



SWIB Update

Rochelle Klaskin, Deputy ED/Chief Administrative Officer

Brian Hellmer, Managing Director Global Public Market Strategies

April 20, 2021

Agenda

- Leadership
- Performance
- Cost Effectiveness
- Asset Allocation & Peer Performance Comparison
- Private Markets & Funds Alpha
- Questions

Leadership

David Villa's Legacy: Building a Strong Team



Edwin Denson
Interim Co-Chief Investment Officer
Managing Director
Asset & Risk Allocation



Management Council



Mike Jacobs
Agency Business Director



Brian Hellmer
Interim Co-Chief Investment Officer
Managing Director
Global Public Market Strategies



Rochelle Klaskin
Interim Executive Director



Anne-Marie Fink
Interim Co-Chief Investment Officer
Managing Director
Private Markets & Funds Alpha

David Villa's Legacy: Building a Strong Team

152 Years of Collective Leadership and Investment Industry Experience

- Rochelle Klaskin, Acting Executive Director
 - SWIB Deputy Executive Director/Chief Administrative Officer
 - SWIB Chief Legal Counsel
 - Godfrey & Kahn, Corporate Attorney/Madison Office Managing Partner
- Mike Jacobs, Agency Business Director
 - Brinson Partners, Partner/General Counsel/Chief Compliance Officer
 - Adams Street Partners, Partner/General Counsel/Chief Compliance Officer
 - Singer Partners, Managing Partner/General Counsel/Chief Compliance Officer
 - William Blair & Company, Senior Legal Advisor/Operating Manager

David Villa's Legacy: Building a Strong Team

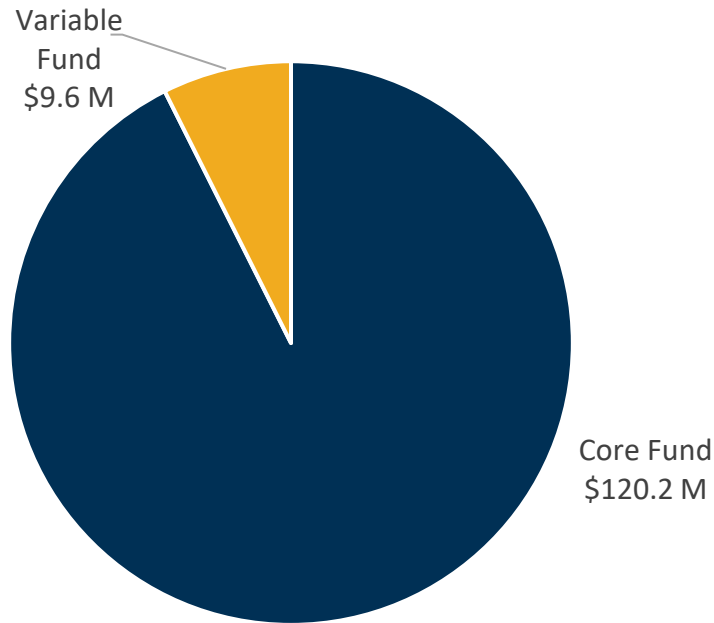
152 Years of Collective Leadership and Investment Industry Experience

- **Brian Hellmer, Acting Chief Investment Officer**
 - SWIB Managing Director, Global Public Market Strategies
 - UW-Madison, Hawk Center for Applied Investment Research/Center Director
 - Northern Capital Management, Principal/Owner/Portfolio Manager
 - Bank of America, Equity Analyst & Investment Analyst
- **Edwin Denson, Acting Chief Investment Officer**
 - SWIB Managing Director, Asset and Risk Allocation
 - Canada Pension Plan Investment Board, Managing Director/Head of Strategic Tilting
 - UBS Global Asset Management, Managing Director/Head of Asset Allocation
- **Anne-Marie Fink, Acting Chief Investment Officer**
 - SWIB Managing Director, Private Markets & Funds Alpha
 - State Street Global Advisors, Managing Director
 - State of Rhode Island, Chief Investment Officer
 - JP Morgan Private Bank, Managing Director

Performance

WRS Assets Under Management (AUM)

As of Dec. 31, 2020



Fund	12/31/2019 AUM (in millions)	12/31/2020 AUM (in millions)	1-Year AUM Change (in millions)
Total WRS	\$116.5	\$129.8	\$13.2
Core Fund	\$107.8	\$120.2	\$12.4
Variable Fund	\$8.7	\$9.6	\$882

AUM is the gross market value of assets that an investment company or financial institution manages on behalf of investors.

2020 Investment Returns

As of Dec. 31, 2020

SWIB's investment management has added more than **\$1.9 billion** above benchmark returns over the last five years to the WRS.

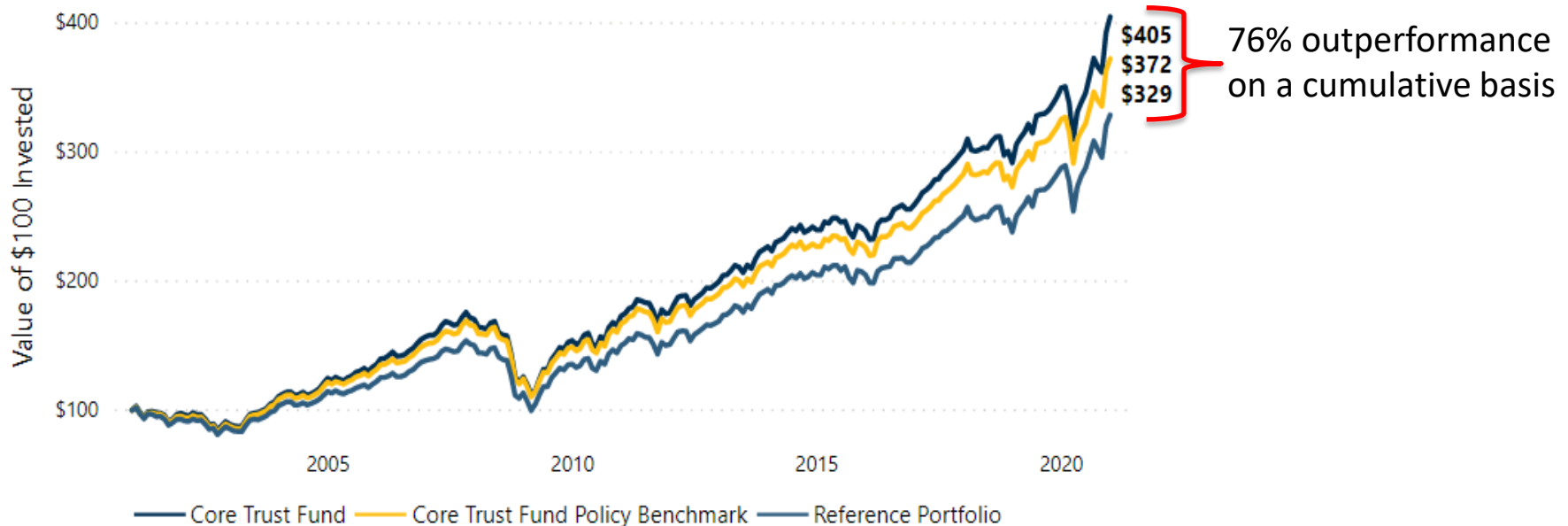
Core Fund	1-Year	5-Year	10-Year	20-Year	30-Year
Performance	15.21%	10.74%	8.51%	6.94%	8.83%
Benchmark	14.15%	10.27%	8.10%	6.62%	8.51%
	1.06%	0.47%	0.41%	0.32%	0.32%
Variable Fund					
Performance	17.51%	13.65%	11.35%	7.08%	9.78%
Benchmark	17.90%	13.62%	11.22%	6.94%	9.61%
	(0.39%)	0.03%	0.13%	0.14%	0.17%

One-year returns are net of all fees. Five-, 10-, 20-, and 30-year returns are net of external manager fees. Thirty-year benchmark returns are presented gross of fees.

CTF Performance vs. 60/40 Reference Portfolio*

January 2001 to December 2020

Benefit of SWIB's Asset Allocation & Active Management Over Time



\$34.4bn total

Reference Portfolio Ending Value	Additional Policy Portfolio Return Above Reference*	Additional Active Portfolio Return	CTF Ending Value**
\$85.7bn	+\$20.9bn	+\$13.5bn	=\$120.2bn

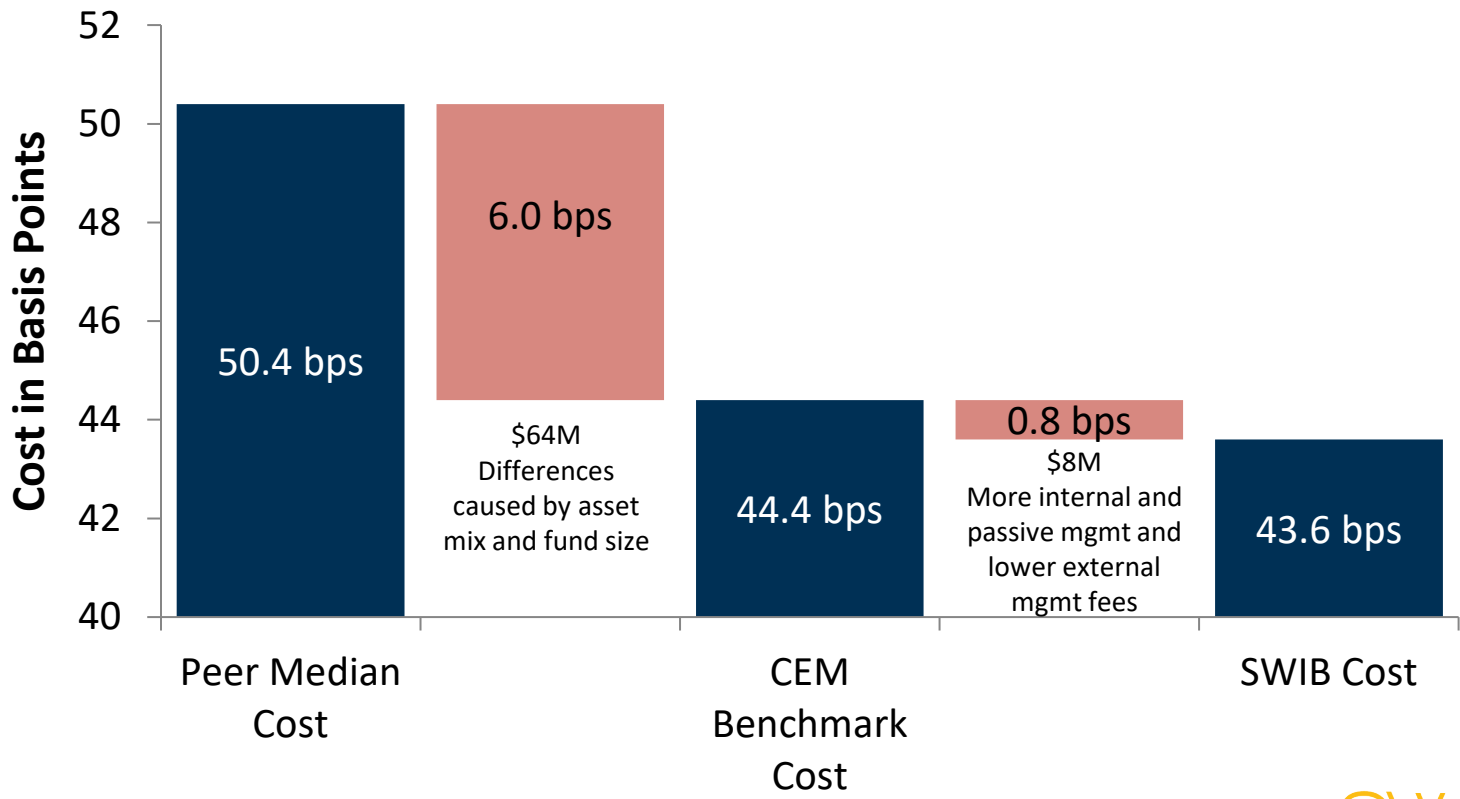
*The reference portfolio is 60% MSCI World and 40% Bloomberg Barclays Gov't/Credit (domestic)(rebalanced monthly). Core Trust Fund outperformance is calculated using gross returns.

**CTF beginning market value, as of January 1, 2001, was \$54.8 billion.

Cost Effectiveness

SWIB Saved Approximately \$72 Million In 2019 Compared to Its Peers

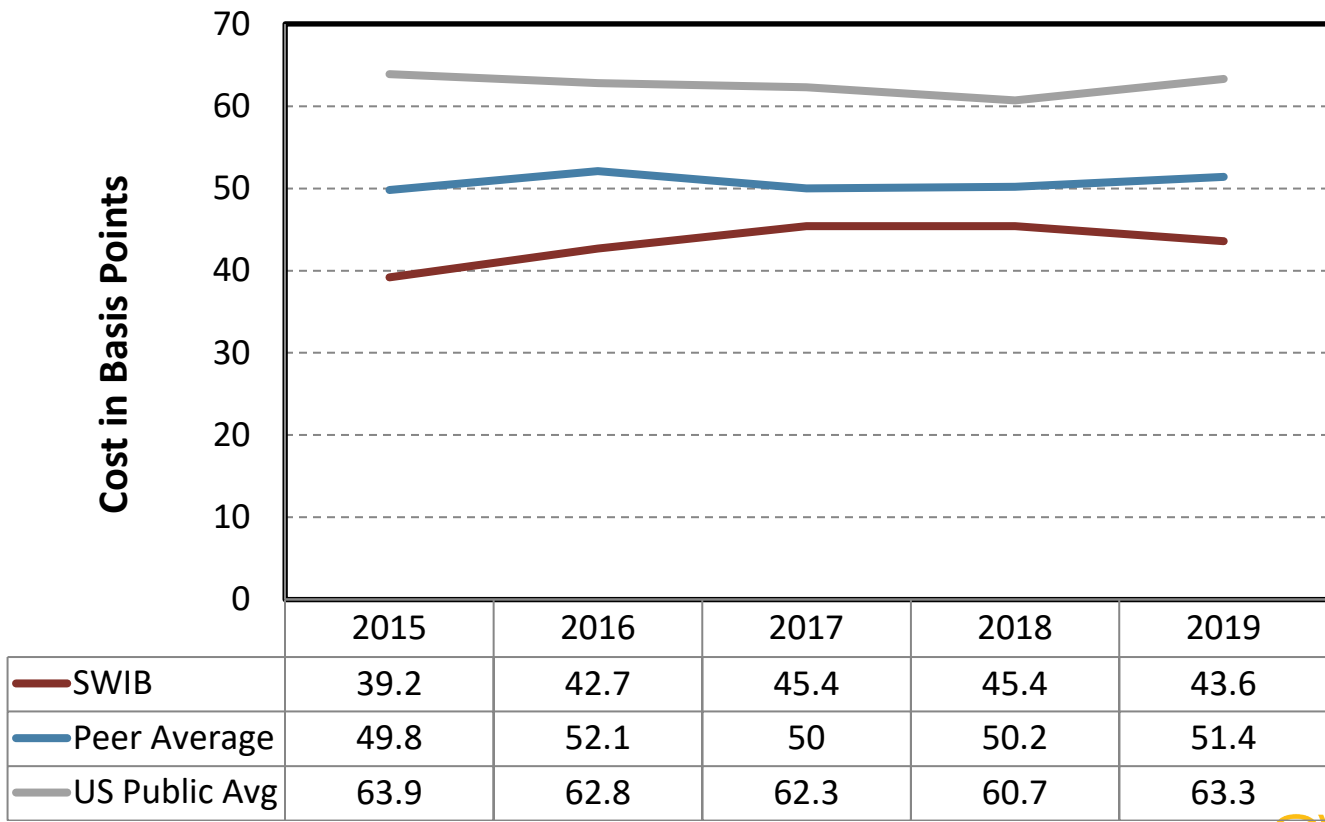
SWIB's costs are 13.5% lower than its peers



Data source: CEM Benchmarking, Inc. 2019 Report

SWIB's Internal Management Provides a Cost Advantage Over Peers

SWIB's total costs have remained materially lower than peers due in part to levels of internal management.



Internal Management Benefits the WRS

Average peer cost for external asset management is multiples higher than SWIB's internal management costs for the same asset classes.

Portfolio	Average External Manager Costs Over SWIB Internal Management
Active Management	
Global Large Cap Equity	2.1x
U.S. Small Cap Equity	4.0x
U.S. Fixed Income	1.5x
Passive Management	
U.S. Large Cap Equity	2.0x
International (EAFE) Equity	2.4x
Fixed Income – Inflation Indexed	2.0x

Data source: CEM Benchmarking, Inc.

Internal Management Benefits the WRS

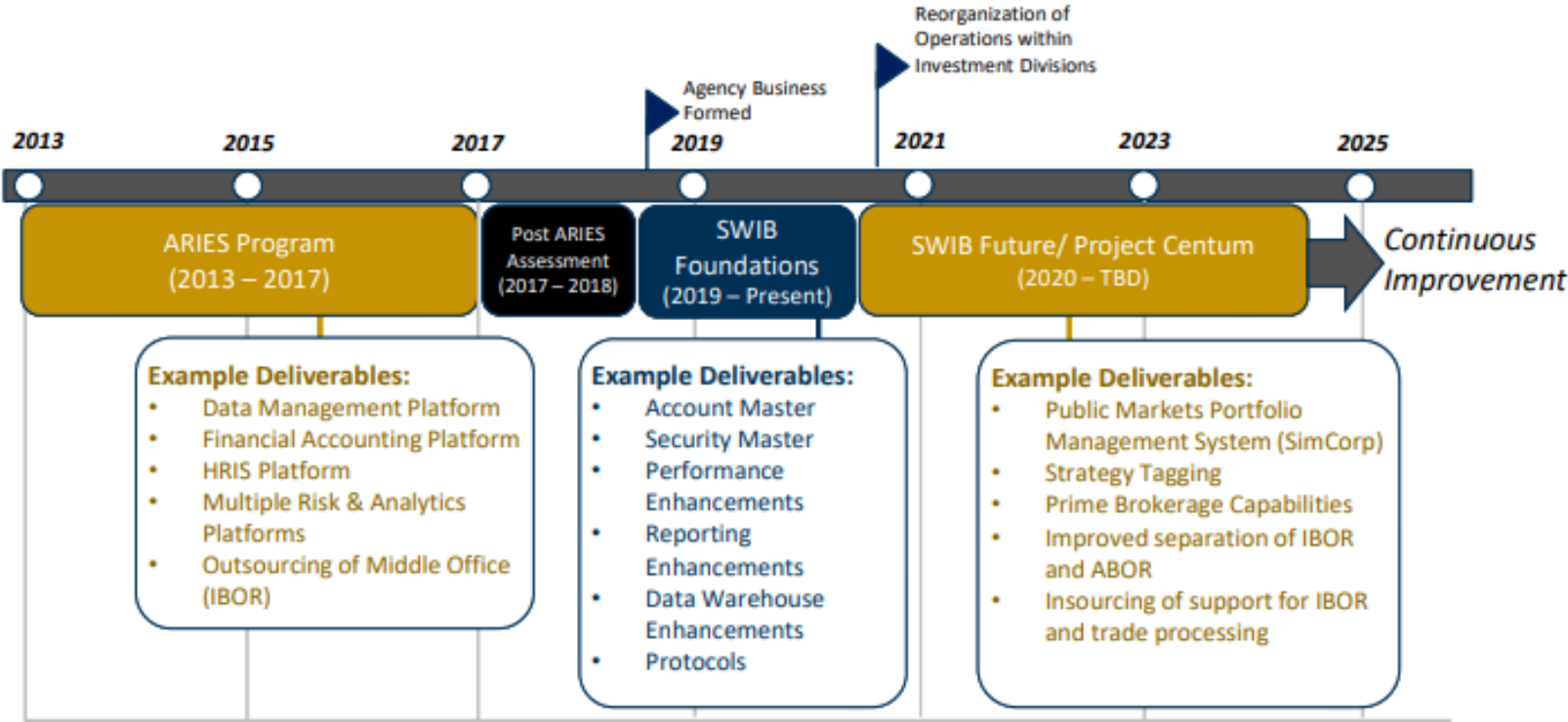
- SWIB saved \$1.3 billion vs. peers from 2010-2019.*
- In 2020:
 - 80.8% of SWIB's total cost of management was spent on external investment management fees to support 46.0% of assets under management.
 - 19.2% of SWIB's total cost of management represents internal operating costs, which primarily drive the support of the remaining 54.0% of assets under management.

*This analysis compares SWIB's savings vs. the peer group median costs for every \$100 under management and multiplies that average savings by SWIB's median assets under management.

Data source: CEM Benchmarking, Inc. 2019 Report

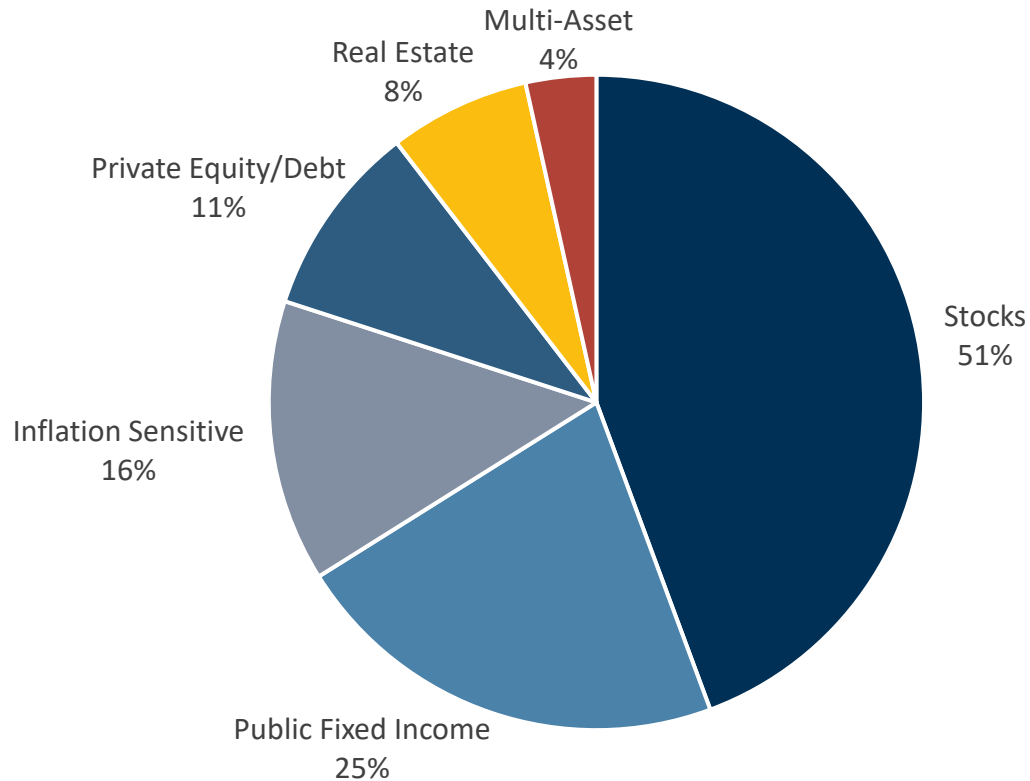
SWIB's Journey: Since 2013 SWIB has engaged in various initiatives to deliver new capabilities to our investment teams.

Prior to 2013, SWIB underinvested in its infrastructure while growing its complex investment strategies resulting in the need for significant transformation.



Asset Allocation & Peer Performance Comparison

Core Trust Fund Asset Allocation Targets

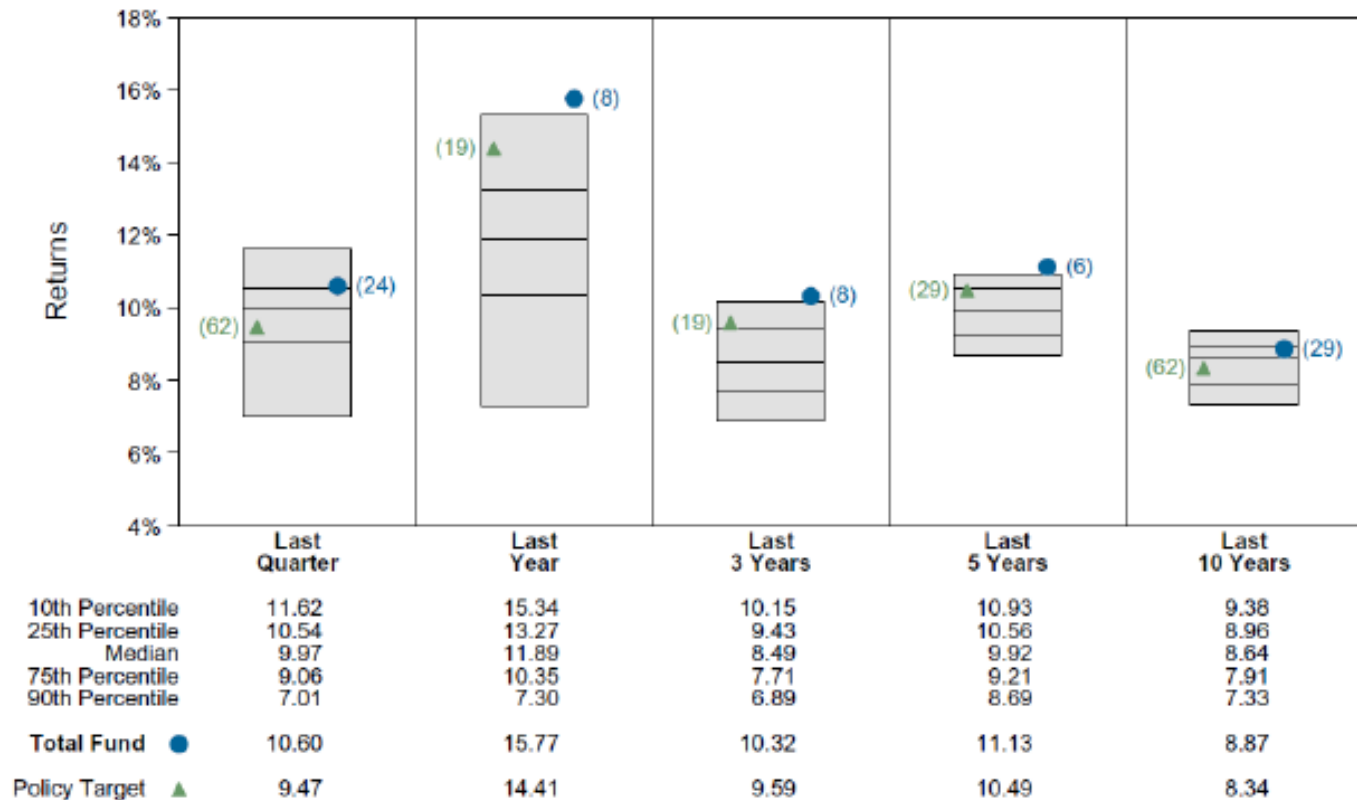


Totals exceed 100% due to SWIB's overall leverage of Core Fund assets. SWIB's actual asset allocation may vary up to +/- 6% from the targets listed.

Total Fund Ranking-Unadjusted Ranking

Gross of Fees as of Dec. 31, 2020

Callan Public Fund Spons- V Lg DB (>10B)



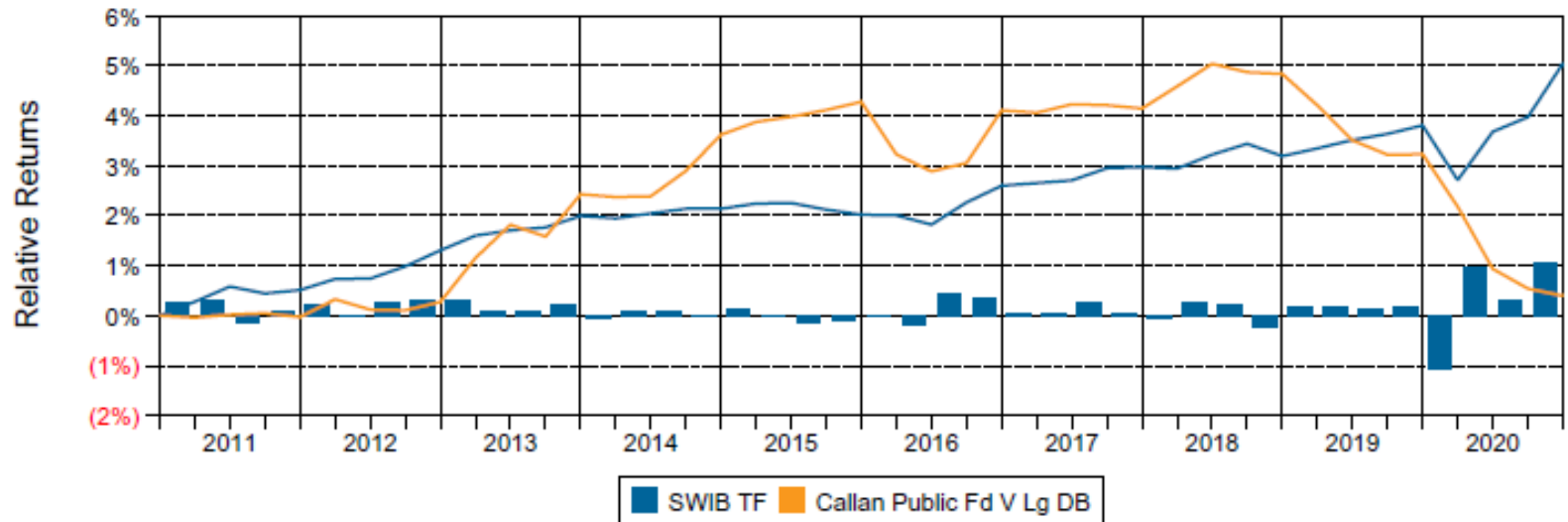
- Total fund unadjusted rankings are in the top quartile of peers for Q4, the top decile of peers for the 1-, 3-, and 5-year periods, and the top half of peers for the 10-year period.
- Recent market volatility benefitted SWIB's risk-balance approach vs. peers.

Source: Callan Investment Measurement Service Quarterly Review, December 2020

10 Year Return Consistency vs. Target

2011 to 2020 (Gross, 12/31/20)

Cumulative and Quarterly Relative Return vs Target



SWIB's risk control and consistency led to a relatively smooth ride over the last 10 years.

Global Public Market Strategies

Low Return Environment Magnifies Value of Excess Returns

- Interest rates remain near all-time lows, creating low expected bond returns and challenges to investors for all asset classes
- With absolute returns under pressure, the value of producing additional return via active management is magnified.
- Internal active management is typically more cost effective, but requires investments in people and platforms.

SWIB Competitive Advantages

- The scale of the asset base helps reduce the return impact of costs necessary to execute active management and allows us to diversify effectively into all major asset classes.
- The stability of our capital and long-term investment horizon allow us to take advantage of market dislocations that other investors struggle with due to short-term focus.
- Our mission helps us recruit and retain talented people.

Divisional Role and Structure

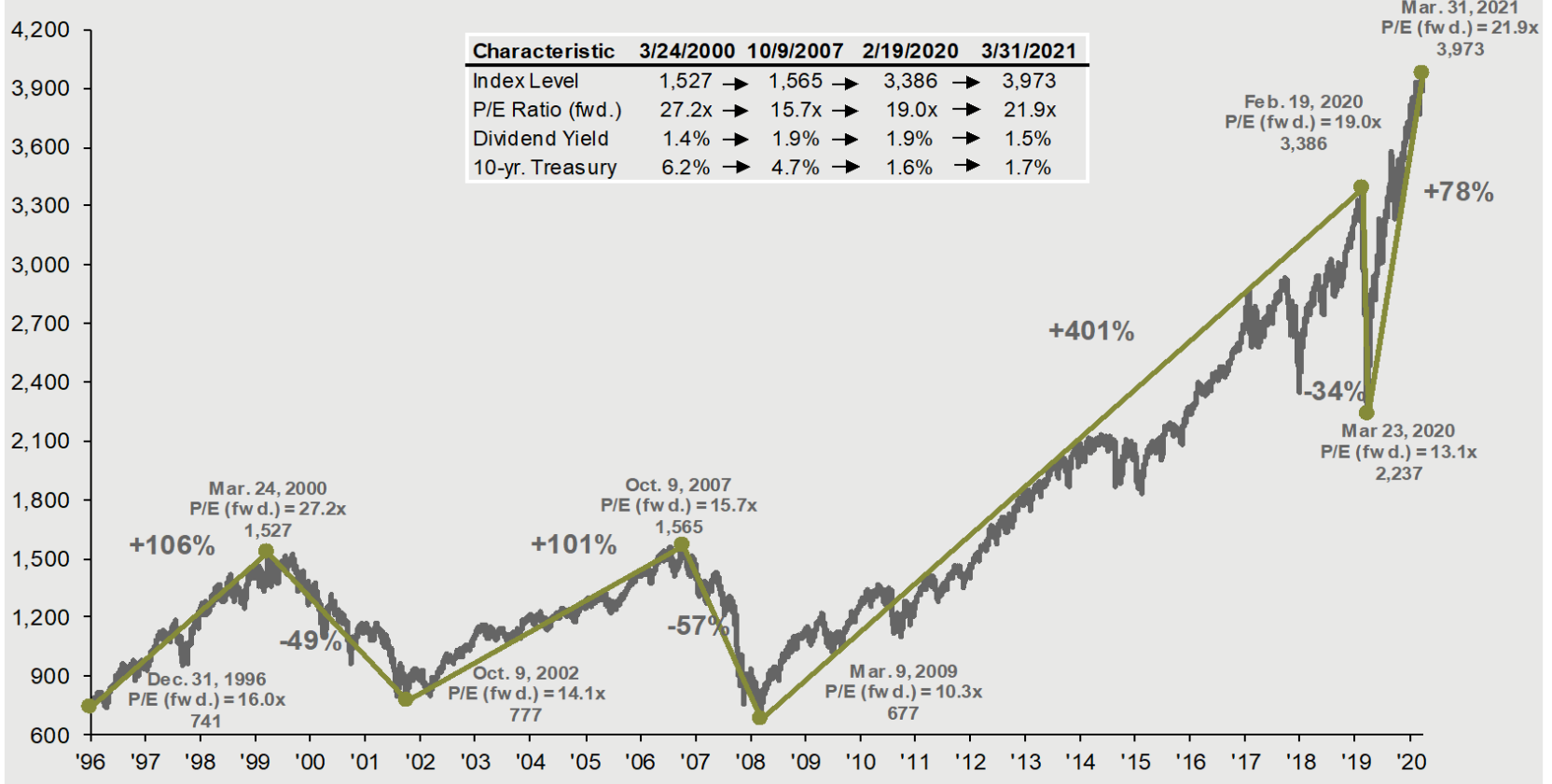
- The Global Public Market Strategies division was created in January 2020 by consolidating the internally run public market strategies under a single structure.
- Key active strategies include:
 - \$9.2 bil. Gov/Credit portfolio
 - \$14.0 bil. Global Sector Aggregate Portfolio
 - \$3.3 bil. Small-Cap Domestic Portfolio
 - \$4.0 bil. Multi-Asset portfolio
 - \$2.6 bil. MBS Portfolio (launch date Q2 2020)
 - \$2.4 bil. High Yield Portfolio (launch date of Q4 2020)
- Other internal strategies include:
 - \$18.1 bil. State Investment Fund and Short-term Credit Portfolio
 - \$22.0 bil. Passive Equity Portfolios
- In addition to standing up new strategies in 2020, SWIB is also in the process of implementing new platforms that will help us achieve our goal of adding more alpha over time.

Current Market Environment

- Vaccination progress has led to significant optimism about the economy, further extending the initial recovery in U.S. stocks after initial COVID-19 related declines. Current price levels incorporate optimism about the next 12 months, which create some risks.
- U.S. stock performance has been much better than international stocks – it appears likely that this may be an opportunity for investors as we see the pace of vaccinations pick up internationally.
- Inflation remains under control for now, as government policy moves that would normally generate concern are outweighed by ongoing deflationary forces. This will likely change as demand picks up over the summer – the big debate is how long it will last.

U.S. Equity Market

S&P 500 Price Index



Source: FactSet, Compustat, Federal Reserve, Standard & Poor's, J.P. Morgan Asset Management.

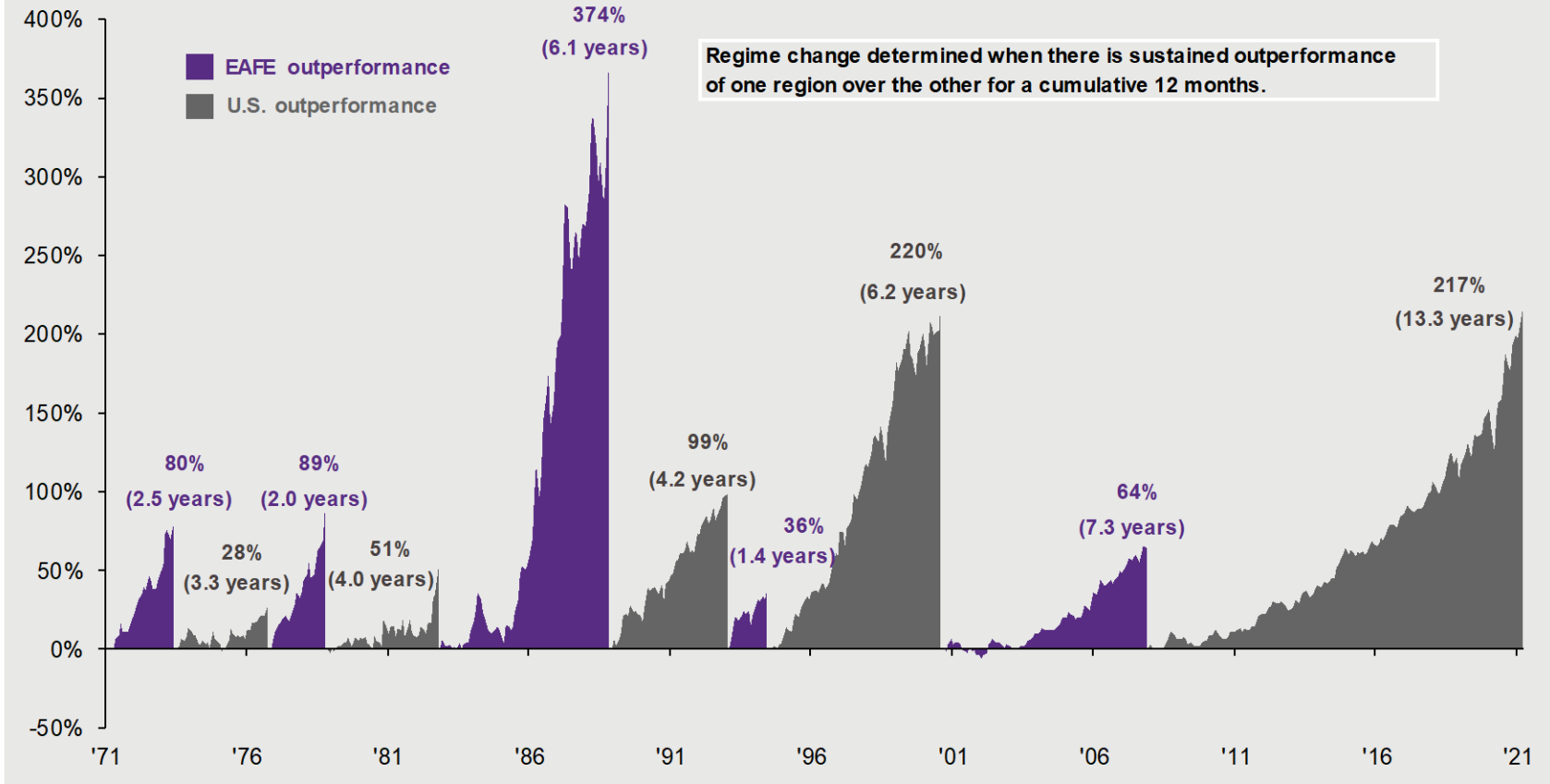
Dividend yield is calculated as consensus estimates of dividends for the next 12 months, divided by most recent price, as provided by Compustat. Forward price-to-earnings ratio is a bottom-up calculation based on the most recent S&P 500 Index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates. Returns are cumulative and based on S&P 500 Index price movement only, and do not include the reinvestment of dividends. Past performance is not indicative of future returns.

Guide to the Markets – U.S. Data are as of March 31, 2021.

U.S. vs International Stock Leadership

MSCI EAFE and MSCI USA relative performance

U.S. dollar, total return, cumulative outperformance*



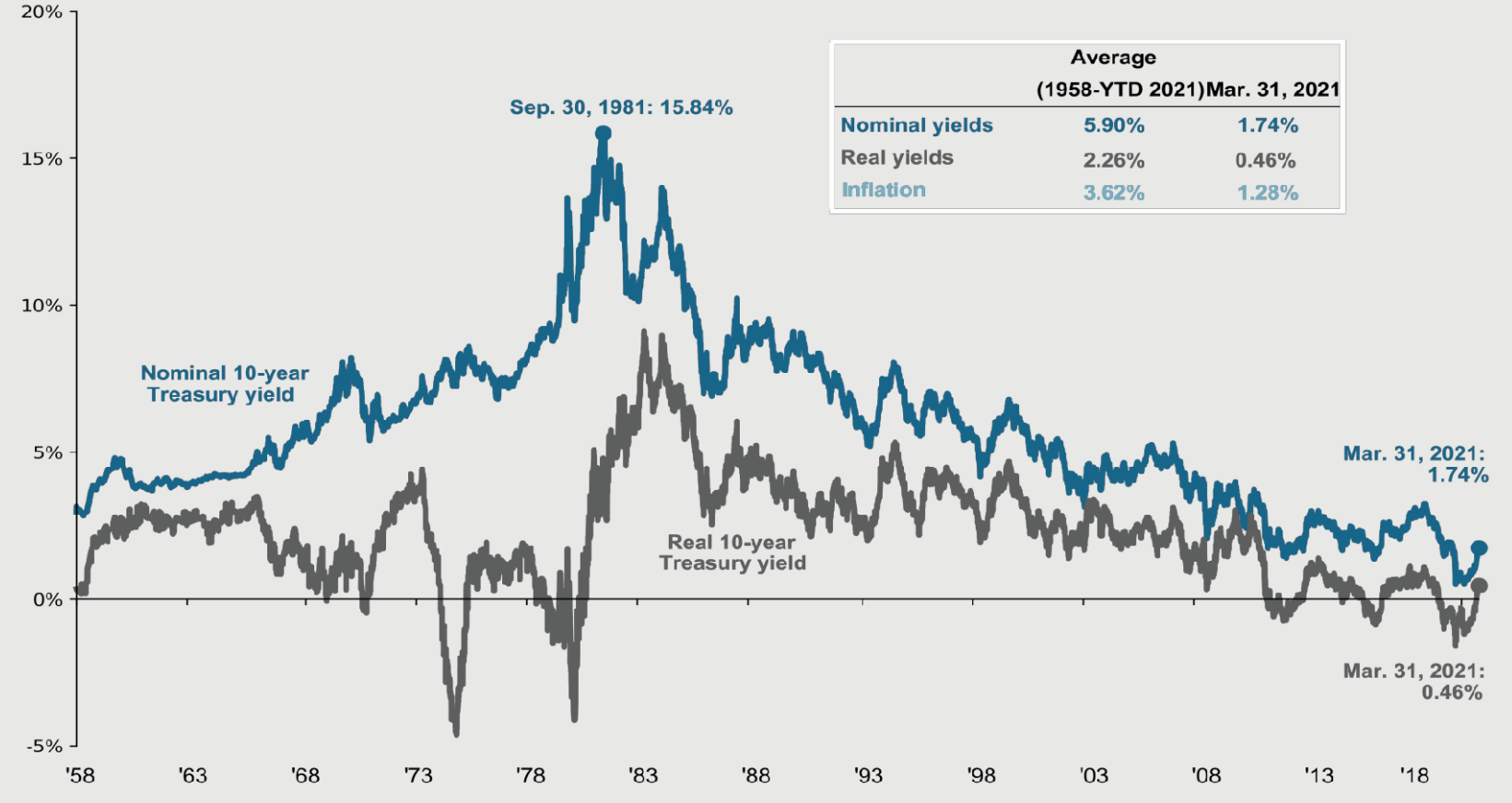
Source: FactSet, MSCI, J.P. Morgan Asset Management.

*Cycles of outperformance include a qualitative component to determine turning points in leadership.

Guide to the Markets – U.S. Data are as of March 31, 2021.

Interest Rates and Inflation

Nominal and real 10-year Treasury yields



Source: BLS, FactSet, Federal Reserve, J.P. Morgan Asset Management.
 Real 10-year Treasury yields are calculated as the daily Treasury yield less year-over-year core CPI inflation for that month except for April and March 2021 where real yields are calculated by subtracting out February 2021 year-over-year core inflation.
 Guide to the Markets – U.S. Data are as of March 31 2021

Appendix

Definition of ESG Investing

- ESG investing does not have a precise definition - it means different things to different people
- The original motives driving ESG investing were based on achieving effects outside of the risk/return framework (this is what we often think of as Socially Responsible Investing or “SRI”). We could also call this “Collateral Benefits ESG”
 - This type of ESG investing is often what is highlighted in mutual fund marketing materials
- More recently ESG investing has often referred to the idea that focusing on ESG issues could lead to improved risk-adjusted returns for investors. We can refer to this as “Risk/Return ESG”
- Today, the term “ESG investing” is used to refer to both ideas, despite the fact only one of them (Risk/Return ESG) is consistent with the statutory fiduciary duty SWIB has to the funds we manage. SWIB uses Risk/Return ESG and strives to continuously improve

Implementing Risk/Return ESG

- Our current approach to ESG investing is to implement Risk/Return ESG at the security selection level of our research processes
- We have not seen evidence that using vendor provided ESG “scores” is consistent with Risk/Return ESG, and don’t currently incorporate that data into our process or use it in evaluating portfolio exposures
- Helping staff comprehensively consider and integrate ESG issues into their risk/return assessments is our primary focus right now, and is achieved via the following initiatives:
 - Provide staff with high-level trends to improve their understanding of the risks these issues represent and to enhance their ability to ask the right questions
 - Circulate research from non-traditional sources (industry white papers, academic research, etc.) that complement the traditional research sources already in use
 - Update staff on ESG issues impacting markets and regulatory frameworks or investor demand for certain types of companies given investment firms marketing initiatives to capitalize on these interests