

RISK POOL INVESTMENT SEMINAR

MARCH 29, 2023



Looking Back



2001-2020

	<u>Return / Volatility</u>
● 100% US Stocks	+7.91% / 15.66%
● 100% US Fixed Income	+4.62% / 3.45%
● 50% / 50%	+6.73% / 7.57%
● 100% HY Fixed Income	+6.40% / 7.89%





2022

Return

● 100% US Stocks	-19.60%
● 100% US Fixed Income	-13.25%
● 50% / 50%	-16.43%
● 100% HY Fixed Income	-9.06%
● 100% Commodities	+24.08%
● 100% Cash	+1.82%





2021-2023

	<u>Return / Volatility</u>
● 100% US Stocks	+2.45% / 18.59%
● 100% US Fixed Income	-6.88% / 6.75%
● 50% / 50%	-1.94% / 11.74%
● 100% HY Fixed Income	-1.92% / 8.77%



Fixed Income Yields – 12/31/2021 versus 3/17/2023

Index	YTW @ 12/31/2021	YTW @ 3/17/2023	Chg In YTW		Addition Annual Income per \$10M	YTW Multiple relative to 12/31/2021
					\$ 10,000,000	
Aggregate	1.75%	4.36%	↑	2.61%	\$ 261,000	2.49 ★
Intermediate Aggregate	1.55%	4.31%	↑	2.76%	\$ 276,000	2.78
U.S. Treasury	1.23%	3.74%	↑	2.51%	\$ 251,000	3.04
U.S. 3-Month Treasury	0.05%	4.41%	↑	4.36%	\$ 436,000	88.20 ★
U.S. 2-Yr Treasury	0.73%	3.88%	↑	3.15%	\$ 315,000	5.32
U.S. 5-Yr Treasury	1.26%	3.51%	↑	2.25%	\$ 225,000	2.79
U.S. 10-Yr Treasury	1.50%	3.43%	↑	1.93%	\$ 193,000	2.29
U.S. 30-Yr Treasury	1.89%	3.63%	↑	1.74%	\$ 174,000	1.92
U.S. Agency MBS	1.98%	4.41%	↑	2.43%	\$ 243,000	2.23
ABS	1.13%	4.64%	↑	3.51%	\$ 351,000	4.11
CMBS	1.88%	5.01%	↑	3.13%	\$ 313,000	2.66
U.S. Credit	2.25%	5.18%	↑	2.93%	\$ 293,000	2.30
A-Rated Corporates	2.11%	5.11%	↑	3.00%	\$ 300,000	2.42
BBB-Rated Corporates	2.55%	5.59%	↑	3.04%	\$ 304,000	2.19
Municipal Bond	1.11%	3.35%	↑	2.24%	\$ 224,000	3.02
Taxable Municipal Bond	2.33%	4.74%	↑	2.41%	\$ 241,000	2.03
U.S. High Yield	4.21%	8.98%	↑	4.77%	\$ 477,000	2.13
Global Agg. (USD)	1.31%	3.48%	↑	2.17%	\$ 217,000	2.66

Risk Pool Peer Group Summary

As of 12/31/2022

SAA Risk Pool Peer Group Overview – As of 12/31/2022



TOTAL

- 23 Clients
- 51 Portfolios
 - \$5.58B In Assets
 - \$4.7B Core Fixed Income (84.22%)
 - \$0.88B Risk Assets (15.78%)

MULTI-LINE P&C

- 18 Clients
- 31 Portfolios
 - \$4.29B In Assets
 - \$3.63B Core Fixed Income (84.62%)
 - \$0.66B Risk Assets (15.38%)

HEALTH

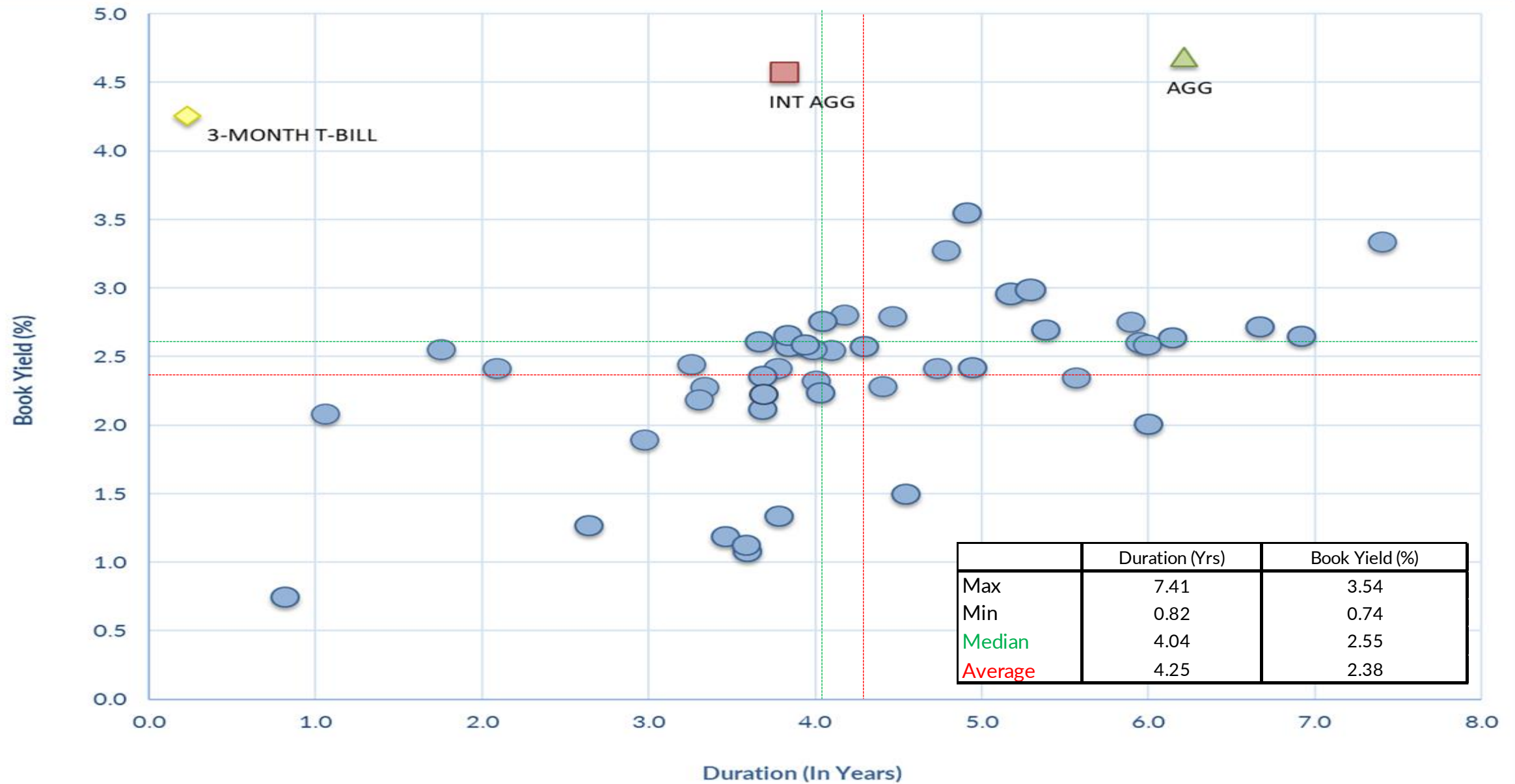
- 9 Client Portfolios
 - \$333M In Assets
 - \$288M Core Fixed Income (86.49%)
 - \$45.2M Risk Assets (13.51%)

REINSURERS

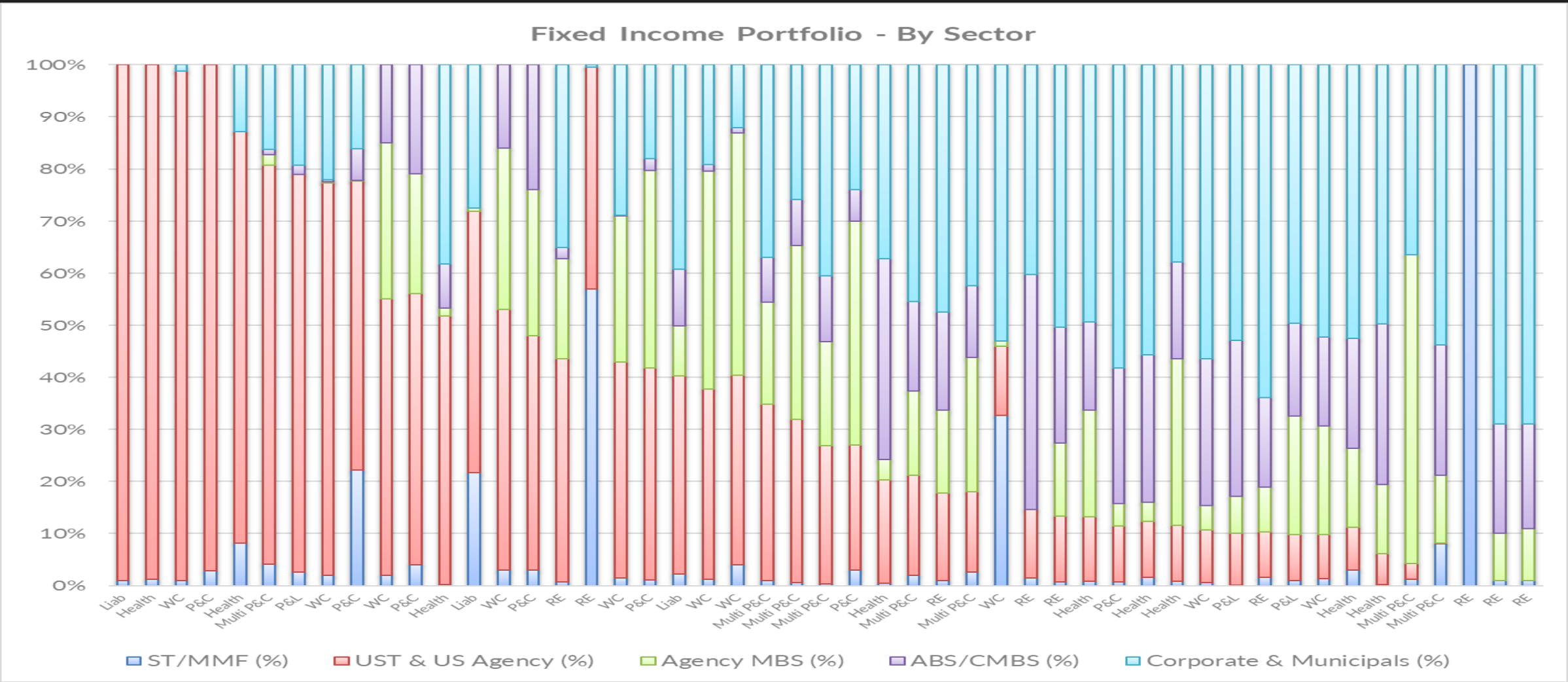
- 9 Client Portfolios
 - \$961M In Assets
 - \$776M Core Fixed Income (80.75%)
 - \$185M Risk Assets (19.25%)



Fixed Income: Book Yield & Duration



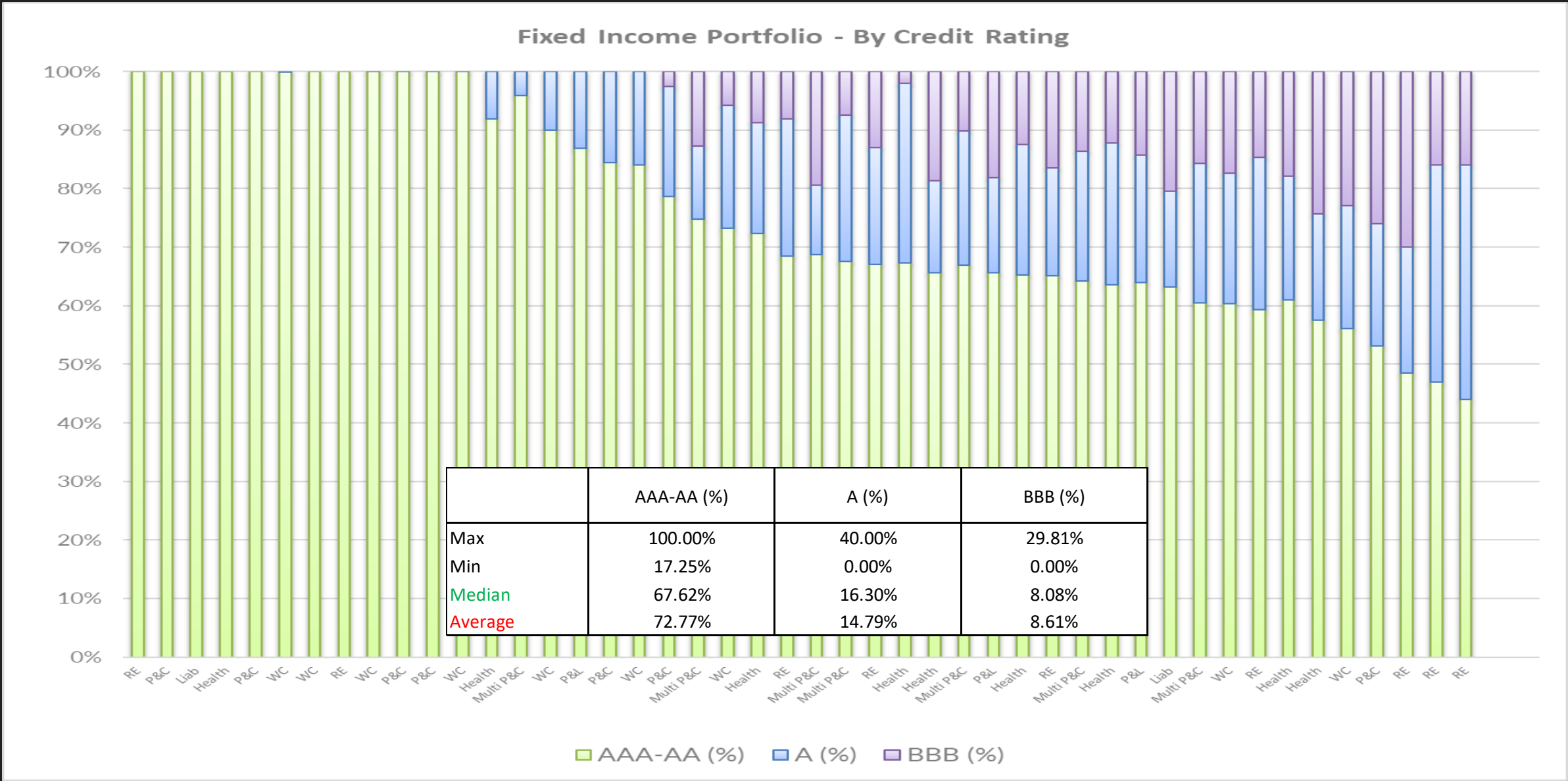
Fixed Income Allocation By Sector



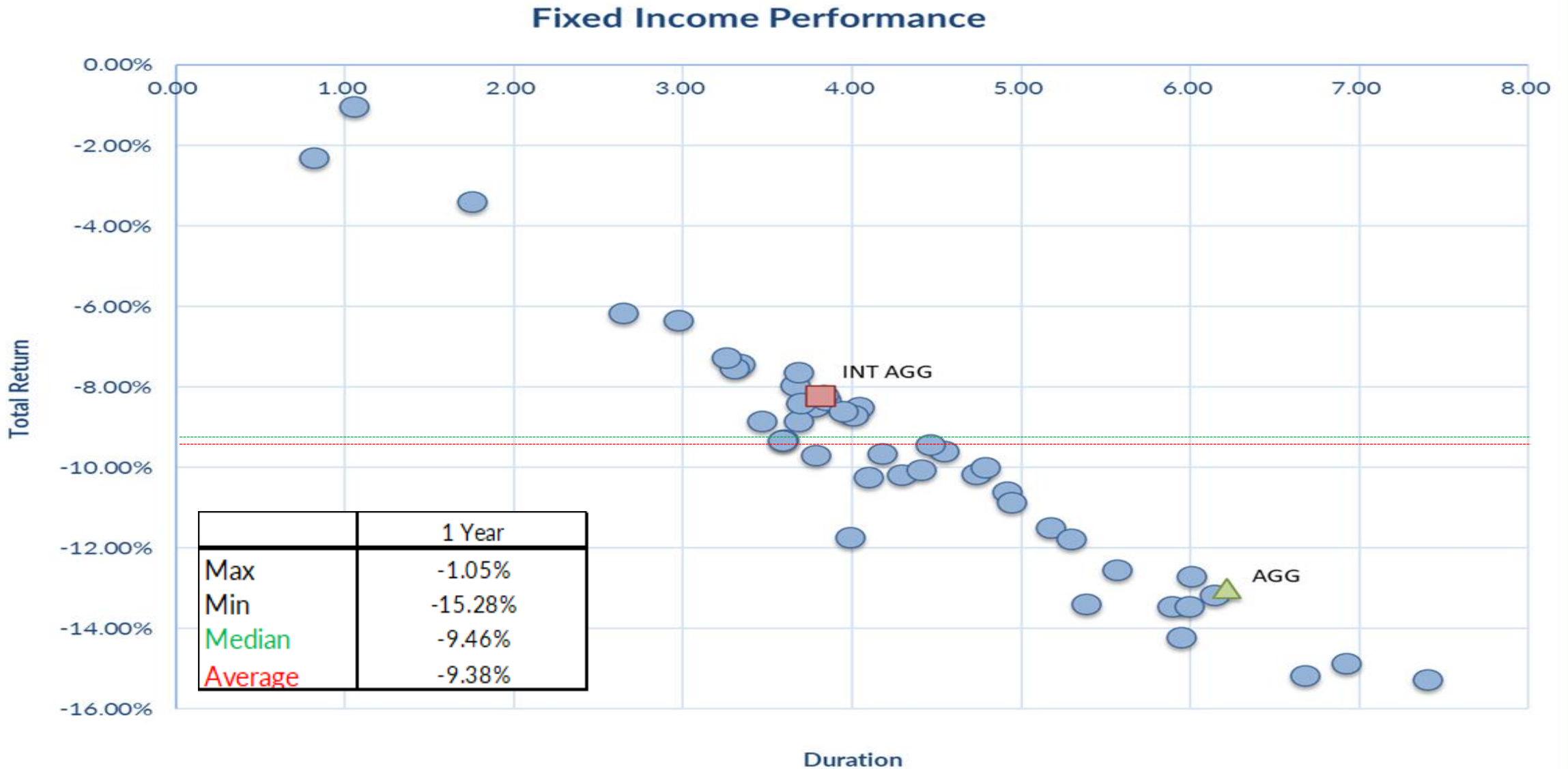
	ST/MMF (%)	UST & US Agency (%)	Agency MBS (%)	ABS/CMBS (%)	Corporate & Taxable Muni (%)	Credit (%) Corp/Structured
Max	100.00%	99.10%	59.20%	45.00%	100.00%	100.00%
Min	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%
Median	1.40%	26.50%	13.10%	12.64%	37.15%	46.17%
Average	6.42%	34.06%	15.02%	12.66%	33.13%	45.54%



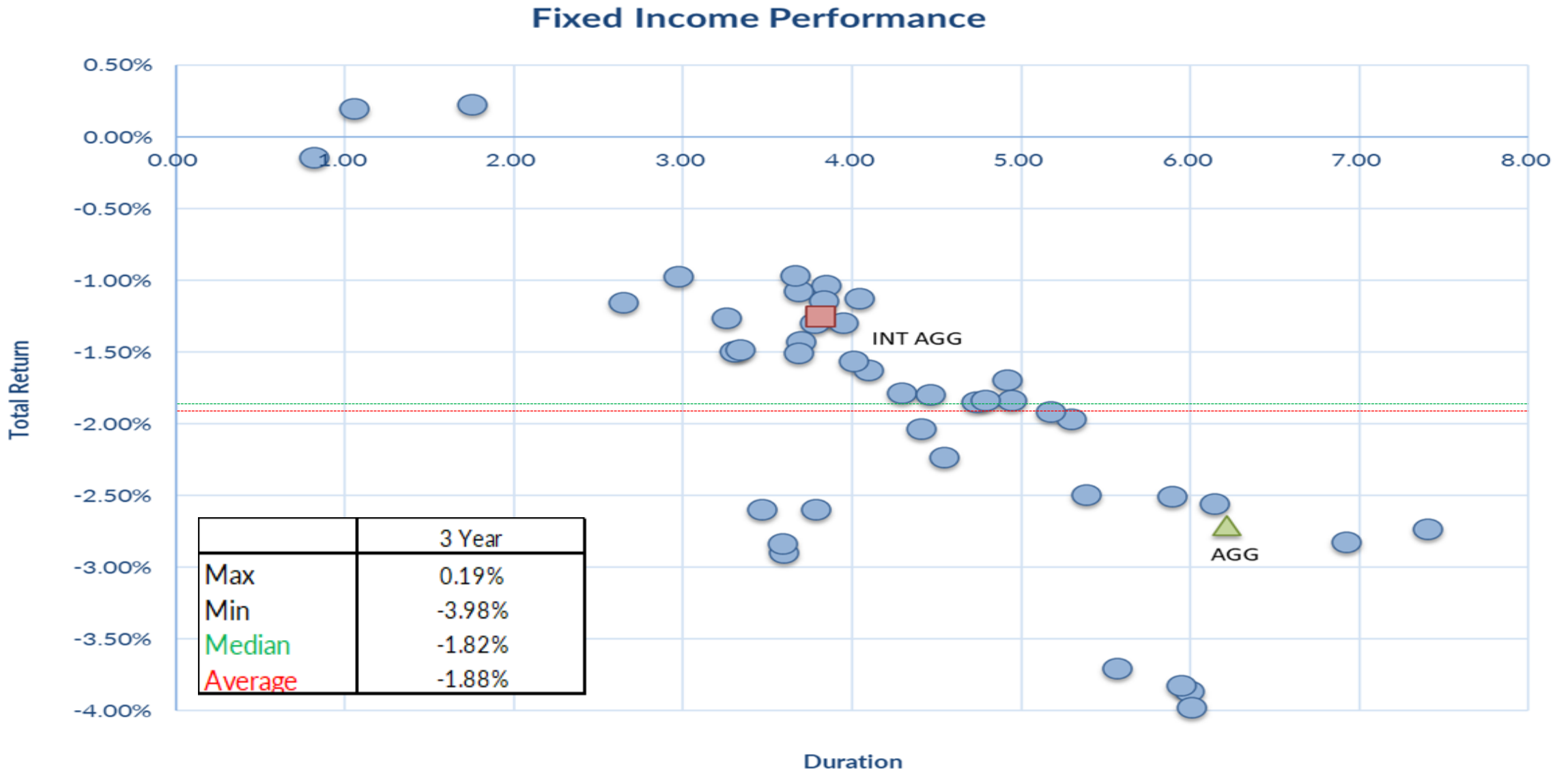
Fixed Income Portfolio – By Credit Rating



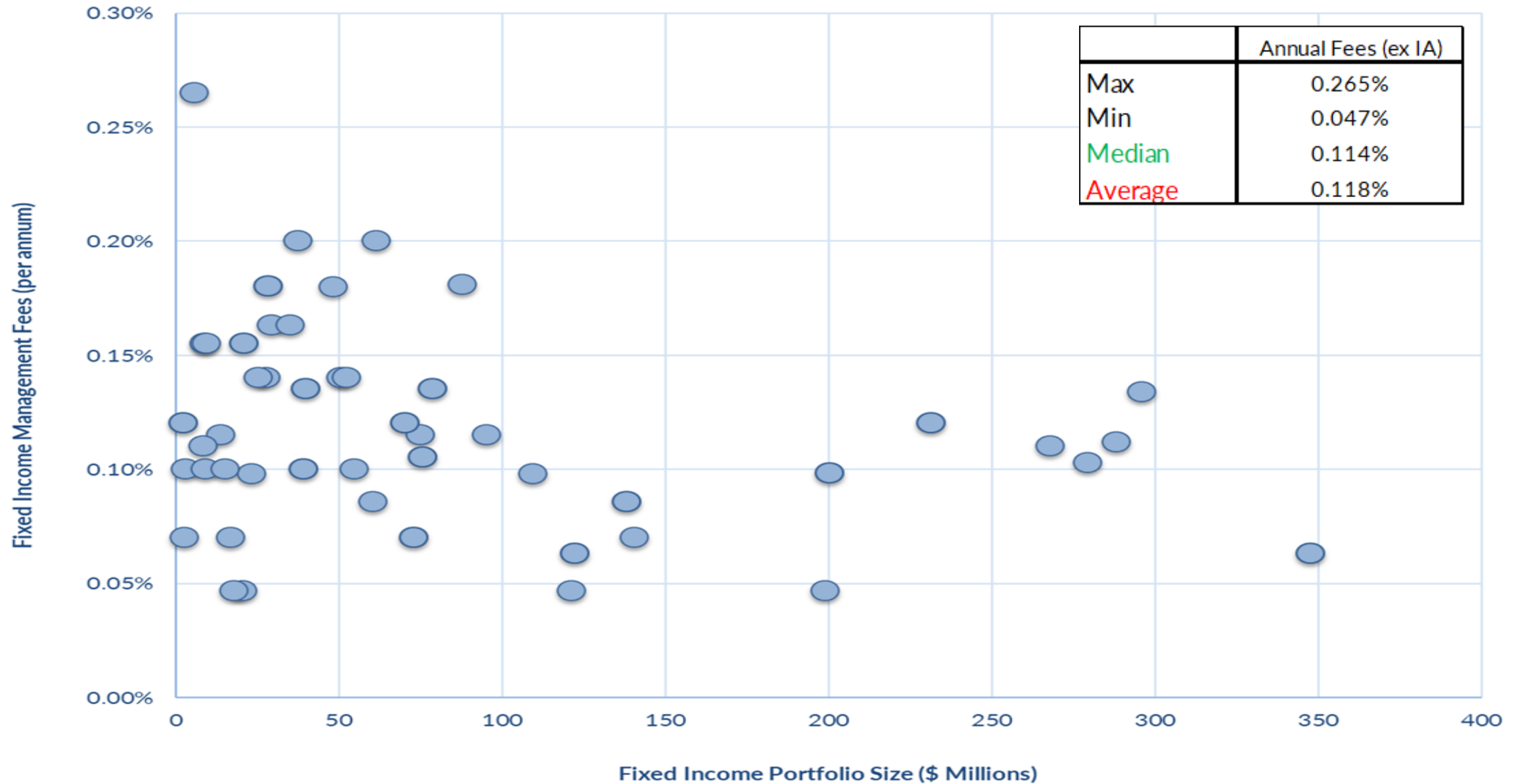
Fixed Income: One-Year Performance



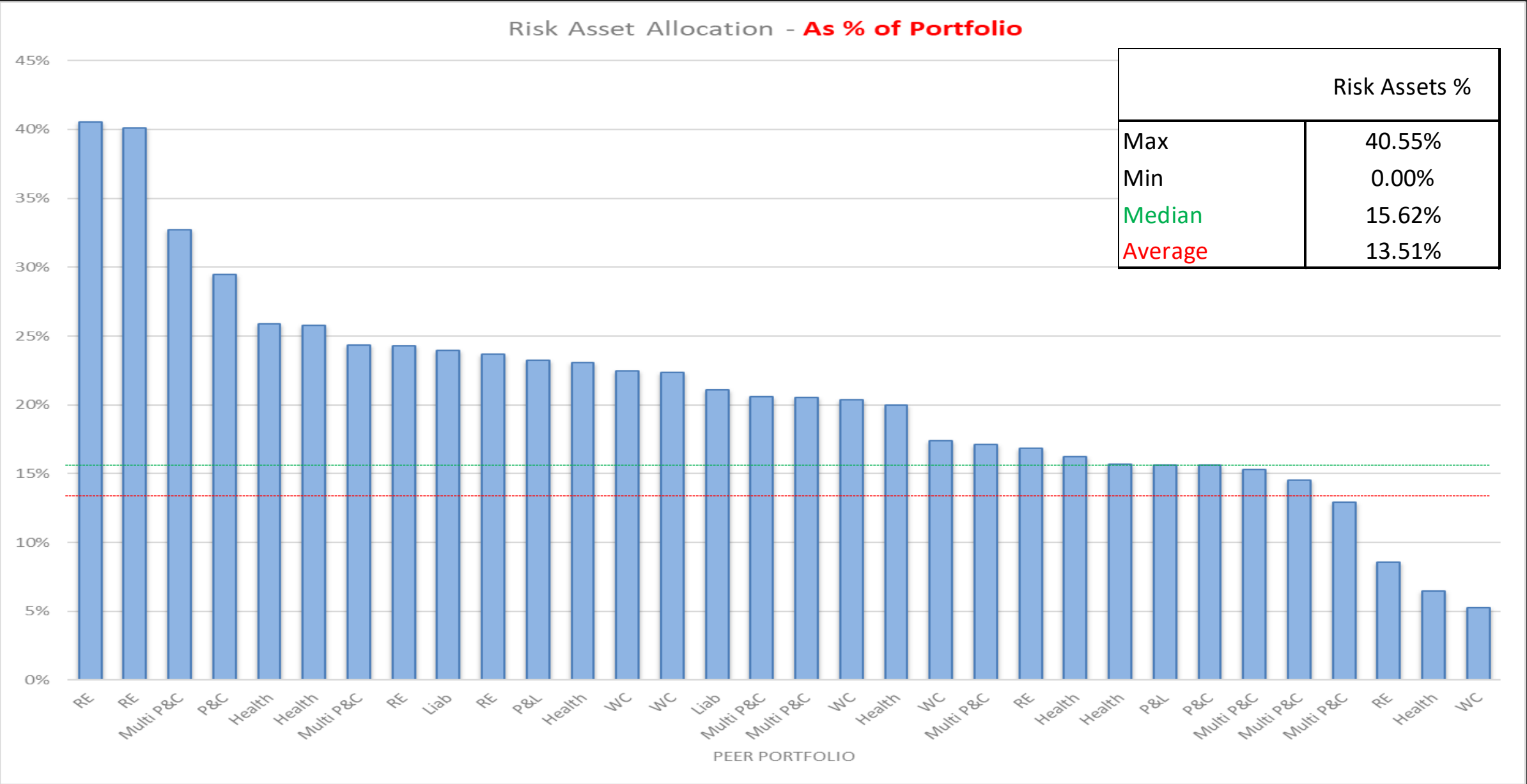
Fixed Income: Three-Year Performance (Annualized)



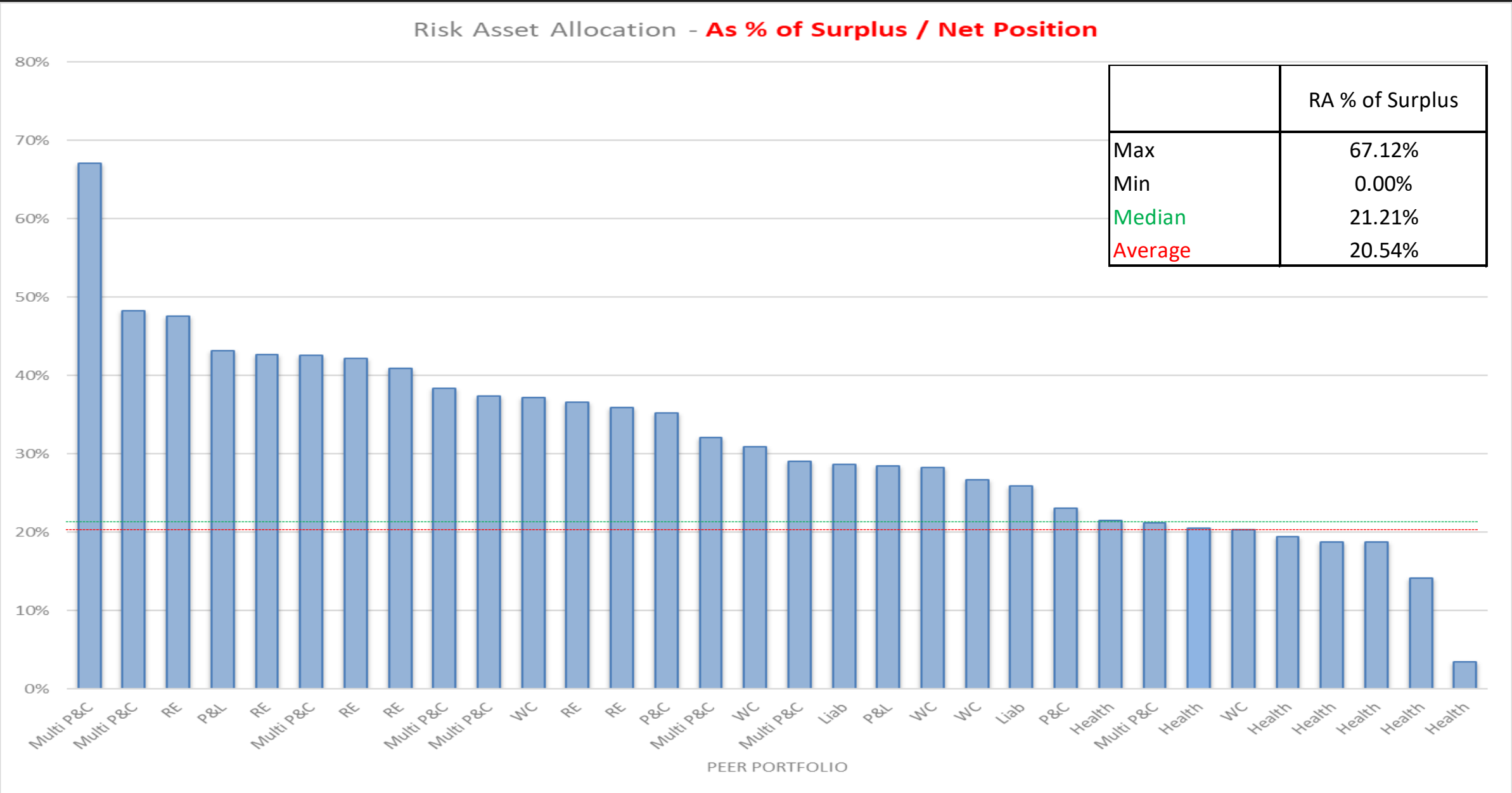
Fixed Income Investment Management Fees (ex Investment Accounting)



Risk Asset Allocation - % of Total Portfolio



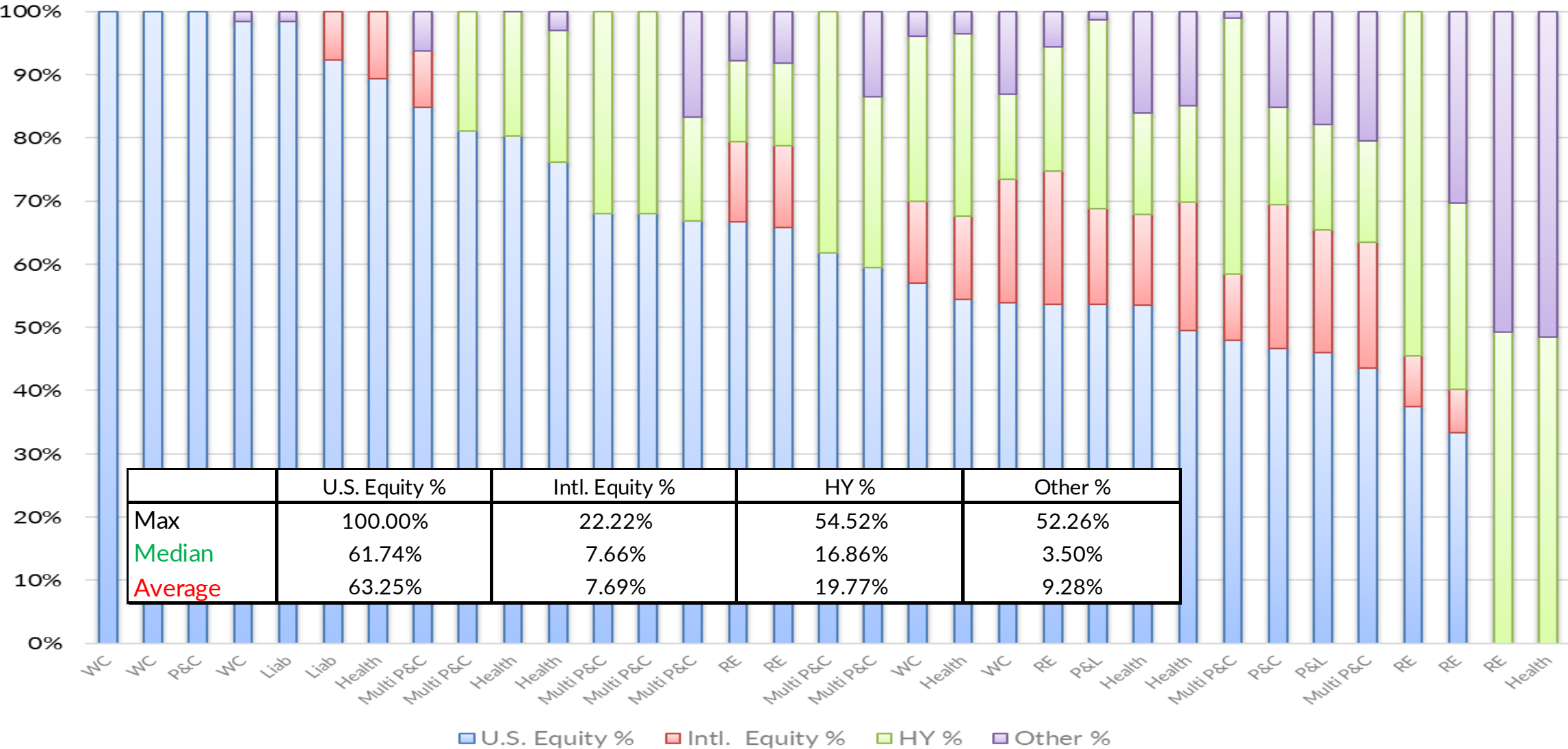
Risk Asset Allocation - % of Surplus / Net Position



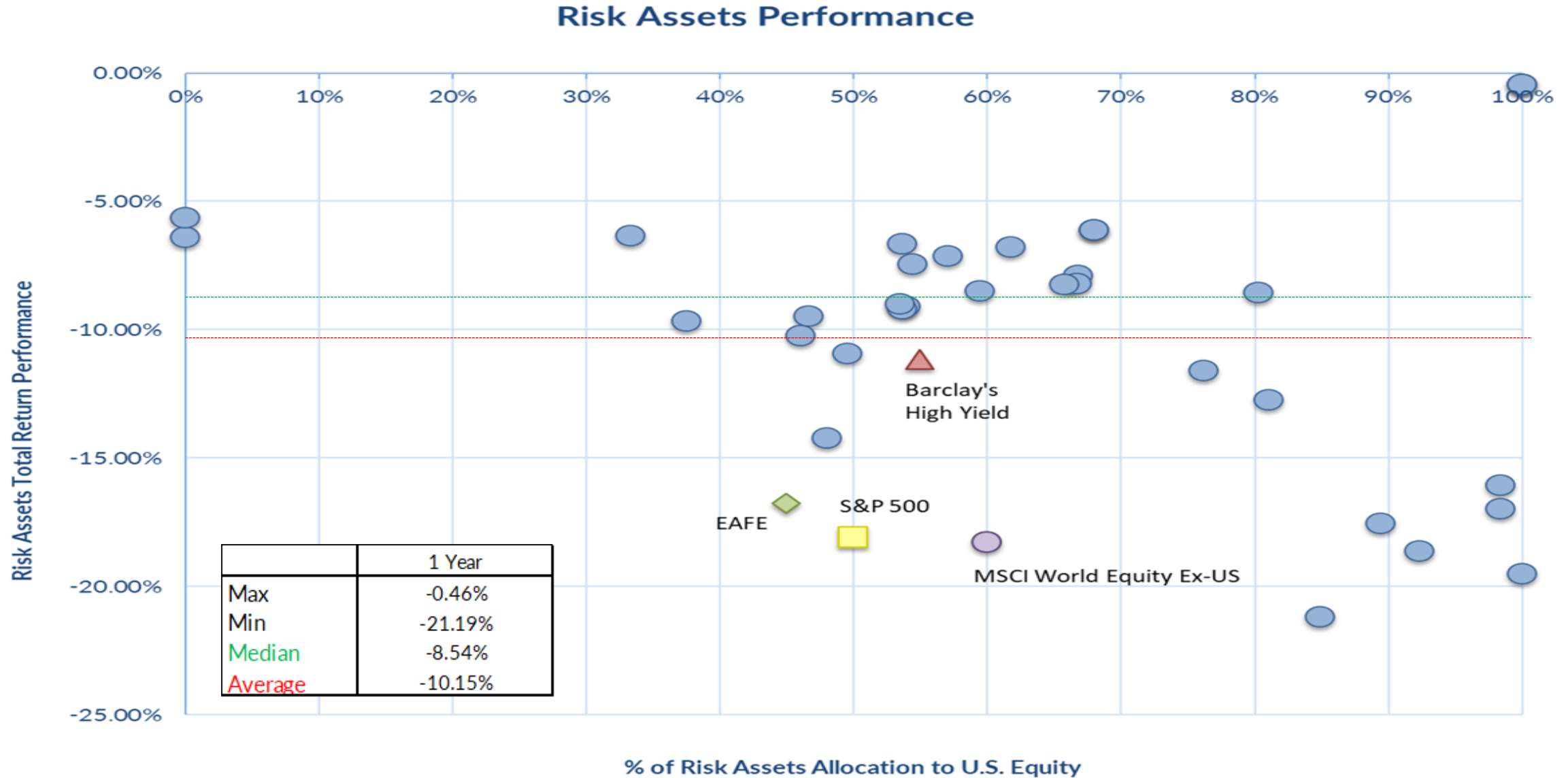
Risk Asset Allocation



Risk Asset Portfolio Composition



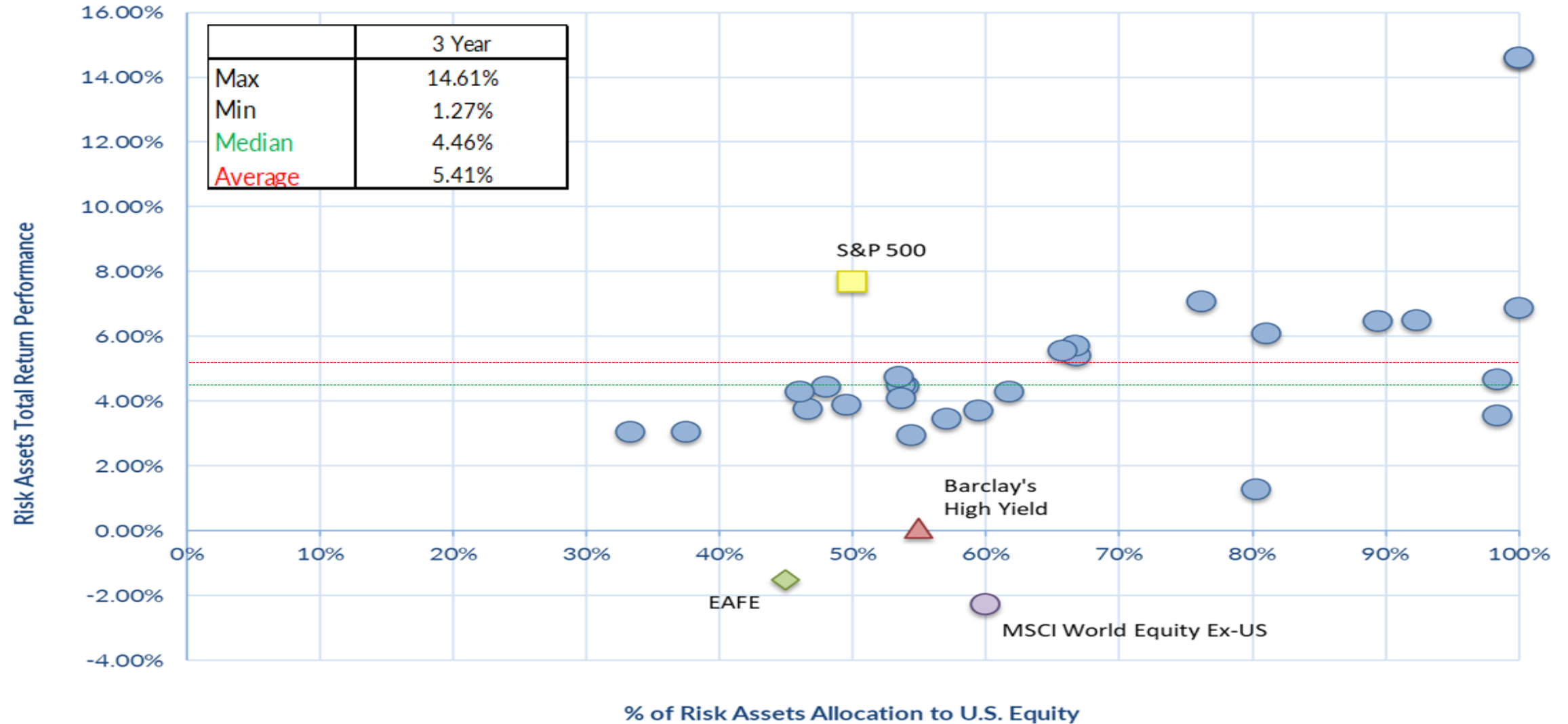
Risk Assets: One-Year Performance



Risk Assets: Three-Year Performance (Annualized)

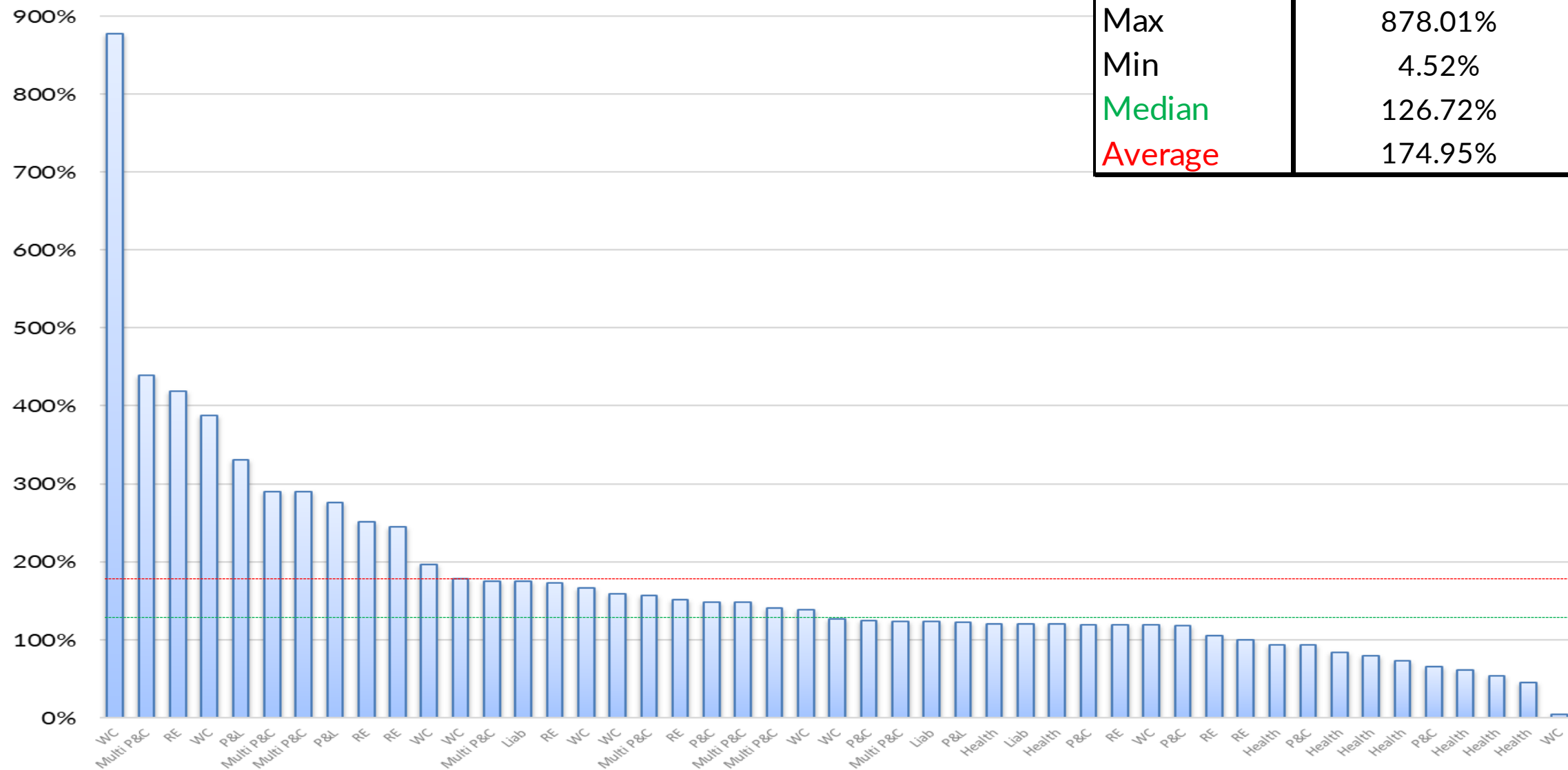


Risk Assets Performance



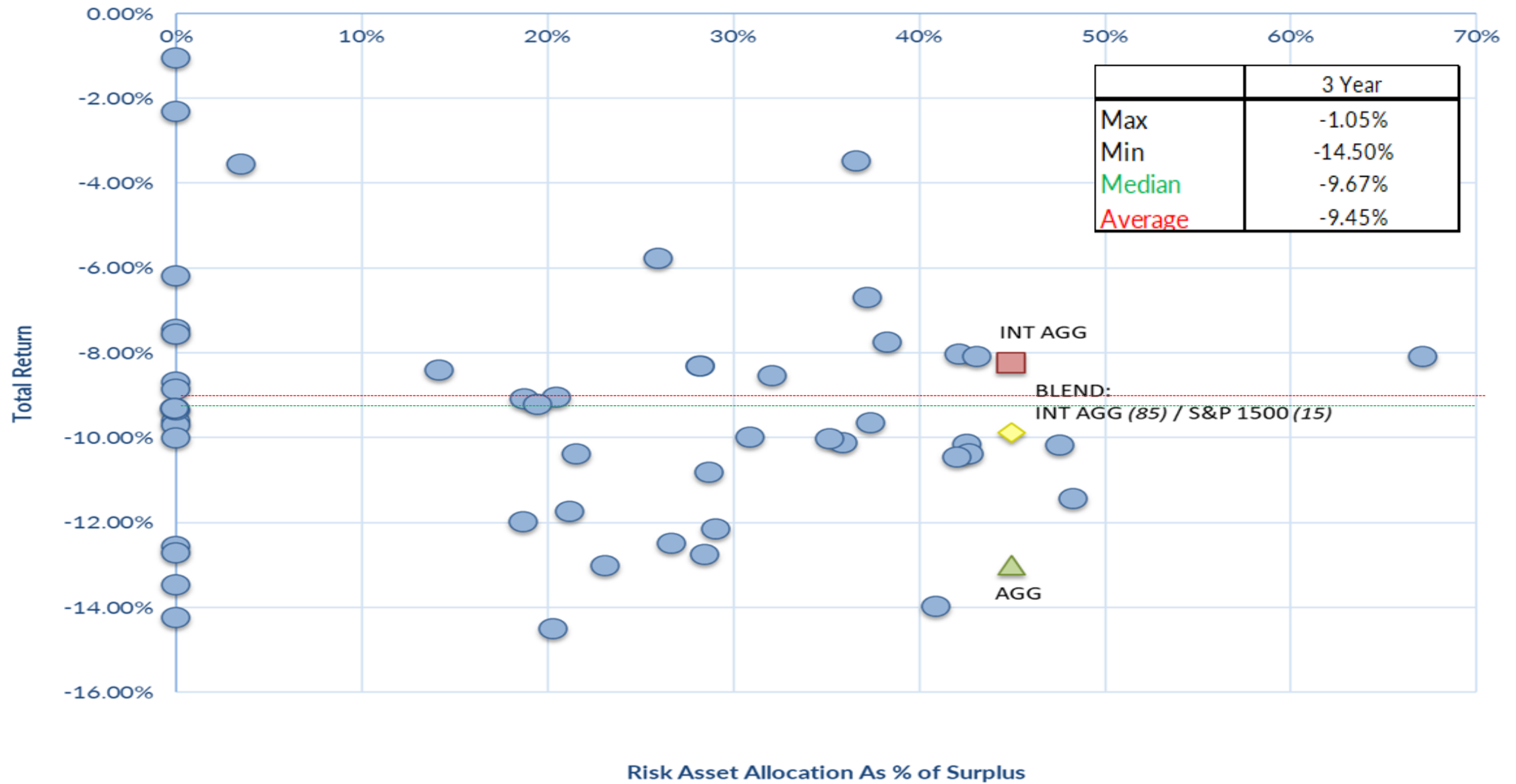
Investment Leverage

Invested Assets / Surplus

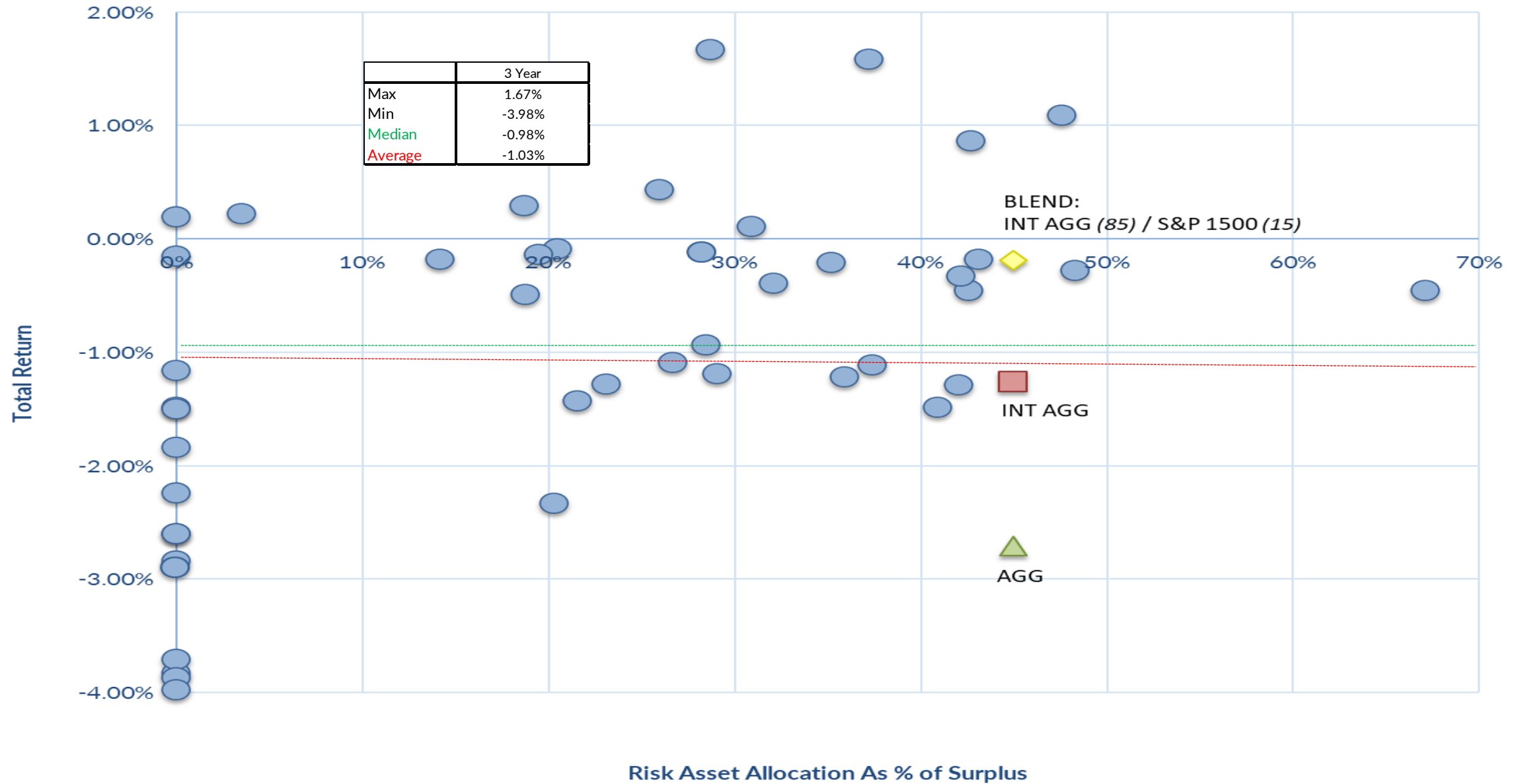


	Inv Assets/Surplus
Max	878.01%
Min	4.52%
Median	126.72%
Average	174.95%

Total Performance: One-Year Performance



Total Portfolio Performance: Three-Year Performance



Here & Now



- Cybersecurity
- Climate Change
- Regulatory Change
- Aging Infrastructure
- Evolving Liabilities
- Inflation





- Member Value Proposition
- Technological Change
- Talent & Workforce Management
- Reinsurance
- Capital Efficiency

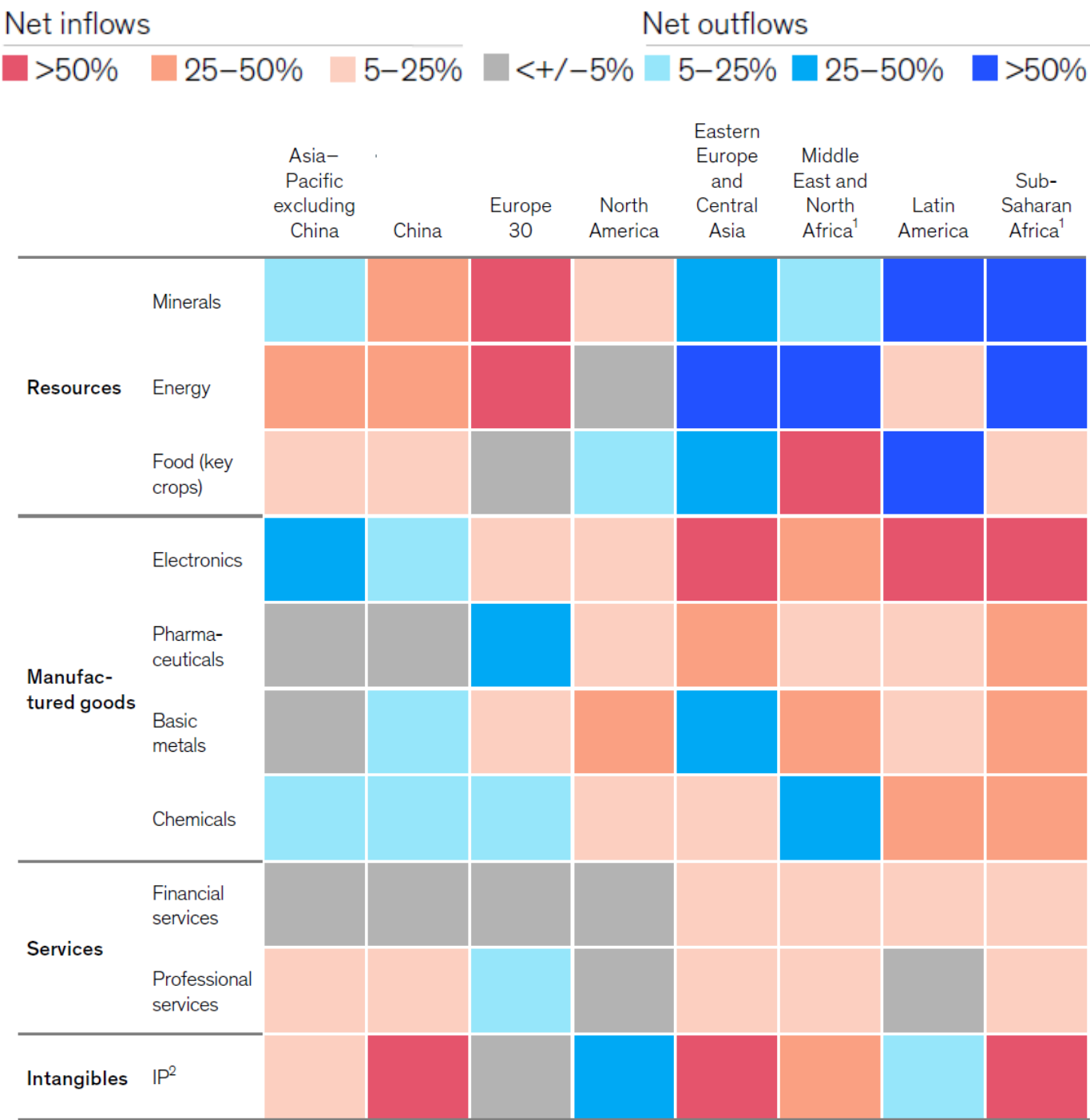




Looking Ahead

Globalization – Evolving But Still Very Much Present





Share of domestic consumption met by inflows, 2019, %

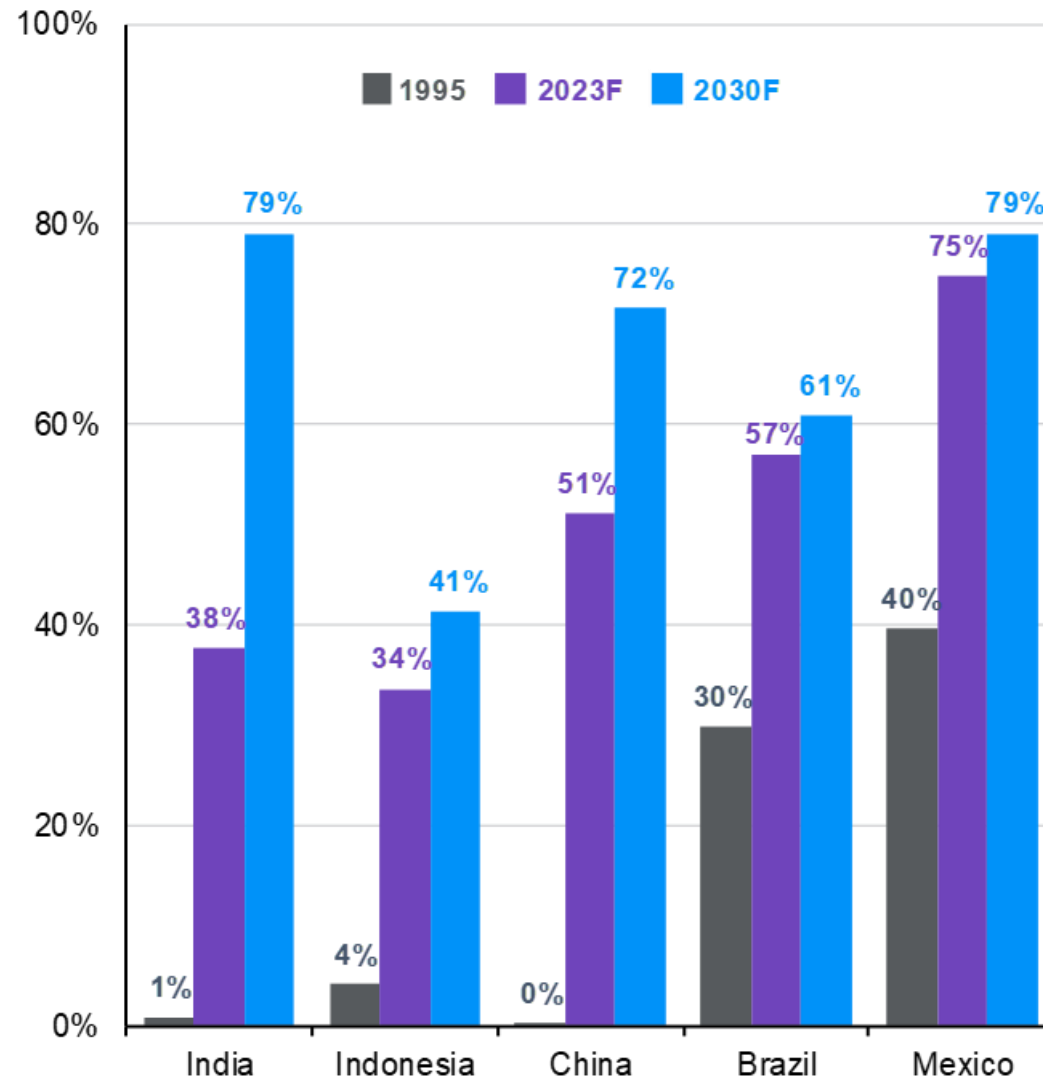
No global region is self-sufficient nor ever will be, but the global connections are reconfiguring...

Source: International Energy Agency; USDA; UN Comtrade; Trade in value added, OECD; McKinsey Global Institute analysis

The emergence of the EM middle class

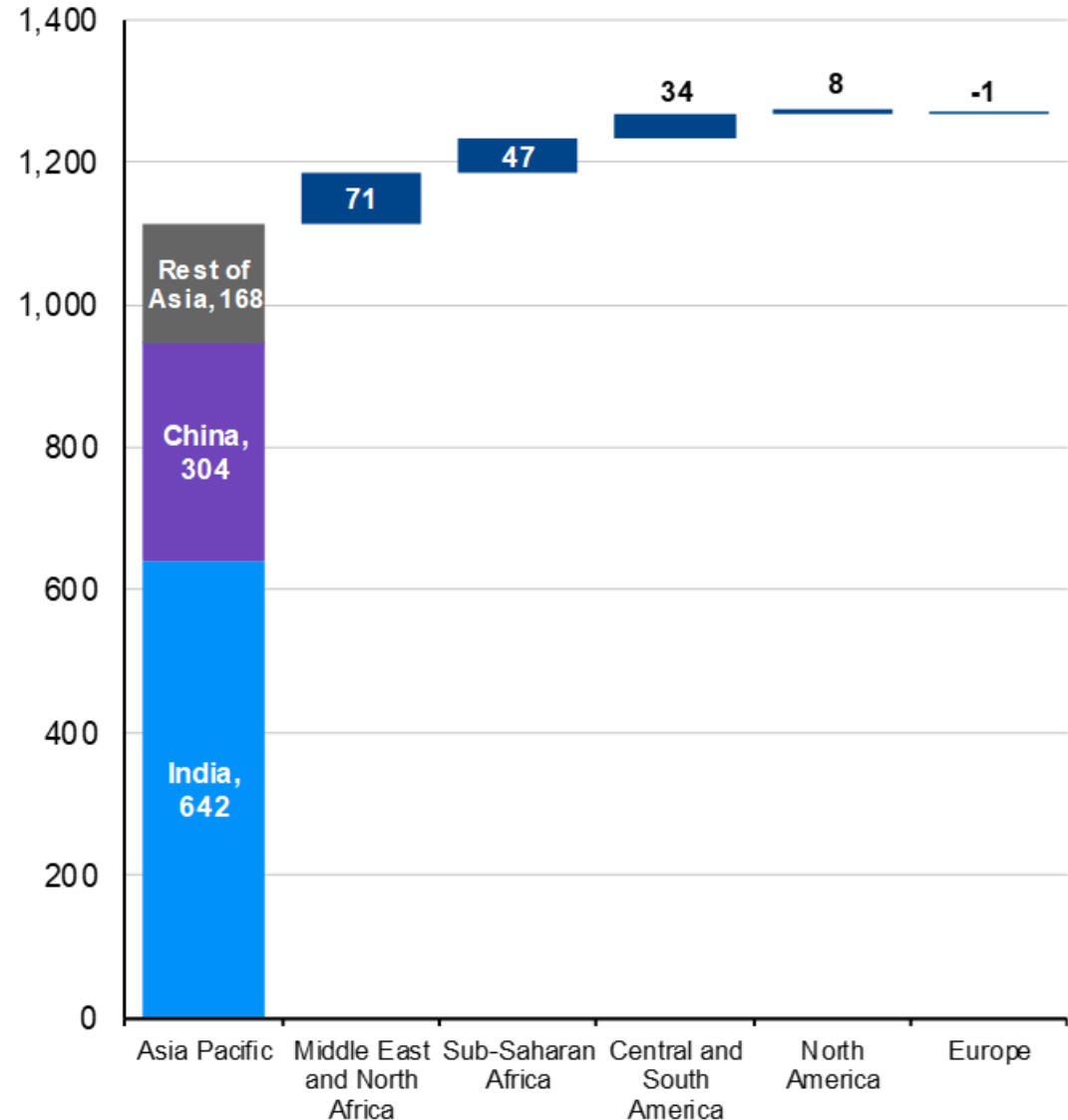
Growth of the middle class

Percent of total population

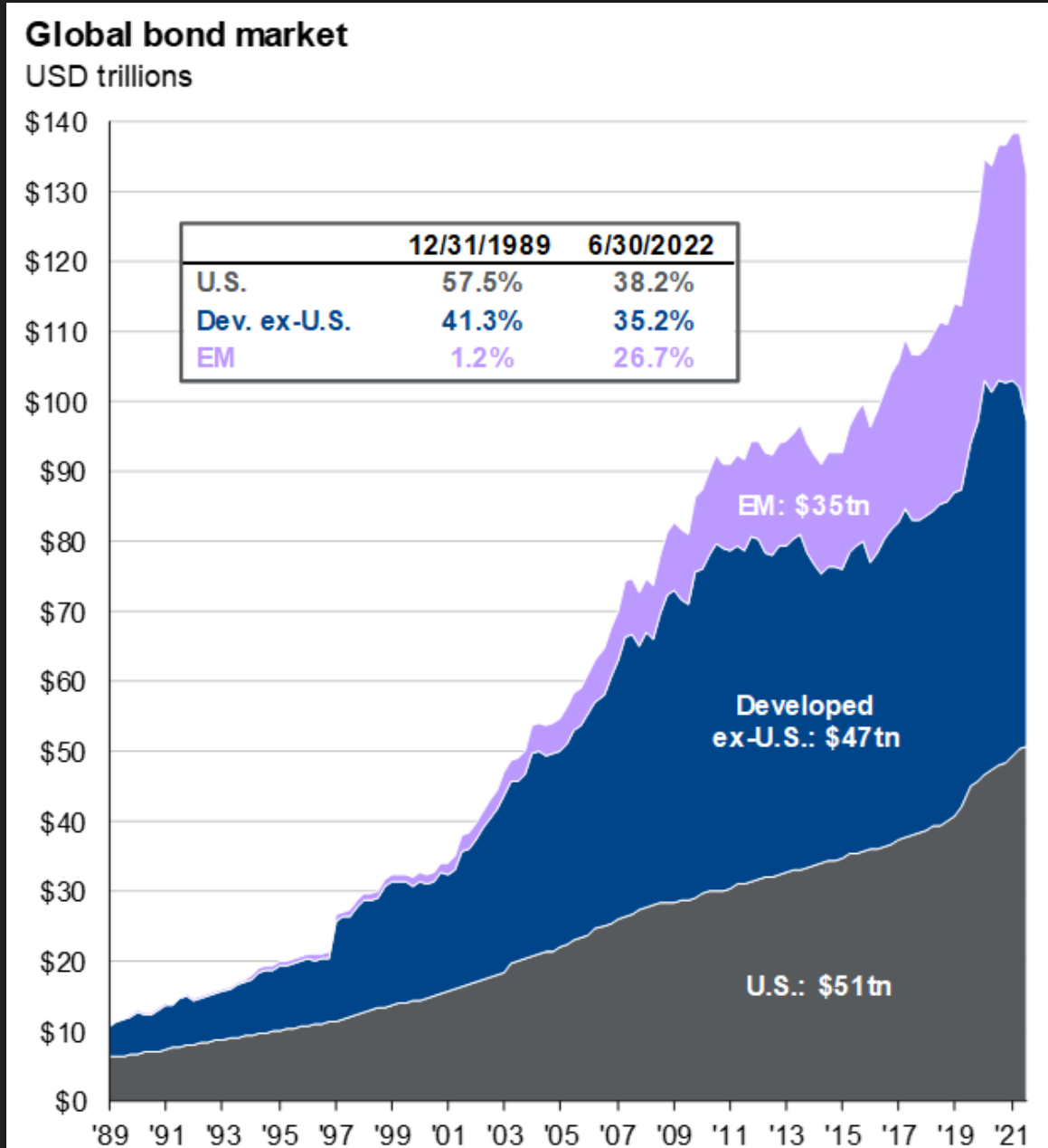


Regional contribution to middle class growth: 2023 to 2030

Millions of people



Global bond market – The Capital Financing Era?



○ \$140 Trillion

○ \$106 Trillion est. Global GDP

○ 132% Debt to GDP Ratio

Source: JPM Asset Management

Source: J.P. Morgan Asset Management



Sustainable Investing: What that means for pools?

FIFTY YEARS OF DIGITAL ASSIMILATION

Web 1.0 - Connected Organizations - Dial In
Websites & Search • Digital Marketing • eCommerce

2000

THE TIPPING POINT (OF NO RETURN)

VIRUSES

Web 2.0 - Connected People - 3G
Social Technologies • Media • Networking Communication

2010

SOCIAL ENGINEERING

Web 3.0 - Connected Things - 5G
Smart Devices • IoT & M2M • Ambient Computing Mesh

2020

DEVICE TAKEOVER

Web 4.0 - Virtual Intelligence - 8G?
AI, ML, DL Ecosystem • Ambient Intelligence Mesh

2028

MI EXTORTION/CORRUPTION

Web 5.0 - Augmented Capabilities - 10G?
Wearables/Implantables • Transhumanism

2045

AUGMENTATION EXTORTION/CONTROL

Source: AGRIP Spring 2022, Scott Klososky Keynote, March 8, 2022

DIGITAL RISK GROWS

Combating implicit bias
in health care p. 870

Science themes featured
at Sundance 2023 p. 874

Organizing pedestrian
and other flows p. 923

Science

\$15
3 MARCH 2023
science.org

AAAS

TAMING GRAPES

The domestication of an
essential vine pp. 880 & 892

POLICY FORUM

The growing influence of industry in AI research

Industry is gaining control over the technology's future

NUR AHMED, MUNTASIR WAHED, AND NEIL C. THOMPSON [Authors Info & Affiliations](#)



Things to Consider

○ Investment income:

- *Is a cornerstone to the risk transfer business model, and...*
- *maximizing risk-adjusted investment income can mean the difference between remaining competitive or losing members to aggressive pricing.*
- **How much can you expect to earn?**
- **How much risk are you willing to prudently take?**
- **What liabilities are you funding by design or presumption?**
- **“NEW” How much reinsurance is available and at what cost?**

Investment Performance Objectives

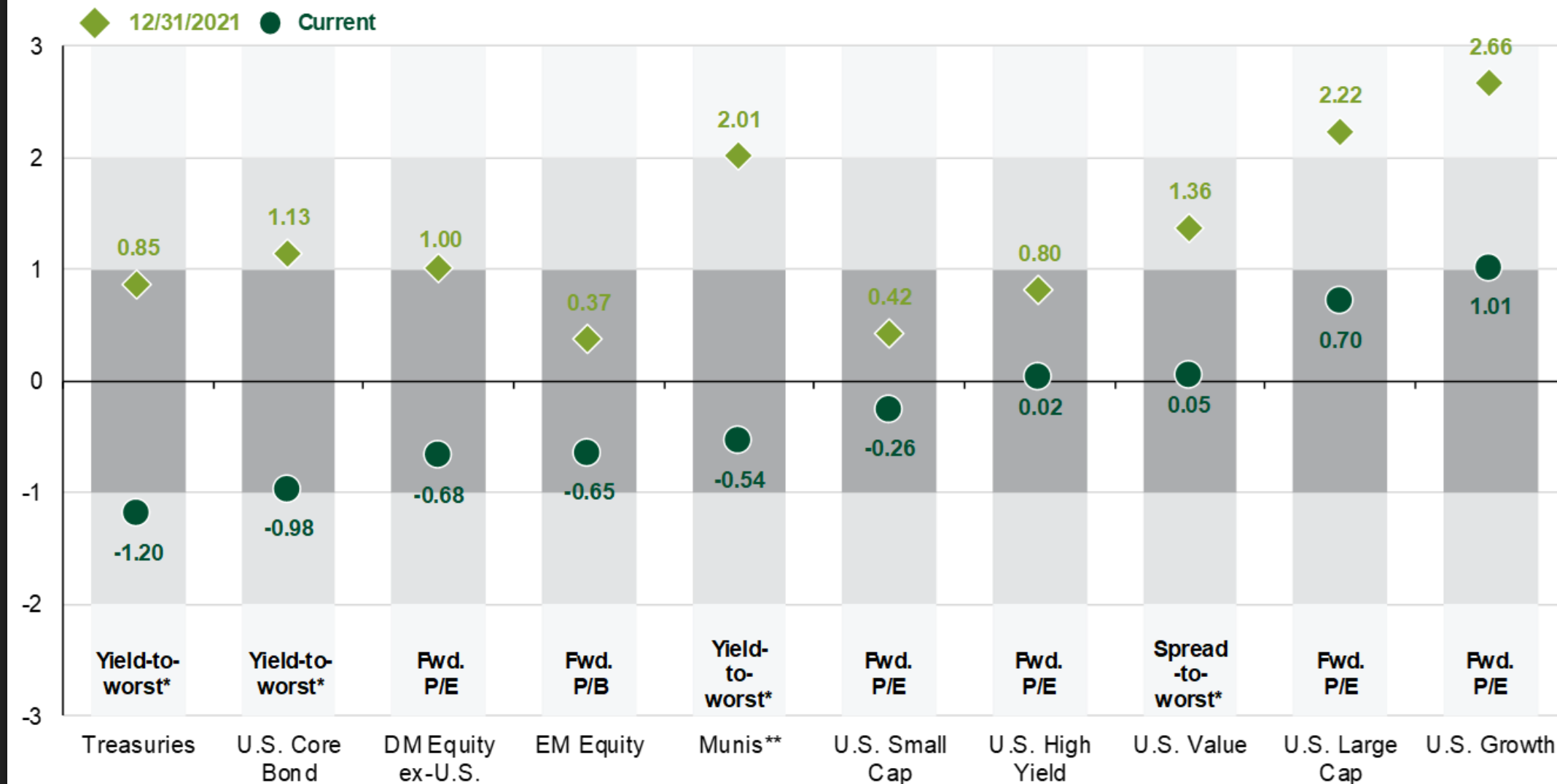
- Where do you fall on this objective continuum and why?



Valuations Monitor (Latest 20 Years)

Asset class valuations

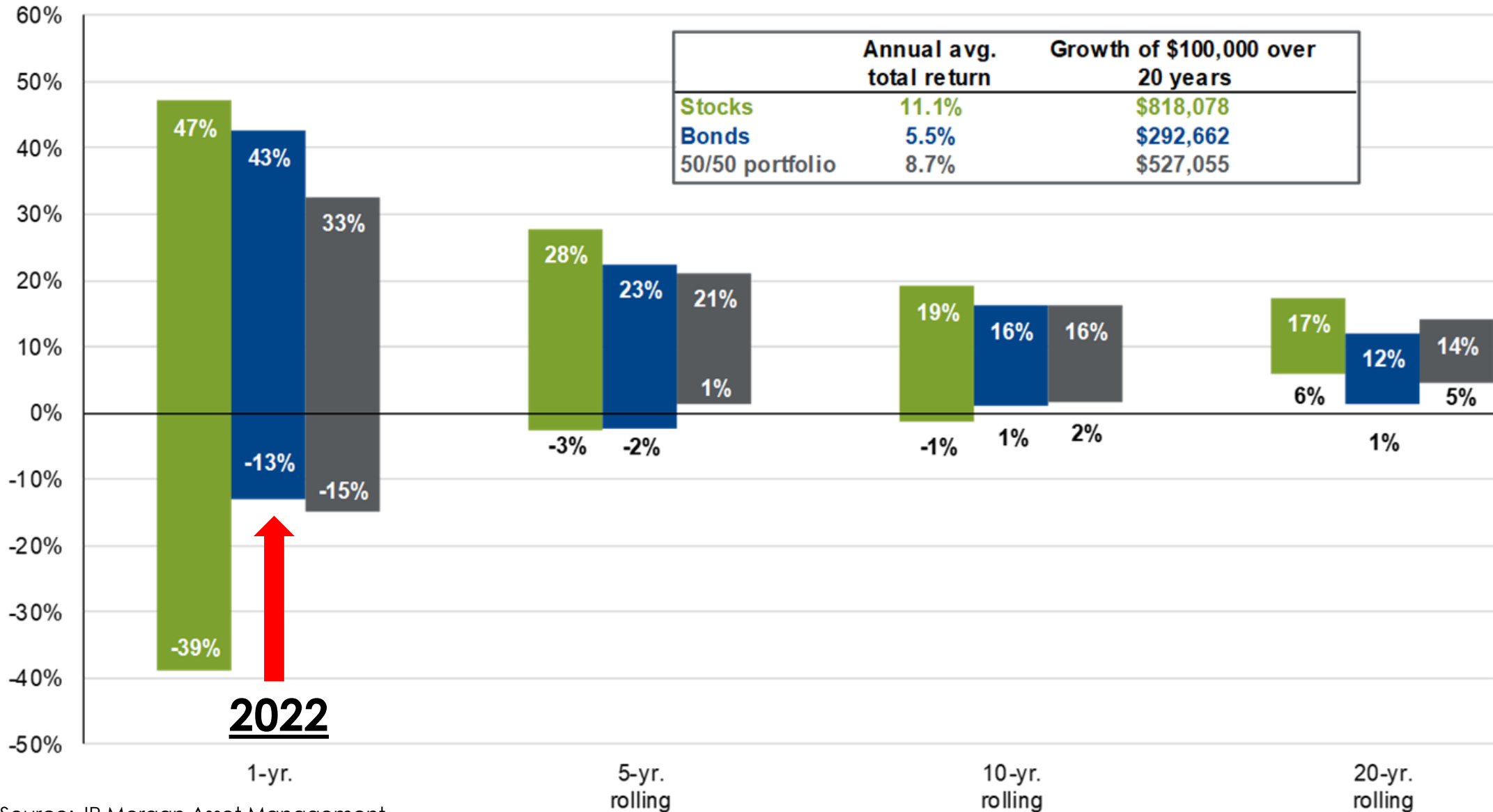
Z-scores based on 20-year average valuation measures



Strategic - Time, Diversification and the Volatility of Returns

Range of stock, bond and blended total returns

Annual total returns, 1950-2022



Considerations – Investment Process

- How is your investment process addressing these trends?
 - Asset allocation (Yield vs. Growth)
 - Enterprise risk management modeling vs. culture
 - Board/staff education
 - (data vs. information vs. knowledge)
 - Investment policy flexibility
 - Captive formation

Considerations – Investment Process cont.

- How is your investment process addressing these trends?
 - Internal Staffing
 - Investment manager(s)
 - Investment advisors
 - Investment manager Technology platform & flexibility
 - Investment accounting & reporting