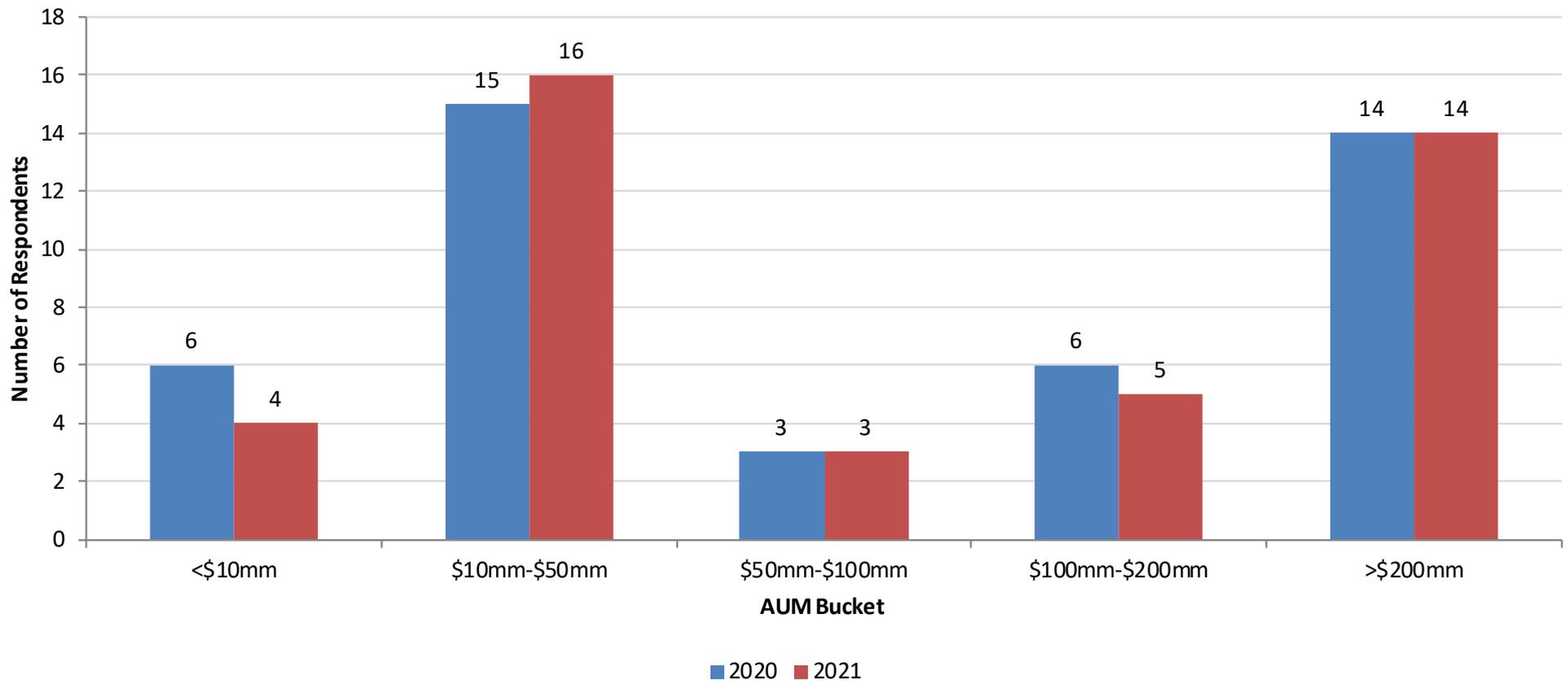


* Only including funds with 5 full years of data

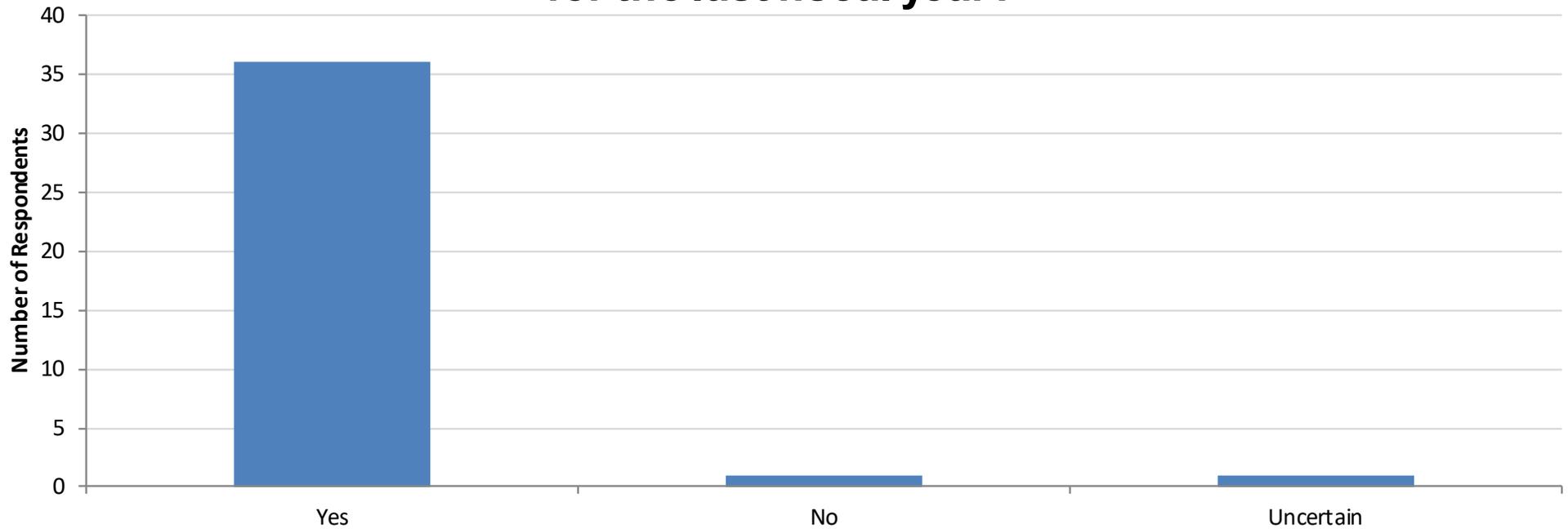
Appendix – Dispersion of Inflation Assumptions



Number of survey participants by AUM



Did your fund receive its full expected employer contribution for the last fiscal year?



Period Ending 9/30/2020	Yes	No	Uncertain
Number Responded	36	1	1
Percentage	95	3	3

Appendix – SB 322 Reporting Compliance

With respect to compliance with the new SB 322 legislature regarding the reporting of management and performance fees paid to external managers:

Period Ending 9/30/2020	1. Existing consultant agreed to provide analysis related to SB 322?	2. If yes on 1, existing consultant charging additional fees for work related to SB 322?	3. If no on 1, have you contracted with a new consultant to perform the work required under SB 322?
Yes Percentage	92.3	22.2	42.9
No Percentage	7.7	77.8	57.1

