

**UTIMCO BOARD OF DIRECTORS
MEETING AGENDA
December 9, 2022
UTIMCO
210 West 7th Street, Suite 1700
Austin, Texas 78701**

Time		Item #	Agenda Item
Begin	End		
9:00 a.m.	9:05 a.m.	1	Call to Order of the Meeting/Discussion and Appropriate Action Related to Minutes of the September 15, 2022 Meeting*
9:05 a.m.	9:45 a.m.	2	CEO Update
9:45 a.m.	10:10 a.m.	3	UTIMCO Performance and Market Update
10:10 a.m.	10:30 a.m.	4	Operations Presentation
10:30 a.m.	10:45 a.m.	5	Legal and Compliance Presentation
10:45 a.m.	10:55 a.m.	6	Report from Audit and Ethics Committee: - Discussion and Appropriate Action Related to the Deloitte & Touche LLP Financial Statement Audit Results and Communications and the Audited Financial Statements of the Permanent University Fund, General Endowment Fund, Permanent Health Fund, Long Term Fund, Intermediate Term Fund, and the Statement of Investment Performance Statistics for the year ended August 31, 2022*
10:55 a.m.	11:00 a.m.	7	Report from Investment Risk Committee
11:00 a.m.	11:05 a.m.	8	Report from Cyber Risk Committee
11:05 a.m.	11:25 p.m.		Recess to Executive Session, if required Executive Session: The Board of Directors may convene in Executive Session to consider individual personnel compensation matters, including Report of Compensation Committee Regarding Performance Awards for UTIMCO Compensation Program Participants for the Performance Period ended June 30, 2022, pursuant to Section 551.074, <i>Texas Government Code</i> . Reconvene into Open Session
11:25 p.m.	11:30 a.m.	9	Report from Compensation Committee: - Discussion and Appropriate Action Related to Performance Awards for UTIMCO Compensation Program Participants for the Performance Period ended June 30, 2022*
11:30 a.m.			Adjourn followed by Lunch

* Action by resolution required

** Resolution requires further approval from the Board of Regents of The University of Texas System

Members of the Board may attend the meeting by telephone conference call pursuant to Tex. Educ. Code Ann. § 66.08(h)(2)(B). The telephone conference will be audible to the public at the meeting location specified in this notice during each part of the meeting that is required to be open to the public.

Next Scheduled Meeting: March 30, 2023

RESOLUTION RELATED TO MINUTES

RESOLVED, that the minutes of the Meeting of the Board of Directors held on **September 15, 2022**, be, and are hereby, approved.

**MINUTES OF MEETING
OF THE BOARD OF DIRECTORS OF
THE UNIVERSITY OF TEXAS/TEXAS A&M INVESTMENT MANAGEMENT COMPANY**

The Board of Directors (the “Board”) of The University of Texas/Texas A&M Investment Management Company (the “Corporation”) convened in an open meeting on **September 15, 2022**, in person and by means of video and telephone conference enabling all persons participating in the meeting to hear each other, at the offices of the Corporation located at 210 West 7th Street, Suite 1700, Austin, Texas, said meeting having been called by the Chairman, James C. “Rad” Weaver (“Chairman”), with notice provided to each member in accordance with the Corporation’s Bylaws. The audio portion of the meeting was electronically recorded and broadcast over the Internet. Participating in the meeting were the following members of the Board:

James C. “Rad” Weaver
Ray Rothrock
James B. Milliken
Janet Handley
Jodie L. Jiles
Janiece Longoria
Ray Nixon
Clifton L. Thomas, Jr.

thus constituting a majority and quorum of the Board. Director Robert Gauntt was not in attendance. Employees of the Corporation attending the meeting were Britt Harris, President and CEO; Rich Hall, Chief Investment Officer; Joan Moeller, Secretary and Treasurer; Carolina de Onís, General Counsel and Chief Compliance Officer; Russ Kampfe, Managing Director – Fixed Income; Uzi Yoeli, Managing Director – Risk Management; Tim Jones, Senior Director – Risk Management; Mike Sjolander, Managing Director – Information Services & Security; Gus Deering, Chief Technology Officer; and other UTIMCO employees. Other attendees included Lieutenant General Robert L. Van Antwerp (U.S. Army, Ret.); Jerry Kyle of Orrick, Herrington, & Sutcliffe LLP; Jordan Jackson of J. P. Morgan Asset Management; and Keith Brown of the McCombs School of Business at UT Austin. Chairman Weaver called the meeting to order at 8:32 a.m. Copies of materials supporting the Board meeting agenda were previously furnished to each member of the Board.

Executive Session

Chairman Weaver announced that, “The Board of Directors of The University of Texas/Texas A&M Investment Management Company having been duly convened in Open Session and notice of this meeting having been duly given, I hereby announce the convening of a closed meeting as an Executive Session to deliberate individual personnel matters pursuant to *Texas Government Code* Section 551.074. The date is September 15, 2022, and the time is now 8:33 a.m.” With the exception of Mr. Harris, Ms. Moeller, Ms. de

Onís, Mr. Kyle, Mr. Brown, and Lieutenant General Van Antwerp, all other meeting participants left the meeting at this time.

Reconvene in Open Session

The Board reconvened in open session and Chairman Weaver announced that, "The Open Session of the Board of Directors of The University of Texas/Texas A&M Investment Management Company is now reconvened. The date is September 15, 2002, and the time is now 9:28 a.m. During the Executive Session, the Board deliberated individual personnel matters, but no action was taken, nor decisions made, and no vote was called for or had by the Board in Executive Session."

Minutes

The next item to come before the Board was approval of the Minutes of the Board of Directors Meeting held on June 10, 2022. Upon motion duly made and seconded, the following resolution was unanimously adopted by the Board:

RESOLVED, that the minutes of the Meeting of the Board of Directors held on June 10, 2022, be, and are hereby, approved.

Corporate Resolutions

Election of Corporate Officers

Chairman Weaver welcomed James B. Milliken to the UTIMCO Board of Directors and nominated Director Milliken to serve as Vice Chairman for Policy. In accordance with the UTIMCO Bylaws, the Chancellor of UT System shall serve as the Vice Chairman for Policy when appointed to the Board. Chairman Weaver also recommended that Gus Deering, Tony Caruso, and Mukund Joshi be appointed as officers of the Corporation. Managing Directors are considered officers of the Corporation. Mr. Deering was hired as UTIMCO's new Managing Director – Information Services & Security and Chief Technology Officer, effective August 29, 2022. Mr. Caruso was appointed Managing Director – Hedge Funds, and Mr. Joshi was appointed Managing Director – Real Return, effective September 1, 2022. As stated in the Bylaws, Officers for the ensuing year are to be elected at the Annual Meeting. Employees that are designated as Officers by the Board meet the definition of Key Employees in the Corporation's Code of Ethics. Upon motion duly made and seconded, the following resolution was unanimously adopted:

RESOLVED, that the following persons are hereby appointed to the respective office or offices of the Corporation set forth opposite their names, to serve until the next Annual Meeting of the Corporation or until their resignation or removal.

<u>Name</u>	<u>Office or Offices</u>
James B. Milliken	Vice Chairman for Policy
Tony Caruso	Managing Director
Gus Deering	Managing Director and Chief Technology Officer
Mukund Joshi	Managing Director

Committee Assignments

Chairman Weaver presented a recommendation for new Board committee assignments. Upon motion duly made and seconded, the following resolutions were unanimously adopted:

BE IT RESOLVED, that the following Directors of the Corporation are hereby designated as the Audit and Ethics Committee of the Board of Directors:

Janet Handley
Jodie L. Jiles
Janiece Longoria
James B. Milliken

subject to approval by the Board of Regents of The University of Texas System at a future meeting, to serve until the expiration of their term, or until their successor has been chosen and qualified, or until their earlier death, resignation or removal; and

FURTHER RESOLVED, that Janet Handley is hereby designated the Chair of the Audit and Ethics Committee and shall preside at its meetings.

BE IT RESOLVED, that the following Directors of the Corporation are hereby designated as the Compensation Committee of the Board of Directors:

Robert Gauntt
Janet Handley
Ray Nixon
Ray Rothrock

to serve until the expiration of their term, or until their successor has been chosen and qualified, or until their earlier death, resignation or removal; and

FURTHER RESOLVED, that Ray Nixon is hereby designated the Chair of the Compensation Committee and shall preside at its meetings.

BE IT RESOLVED, that the following Directors of the Corporation are hereby designated as the Policy Committee of the Board of Directors:

Robert Gauntt
Jodie L. Jiles
Ray Nixon
Clifton L. Thomas, Jr.

to serve until the expiration of their term, or until their successor has been chosen and qualified, or until their earlier death, resignation or removal; and

FURTHER RESOLVED, that Robert Gauntt is hereby designated the Chair of the Policy Committee and shall preside at its meetings.

BE IT RESOLVED, that the following Directors of the Corporation are hereby designated as the Investment Risk Committee of the Board of Directors:

Janet Handley
Janiece Longoria
Ray Rothrock
Clifton L. Thomas, Jr.

to serve until the expiration of their term, or until their successor has been chosen and qualified, or until their earlier death, resignation or removal; and

FURTHER RESOLVED, that Janiece Longoria is hereby designated the Chair of the Investment Risk Committee and shall preside at its meetings.

BE IT RESOLVED, that the following Directors of the Corporation are hereby designated as the Cyber Risk Committee of the Board of Directors:

Robert Gauntt
James B. Milliken
Ray Rothrock
Clifton L. Thomas, Jr.

to serve until the expiration of their term, or until their successor has been chosen and qualified, or until their earlier death, resignation or removal; and

FURTHER RESOLVED, that Ray Rothrock is hereby designated the Chair of the Cyber Risk Committee and shall preside at its meetings.

Resolution of Appreciation

Chairman Weaver recognized and thanked former Chairman Jeffrey D. Hildebrand for his nine years of service as a UTIMCO Board Member, and seven years as UTIMCO Board Chairman. Other Directors and Mr. Harris also offered their thanks and praise for former Chairman Hildebrand's service to the Corporation. After discussion, Chairman Weaver recommended approval of a resolution to honor former Chairman Jeffrey D. Hildebrand for his service to UTIMCO. Upon motion duly made and seconded, the following resolution was unanimously adopted:

WHEREAS, in recognition of his substantial background, philanthropic efforts, and expertise in business, Jeffrey D. Hildebrand was appointed by Governor Rick Perry to a term on the Board of Regents of The University of Texas System in February 2013; and

WHEREAS, Mr. Hildebrand was appointed by the Board of Regents of The University of Texas System to the Board of Directors of The University of Texas/Texas A&M Investment Management Company ("UTIMCO") in September

2013, serving as a Regental Director until his term expired in April 2019, and then reappointed as an external Director in May 2019; and

WHEREAS, Mr. Hildebrand was elected Chairman of the UTIMCO Board in April 2015 and continued as Chairman during the remainder of his tenure on the UTIMCO Board, thereby serving as the longest-running Chairman in the history of UTIMCO; and also served at various times as Chairman of the Policy Committee and as a member of the Audit and Ethics Committee, the Compensation Committee and the Risk Committee; and

WHEREAS, during his tenure on the UTIMCO Board, Mr. Hildebrand provided invaluable insight and counsel, drawing on his many years of business and investment experience as Founder, Chairman and Chief Executive Officer of Hilcorp Energy Company, an independent oil and gas exploration and production company headquartered in Houston, Texas with operations throughout the United States; and

WHEREAS, Mr. Hildebrand's commitment and service as a Director of UTIMCO were exemplary, reflecting his deep devotion to the education and development of students at all levels, and further evidenced by his service as a member of the Board of Rice University's Baker Institute for Public Policy and as recipient of the 2005 Distinguished Engineering Graduate and the 2013 Petroleum & Geosystems Engineering Distinguished Alumnus Awards, both from the University of Texas at Austin; and

WHEREAS, Mr. Hildebrand's unselfish contributions are also evidenced in the civic and corporate arenas by his generous financial support and service on various charitable and professional boards throughout his career, including serving on the Boards of Central Houston, Inc., the Houston Livestock Show and Rodeo, the Houston Police Foundation, the Hildebrand Foundation, and as a Commissioner of the Texas Parks and Wildlife Commission; and

WHEREAS, during Mr. Hildebrand's tenure on the UTIMCO Board, UTIMCO managed the Permanent University Fund for the benefit of The University of Texas and The Texas A&M University Systems and other investments of The University of Texas System with the highest standards of integrity, professionalism, and competency, earning wide praise and recognition from UTIMCO's investment beneficiaries, namely The University of Texas System and The Texas A&M University System, as well as the alumni and patrons of such Systems, the State's legislative leaders, the national credit rating agencies, capital markets, and investment community generally; and

WHEREAS, during Mr. Hildebrand's tenure on the UTIMCO Board, total assets under management by UTIMCO more than doubled, growing from \$30.0 billion to

over \$65.6 billion, and \$13.5 billion in endowment distributions have been made; and

WHEREAS, Mr. Hildebrand's leadership, judgment, and commitment to UTIMCO has contributed greatly to UTIMCO's success.

NOW, THEREFORE,

BE IT RESOLVED, that the Directors of The University of Texas/Texas A&M Investment Management Company, on behalf of the grateful people of the State of Texas, particularly the Boards of Regents and Administrators of The University of Texas System and The Texas A&M University System, and everyone at UTIMCO, do hereby express to Jeffery D. Hildebrand their sincerest appreciation for his leadership and service that contributed immeasurably to UTIMCO's success; and

BE IT FURTHER RESOLVED, that all persons who read this Resolution should know that Mr. Hildebrand has made a lasting and fundamental contribution to improve the manner in which public university endowments are invested and managed in the State of Texas, to the benefit of all of the citizens of the State, particularly the students and faculty of The University of Texas System and The Texas A&M University System.

PASSED AND ADOPTED this 15th day of September 2022.

Financial Markets Overview Presentation

Chairman Weaver asked Mr. Harris to introduce the guest speaker. Mr. Harris introduced Mr. Jordan Jackson, Global Market Strategist of J. P. Morgan Asset Management ("JPAM") and invited him to present an overview of the financial markets to the Board. Mr. Jackson noted the challenges thus far in 2022 from both the equities and bond side of the market. Mr. Jackson discussed JPAM's view of U.S. Growth, noting that while risk remains elevated, JPAM does not believe the U.S. is in a recession currently. JPAM expects U.S. Growth to return to positive territory in the third quarter, before contracting again in the beginning of 2023, resulting in a modest recession. Mr. Jackson discussed the household debt service ratio, highlighting that greater than 95% of outstanding mortgages have a fixed rate that are lower than the 30-year fixed rate today. Mr. Jackson continued, saying that demand for labor remains robust. In regard to corporate earnings growth, Mr. Jackson explained that expectations are still too elevated. JPAM predicts a slowed economy next year due to aggressive Federal Reserve action. Companies will continue to feel the pinch of higher input costs, higher interest rates, and increased wages, all of which will impact corporate earnings. Mr. Jackson continued, indicating that the Federal Reserve appears to be willing to slow the economy in order to bring inflation back down to the Fed's 2% target. Mr. Jackson concluded his presentation by discussing investment opportunities, referencing improved equity valuations, continued challenges in the fixed income environment, as well as significant challenges in the international landscape. Finally, Mr. Jackson added that alternatives can continue to enhance portfolio diversification. Mr. Harris and Mr. Jackson then answered the Directors' questions.

UTIMCO Update

Chairman Weaver asked Mr. Hall to present the UTIMCO update. Mr. Hall provided an update on the Corporation's assets under management and performance results as of June 30, 2022. He reported that the Corporation had approximately \$65 billion of assets under management, an increase of approximately \$17 billion over a three-year period. Mr. Hall then reviewed AUM by fund and provided an overview of the UTIMCO diversification framework, noting a move into an inflationary regime. Mr. Hall then provided a detailed review of returns and alpha. Mr. Hall next discussed the Q2 TUCS results and UTIMCO's performance relative to peers. Mr. Hall concluded his presentation with a discussion about the increased likelihood of a recession, and a review of UTIMCO's bear market model which, when flipped on, is a confirmatory signal indicating we have entered a bear market. Mr. Hall then answered questions from the Board.

Risk Management Presentation

Chairman Weaver asked Uzi Yoeli to lead the presentation on Risk Management. Dr. Yoeli began by sharing the team's philosophy, key responsibilities, and key accomplishments over the past year. Dr. Yoeli also noted the addition of a new team member in the next two weeks. Dr. Yoeli discussed the PUF distribution policy, which the team stress-tested given the risk presented by increasing inflation. The PUF distribution policy set by the Board of Regents increases annually at $CPI+2.65\%$, as long as the rate is between 3.5% - 6.0% of the NAV of the PUF, measured by the proceeding 20 quarters. All test cases allowed for an increase of $CPI+2.65\%$ for all ten years. Dr. Yoeli also noted that strong performance in recent years, and record inflows from University Lands, has generated a margin of safety. Dr. Yoeli continued his presentation, noting the economy's official entry into a bear market in June 2022. Dr. Yoeli presented bear market perspectives including historical and projected PUF drawdowns possible. He then discussed liquidity planning for both a rapid market decline, as well as a significant single-day decline, before turning the presentation over to Dr. Jones. Dr. Jones reviewed the progress and deployment of the MSCI Barra risk project, noting the project is over 90% complete. Dr. Jones noted that the system will create a common risk language across the firm, provide a best-in-class risk system for private markets, and will deliver a unified factor model. Dr. Yoeli and Dr. Jones then answered questions from the Board.

Fixed Income Presentation

Chairman Weaver asked Russ Kampfe to provide an update on Fixed Income. Mr. Kampfe began by providing the Board an update on the Fixed Income objectives and strategies, as well as an update on liquidity, performance and priorities going forward. Currently the team is running three strategies – an actively managed Investment Grade Fixed Income strategy, an actively managed Long Treasuries strategy, and one passively managed TIPS strategy. Mr. Kampfe discussed market performance stating that the Fixed Income portfolio generated a marginal negative return for the 1-year period ended June 30, 2022 but is above the 3-year and 10-year targets. Mr. Kampfe also noted that the TIPS portfolio grew from \$797 million to \$1.3 billion for the 1-year period ended June 30, 2022, while closely following its benchmark. Mr. Kampfe then gave a brief overview of the Fixed Income team's upcoming priorities, including completing the Strategic Asset Allocation movements over the next 12 months, building and aligning the overlay Long Treasury portfolio, and continuing to run comparative analysis to ensure that external manager analytics and MSCI Barra analytics are aligned. Mr. Kampfe then provided a brief introduction to the Fixed Income team and their roles. Mr. Kampfe concluded with a review of market performance, market conditions, performance contributors and detractors, and answered the Directors' questions.

Information Services & Security Presentation

Chairman Weaver invited Mike Sjolander and Gus Deering to provide an update on Information Services & Security. Mr. Sjolander began with introductions of the Information Services and Security team, including Gus Deering, who recently joined UTIMCO as the new Managing Director – Information Services & Security and Chief Technology Officer. Mr. Sjolander noted that his focus has been on talent retention and that the team has not been subject to the same industry-wide turnover rates, but has instead had a number of promotions. Mr. Sjolander continued, noting that UTIMCO's security posture is recognized by external assessors as among the top 25% of financial services companies that they evaluate. Mr. Sjolander went on to review the team's FY2022 accomplishments, including establishing a new data architecture and modernizing legacy applications. Mr. Sjolander then turned the presentation over to Mr. Deering to discuss FY2023 priorities, including continuing the modernization of legacy applications, initiating a data classification project, developing a data strategy for increasing information access for improved analysis and reporting, performing a disaster recovery test and business validation, presenting IT awareness and education initiatives, and completing a smooth CTO transition. Mr. Sjolander and Mr. Deering then answered questions from the Board.

Report from Audit and Ethics Committee

Chairman Weaver asked Director Handley to provide a report on behalf of the Audit and Ethics Committee. Director Handley reported that the Committee met via teleconference on September 9, 2022. All Committee members attended the meeting. At the meeting, the Committee considered one action item: the minutes of the June 2, 2022 meeting, which were approved as drafted. Routine matters of the Committee included a report on compliance matters for the quarter ended May 31, 2022. The unaudited financial statements without footnotes for the Funds were presented for the nine months ended May 31, 2022. The unaudited financial statements with footnotes for the Corporation were presented for the ten months ended June 30, 2022, as well as the actual versus budget expenses. The Committee also met in Executive Session to receive a report from the UT System Audit Office on computer security assessments related to information resources and technology.

Report from Investment Risk Committee

Chairman Weaver provided a report from the Investment Risk Committee. Chairman Weaver reported that the Investment Risk Committee met via teleconference on September 9, 2022. All members of the Committee attended the meeting. At the meeting, the Committee considered one action item: the minutes of its June 2, 2022 meeting and the June 2, 2022 joint meeting with the Policy Committee, which were approved as drafted. The Committee also received an overview of the UTIMCO Securities Lending Program by Michael McDermott, Head of Securities Lending Client Relationship Management at BNY Mellon. Routine business included a report on compliance matters for the quarter ended May 31, 2022. The Committee also received a market and portfolio risk update.

Report from Cyber Risk Committee

Chairman Weaver asked Director Rothrock to provide a report from the Cyber Risk Committee. Director Rothrock reported that the Cyber Risk Committee met via teleconference on September 9, 2022. All members of the Committee except for Director Longoria attended the meeting. At the meeting, the Committee considered one action item: the minutes of its June 2, 2022 meeting, which were approved as drafted. The Committee also met in Executive Session to receive a report from the UT System Audit Office on computer security assessments related to information resources and technology, as well as a report from Mike Sjolander and David Gahagan on the corporation’s cyber risk program. Director Rothrock concluded by thanking Mike Sjolander for his excellent service to UTIMCO.

Report from Compensation Committee

Chairman Weaver asked Director Nixon to provide a report from the Compensation Committee. Director Nixon reported that the Compensation Committee met via teleconference on September 12, 2022. All members of the Committee attended the meeting. At the meeting, the Committee considered one action item: the minutes of its June 2, 2022 meeting, which were approved as drafted. The Committee also met in Executive Session to discuss individual personnel compensation matters.

Report on 2022 Meeting Dates

Chairman Weaver presented the 2023 UTIMCO Board Meetings schedule and Committee Meetings schedule.

Before concluding the meeting, Chairman Weaver and the Directors offered the UTIMCO team a standing ovation for being named Team of the Year at the Institutional Investor 2022 Allocators’ Choice Awards.

Adjourn

There being no further business to come before the Board, the meeting was adjourned at approximately 11:27 a.m.

Secretary: _____
Joan Moeller

Approved: _____ Date: _____
James C. “Rad” Weaver,
Chairman, Board of Directors of
The University of Texas/Texas A&M Investment Management Company

Agenda Item
UTIMCO Board of Directors Meeting
December 9, 2022

Agenda Item: CEO Update

Developed By: Harris

Presented By: Harris

Type of Item: Information Item

Description: Britt Harris will present an update on UTIMCO and priorities.

Recommendation: None

Reference: *New Era? Two-Year Check Up Super Factor Review* presentation



New Era? Two-Year Check Up Super Factor Review

Britt Harris
CEO and President

December 2022

Secular Message September 2020

New Era?

- Fixed Income at zero bound
- Indexation creates concentration
- US relative stock performance and the strength of the US dollar
- Rising China
- Climate Change/ Energy renewable
- Demographics
- Automation (Mental Labor)





1980 vs. 2020

	1980	2020
Inflation Policy	Whip Inflation Now	Let Inflation Run
Inflation	14%	2%
10-Year Treasury	13%	1%
Debt / GDP	30%	110%
S&P 500	102	3,756
P/E Ratio	8X	22X
US Energy	Dependence	Independence
Company Objective	Shareholder Value	Stakeholder Value
Business / Gov't	Business is the Solution	Government is the Solution
Geopolitics	Cold War Ending	War vs China?
Media	Walter Cronkite	Twitter / TikTok
Generation	Boomers	Millennials / Gen Y
Computers	HP 12c	iPhones / Cloud



Market Dashboard: 40 Year Look-back

Inflation

	3/31/1980	8/31/2020	Change
CPI YoY	14.80	1.0	-13.80
5-yr TIPS	-	-1.45	-
5-yr TIPS Breakeven	-	1.7	-
10-yr TIPS	-	-1.10	-
10-yr TIPS Breakeven	-	1.8	-

Rates

	3/31/1980	Today 8/31/2020	Change
Fed Funds	20.00	0.25	-19.75
5-yr Treasury	13.31	0.27	-13.05
10-yr Treasury	12.64	0.70	-11.94
30-yr Treasury	12.31	1.47	-10.84
Investment Grade Bonds	-	2.04	-
High Yield	-	5.86	-

Equities

	3/31/1980	8/31/2020	Change
S&P 500	102	3,500	3329%
Forward P/E	-	26.8x	-
Trailing P/E	7.2x	27.3x	20.1x
Shiller P/E	-	29.6x	-
Forward Earnings Yield	-	3.7%	-
Europe	-	367	-
Japan	454	1,618	256%
China (Onshore)	-	3,396	-
Developed: MSCI World	165	7,278	4321%
Emerging: MSCI EM	-	530	-
Global: MSCI ACWI	-	296	-

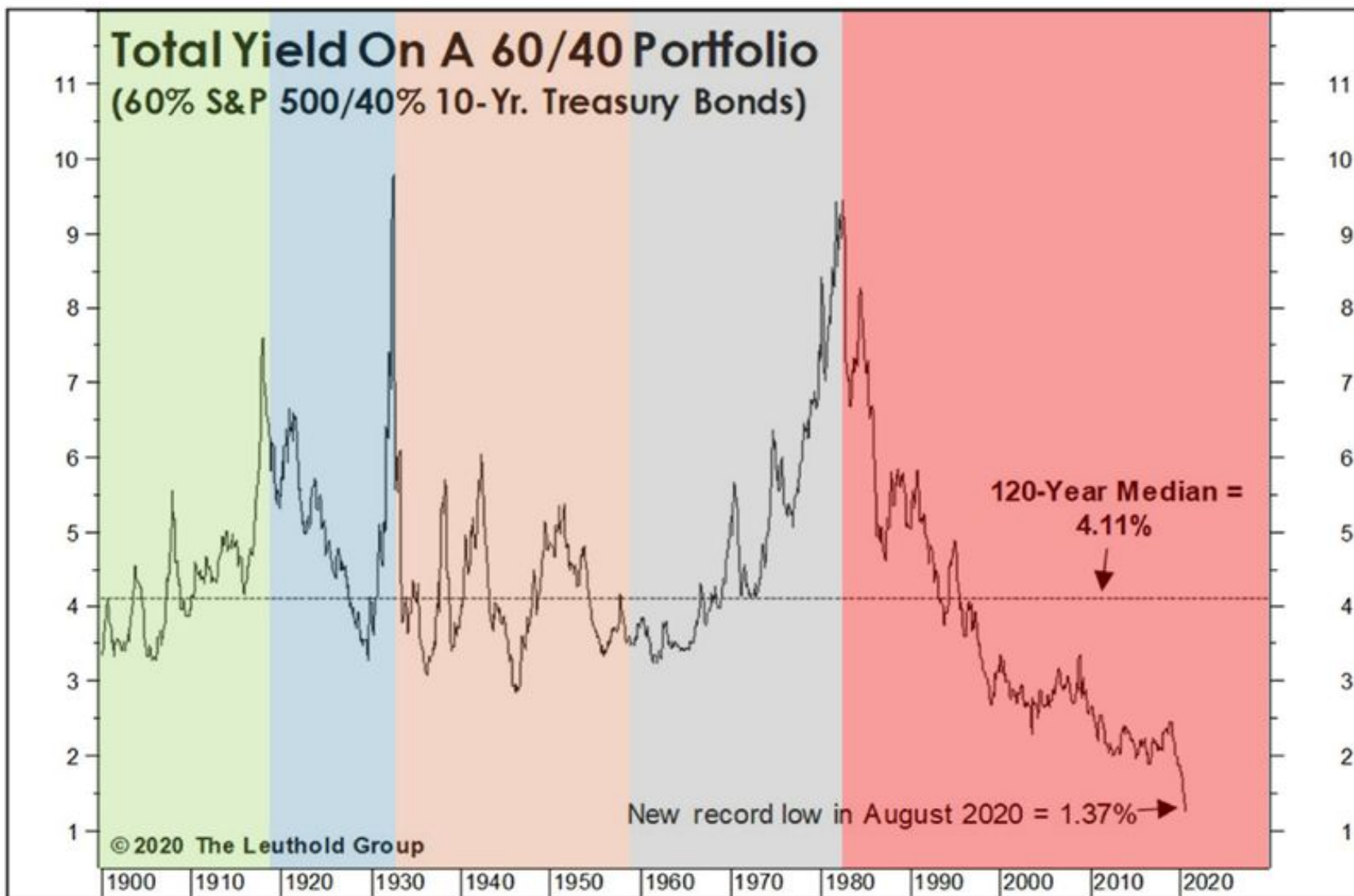
Commodities

	3/31/1980	8/31/2020	Change
Gold	495	1,968	298%
Oil	36	43	18%
Copper	104	304	192%
Bloomberg Commodities Index	50	156	215%

Source: Bloomberg



Yield on a 60/40 Portfolio



Source: Leuthold Group



Four Potential Scenarios

War USA 1941-1951

- Mid-to-high inflation with high growth
- CPI: 5.9%, Real GDP: 5.0%, Real Returns on S&P +5.1%
- Multiples constant (~10x)

Inflation USA 1960-1980

- High inflation with above-average growth
- CPI: 4.9%, Real GDP: 3.8%, Real Returns on S&P (-2.2%)
- Inflation leads to severe multiple contraction

Just Right USA 1980-2019

- Disinflation with below-average growth
- CPI: 3.1%, Real GDP: 2.6%, Real Returns on S&P +8.7%
- Expanding multiples (7x- >22x)
- Expanding debt

Policy Error Japanification

- Low inflation with low growth
- CPI: 0.4%, Real GDP 1.5%, Real Returns on S&P +0.5%
- Productivity: very low



Inflation

3 Inflation Measures, dropping from recent highs



Data as of 10/31/2022

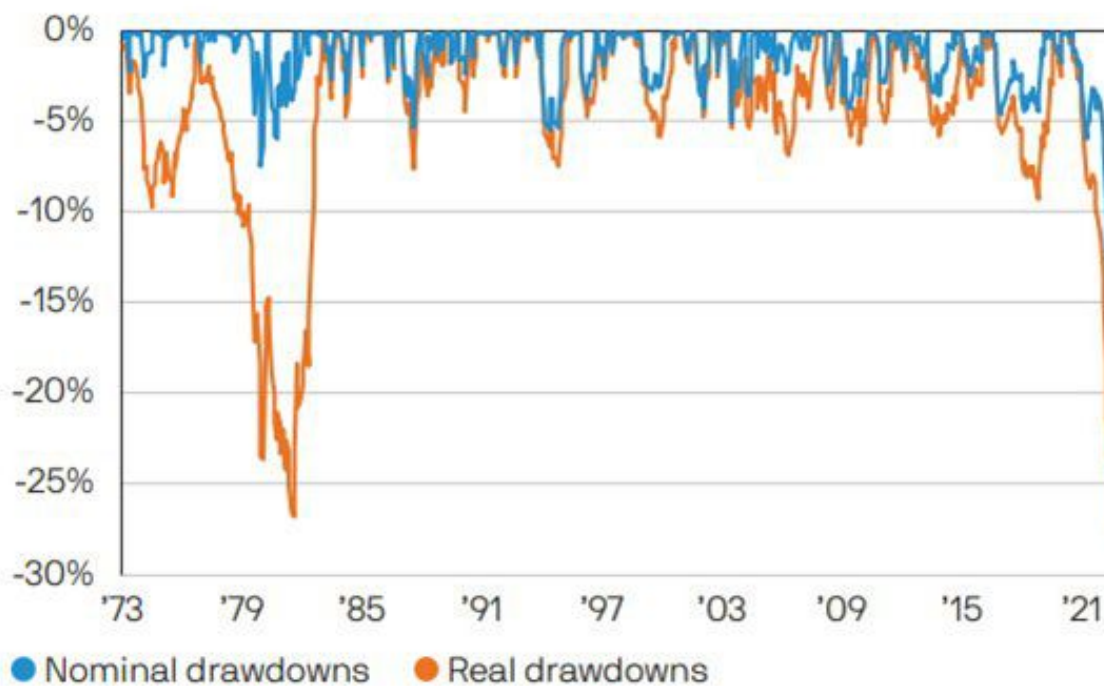


Biggest Ever Nominal Decline

High inflation and more hawkish central banks prompt the biggest-ever nominal decline

Exhibit 6: U.S. Treasury index drawdowns (% from peak)

U.S. Treasury index drawdowns, % from peak



Source: J.P. Morgan Asset Management; data as of September 30, 2022.



Sink Hole In Bonds

Ten Years Ended September 30, 2022 (Annualized)

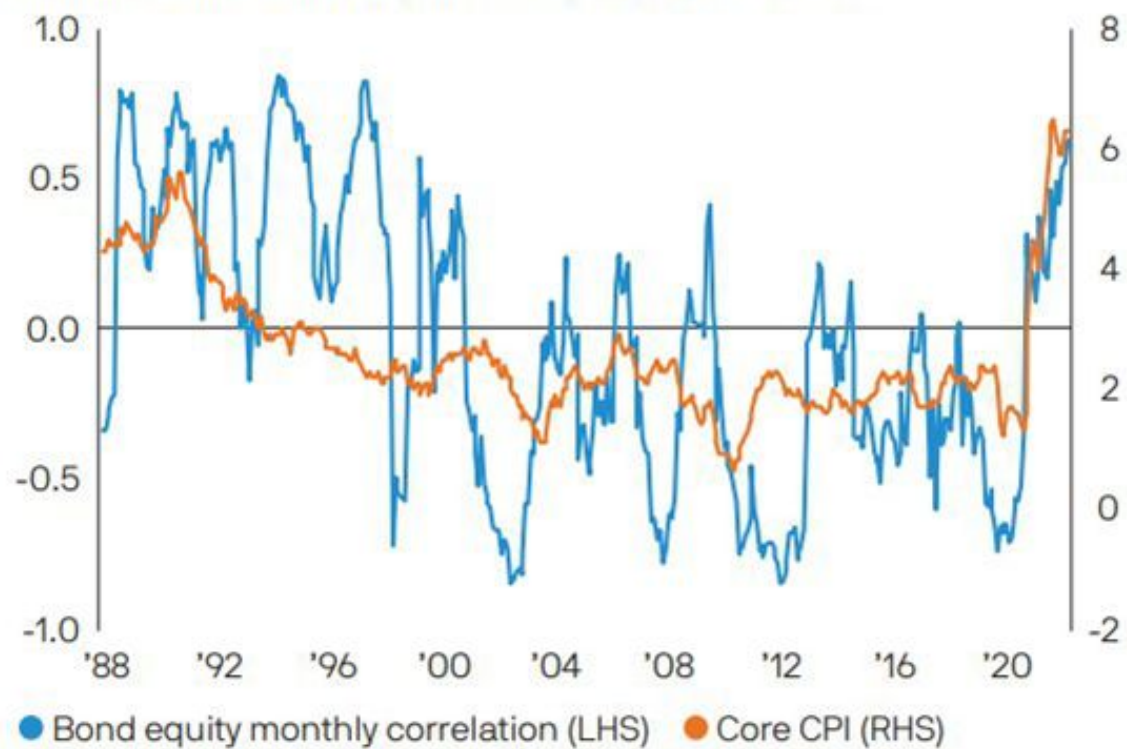
Asset Class	Annualized Return		Sharpe Ratio	
	Mar-20	Sep-22	Mar-20	Sep-22
United States				
CPI	1.72	2.52	1.07	1.46
Cash	0.64	0.68		
Long Treasury (Duration)	8.96	0.59	0.72	(0.01)
Credit (IG)	2.89	0.23	0.49	(0.10)
High Yield (Default)	5.07	2.66	0.55	0.24
S&P 500	10.53	11.70	0.74	0.77
U.S. Small Cap	7.32	9.45	0.38	0.49
Private Equity	12.65	13.54	2.76	0.83
Non-US Equity				
EAFE Developed (USD)	2.72	3.67	0.14	0.21
Emerging Markets (USD)	0.68	1.05	0.00	0.02
US Dollar Index	2.02	3.44	0.19	0.44
Diversifiers (Typical)				
Real Estate (Private) ¹	10.57	9.82	2.00	1.64
Hedge Funds	1.91	3.50	0.29	0.60
Diversifiers (Other)				
Oil	(13.14)	(1.47)	(0.40)	(0.05)
Gold	3.54	(0.65)	0.18	(0.09)



Bonds as a Hedge

Bonds are a good risk hedge if inflation remains anchored

Exhibit 8: Bond-equity correlation (monthly) and core CPI



Source: J.P. Morgan Asset Management; data as of September 30, 2022.



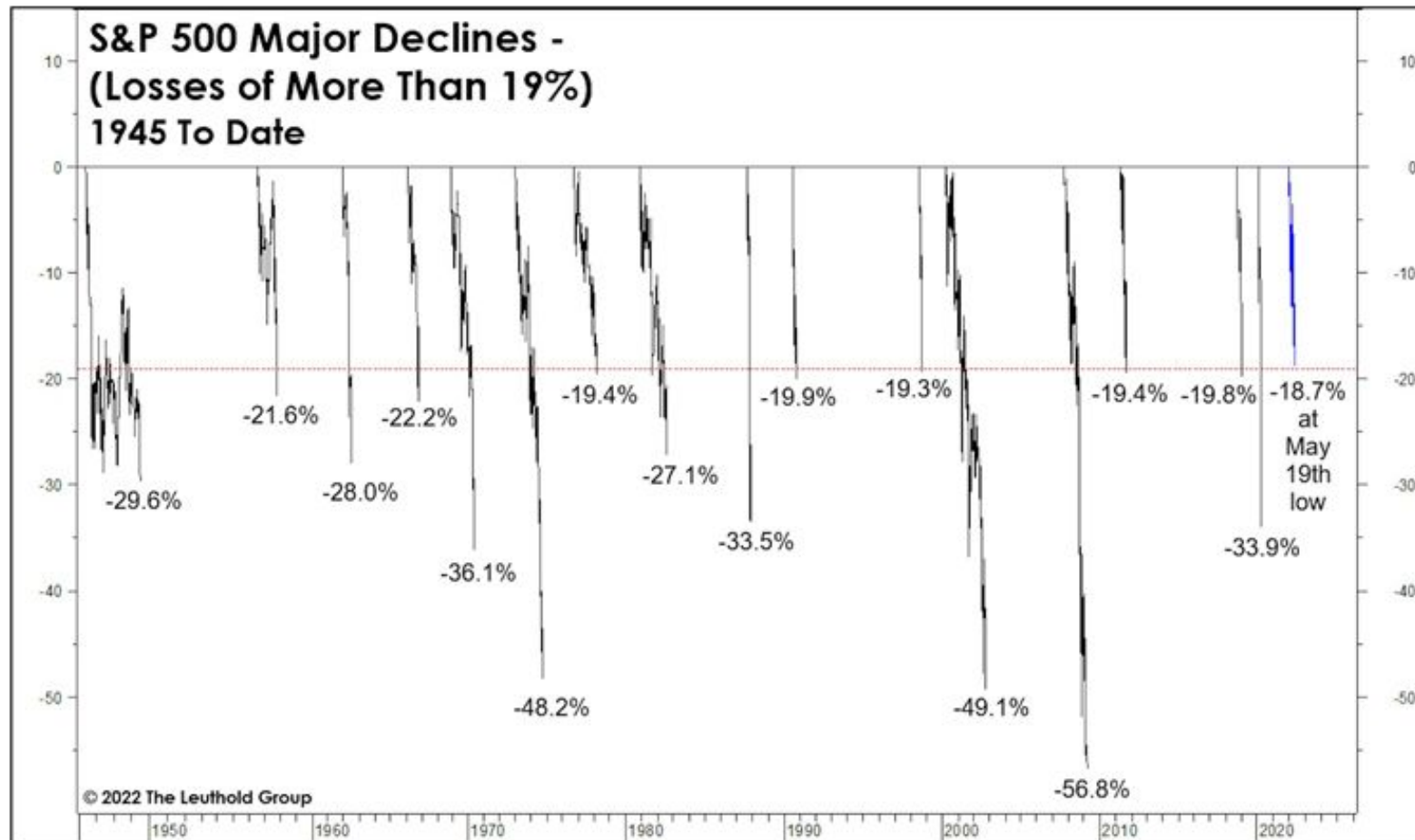
Market Expectations

Asset Class	March 2020	June 2022	September 2022	October 2022
CPI	1.74	2.59	2.52	2.52
Cash	0.05	1.46	2.94	3.82
Long Term Treasury	1.31	3.33	4.00	4.37
IG Credit	3.23	4.58	5.57	5.81
High Yield	9.44	8.89	9.68	9.12
S&P 500 (P/E)	16.3x	15.9x	15.2x	16.8x
US Small Cap (P/E)	16x	11.5x	11x	12.6x
Private Equity	S&P + 300 bps			
Real Estate Cap Rate	6.67	6.20	6.17	6.23
Oil Price (WTI)	20.48	105.76	79.49	86.53
Natural Gas	1.64	5.42	6.77	6.36
Copper	4943	8264	7688	7531
Gold	1622	1807	1662	1641



S&P 500 Major Declines

Losses of More Than 19%





Years With High Inflation

(>6%) And Negative S&P 500 Returns, 1973 to Date

@2022 The Leuthold Group	1973	1974	1977	1981	1990	2022
Consumer Price Inflation	8.7	12.3	6.7	8.9	6.1	8.5
Total Returns						
S&P 500	-14.7	-26.5	-7.2	-31.6	-3.2	-15.6
Russell 2000	-30.9	-19.9	25.4	14.7	-19.5	-17.7
EAFE	-14.2	-22.1	19.4	8.9	-23.2	-21.8
REITs	-27.2	-42.1	19.1	0.0	-17.3	-16.1
U.S. 10-Yr. Treasury Bonds	3.3	4.1	0.7	-0.7	7.9	-12.1
S&P/GS Commodity Index	75.0	39.5	10.4	-6.3	29.1	25.2
Gold	72.2	66.3	22.4	-1.0	-2.5	-6.5
All Asset No Authority (AANA) Portfolio	9.1	-0.1	12.9	-2.3	-4.1	-9.2

*Trailing 12-Month Inflation through July 2022. YTD returns are through September 7th.



Declines of 20% or More

Wilshire 5000, 1971 to Date

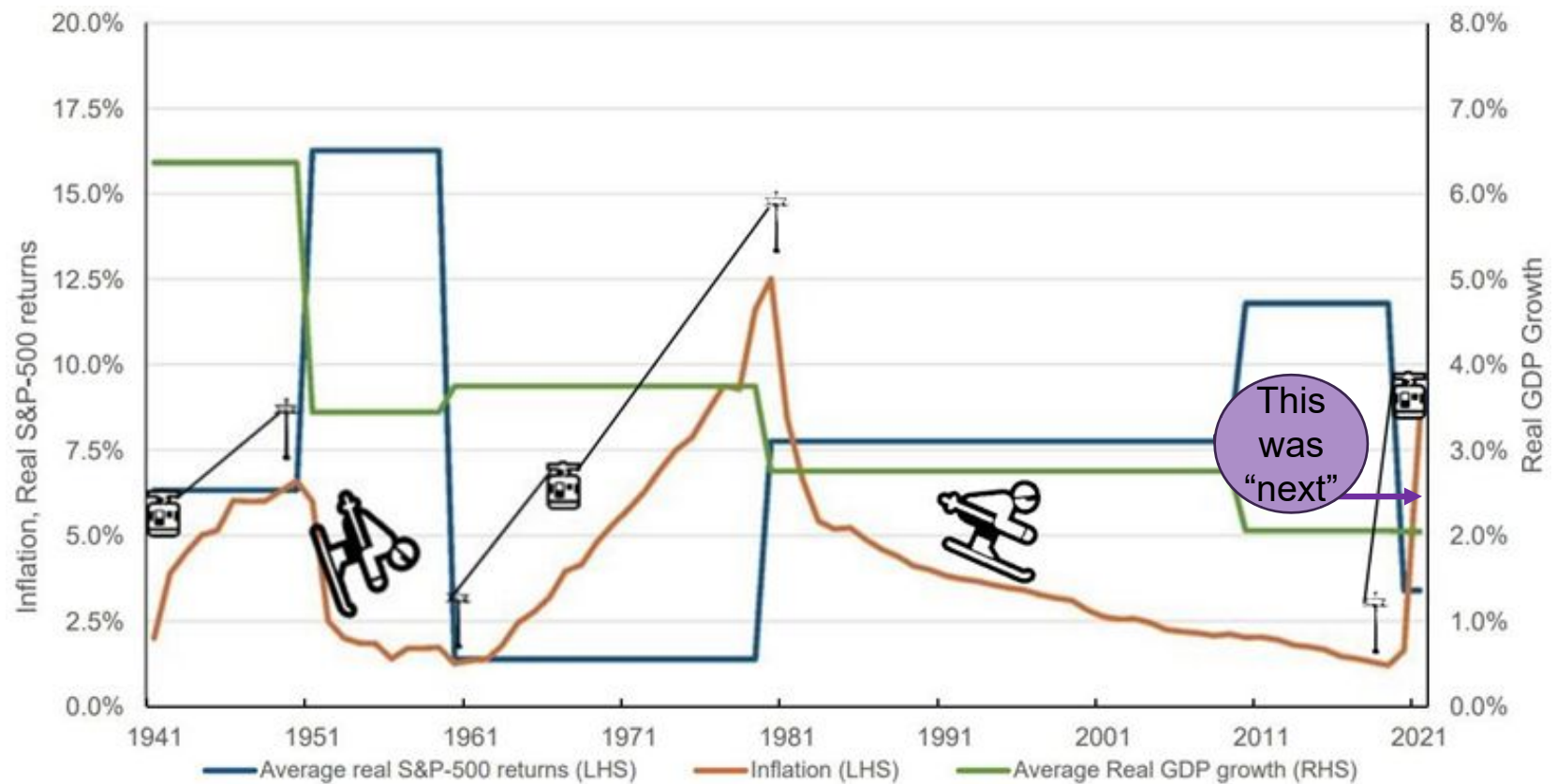
Date of Low	% Loss	Wealth Loss as % of GDP
December 24, 2018	(20.7)	31
October 3, 2011	(20.9)	20
November 8, 2021 to Current	(20.7)	42
October 11, 1990	(21.3)	12
October 8, 1998	(22.4)	27
August 12, 1982	(28.3)	14
December 4, 1987	(33.7)	23
March 23, 2020	(35.0)	56
October 9, 2002	(50.2)	79
October 3, 1974	(51.5)	41
March 9, 2009	(56.6)	61

Source: Leuthold



Back on the Gondola

Inflation, Real GDP Growth, and Real S&P 500 Returns



Source: Bloomberg



United States: 1960 to 1980 (Inflationary)

Economic Indicators				
	1960	1979	Change	Ann.
CPI	1.7	13.3	11.6	-
Real GDP (\$ Trillions)	3.2	6.8	113%	3.80%
Debt/GDP (Start 1966)	44%	25%	-19%	
Workforce				
	1960	1979	Change	Ann.
Productivity (Prior 10 Yrs)	2.8	1.9	-0.9	-
US Population	179m	227m	48m	1.20%
Employment Total in Labor Force	65m	100m	35m	2.10%
Labor Force Participation	60%	64%	4%	
Yields				
	1960	1979	Change	Ann.
Fed Funds Effective Rate	4	14.8	10.8	-
10 Yrs Sovereign (Start 1962)	3.9	10.3	7	
FX & Commodities				
	1960	1979	Change	Ann.
Gold	35	512	1359%	14.30%
Oil	3	33	934%	12.70%
Price Indices				
	1960	1979	Change	Ann.
Return on US 10-Yr (1962)	3.9	10.3	55%	5.3%
S&P 500	60	108	80%	3.0%
Trailing P/E	17.6x	7.4x	-10.2x	-.5x

Source: Bloomberg

Future Superfactors



Conventional

	Extreme		
	1980's	2010's	Future
Inflation	5.1%	1.8%	2.3%
Labor Force Growth	1.7%	1.4%	0.4%
Productivity	1.4%	0.9%	1.4%
GDP - Real	3.1%	2.3%	1.8%
Demographics	Boomer	Millennial	Mill/GenZ

Climate Change

	Projected Costs (2020-2050)
Current Total GDP	\$102T
Transition Cost	2019 \$65T (IEA) 2021 \$130T (IEA) 2022 \$275T (McKinsey)

China: Cooperation vs Competition

	1980	2021	2035
GDP			
USA	\$2.9T	\$22.1T	\$38.0T
China	\$0.2T	\$15.7T	\$41.0T
Relative Size (\$)	-\$2.7T	-\$6.4	+\$3.0T
Relative Size (%)	-93%	-29%	+8%

Proj. Real GDP Growth

USA GDP	1.8%
China GDP	4.0%

Pandemic Effect

	\$Fiscal Stimulus	% of GDP
USA	\$4.2T	20%
China	\$1.2T	8%

Government

USA	Democratic
China	Autocratic

Technology

	1980	2021
Computing power	Conventional	Quantum
High Tech	HP PC	AI/Robots
Labor Replaces Tech	Physical	Mental
Timing	(End)	Start

Capitalism

Shareholder Stakeholder

Ownership

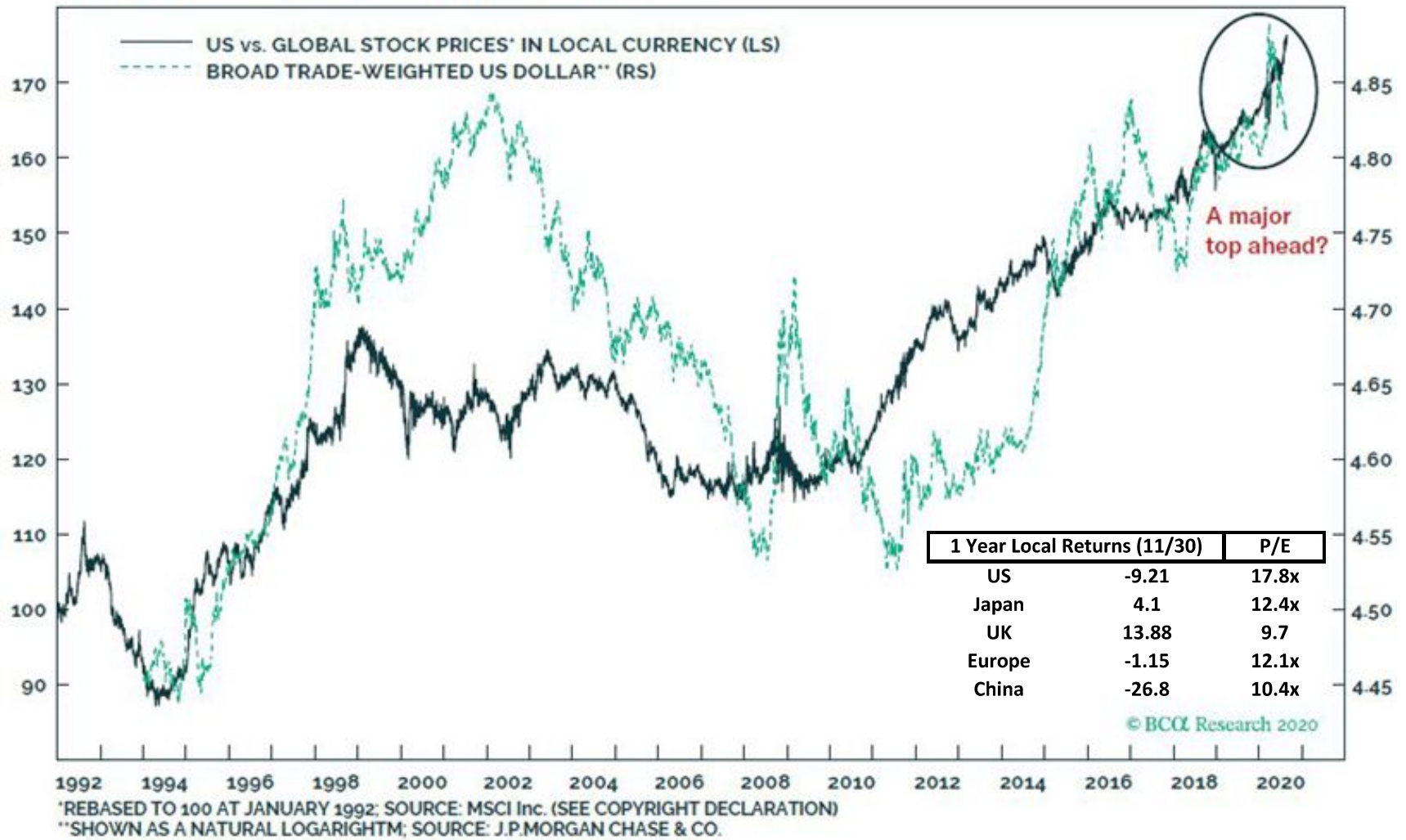
Fragmented Concentrated





US Equity Outperformance vs. Global

US Equity Outperformance Is In Very Late Stages



Source: BCA, Bloomberg



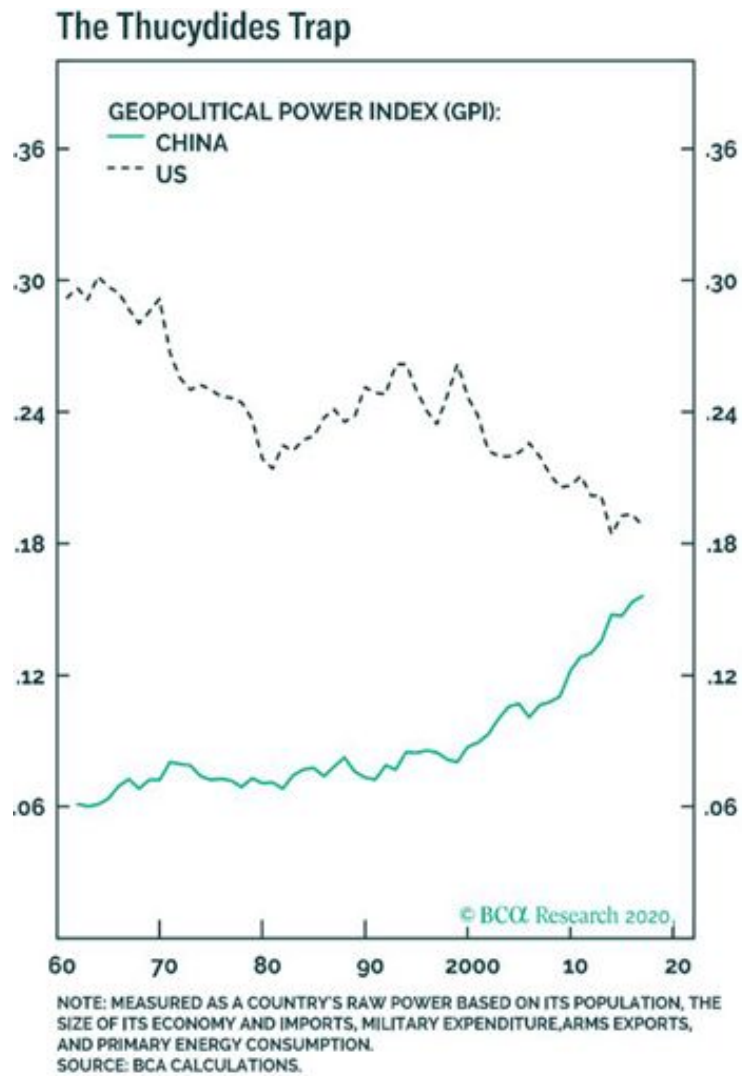
Index Concentration

Cumulative Returns, 9/30/2020 – 9/30/2022

S&P 500	10%	MSCI Japan	18%
Microsoft	13%	Toyota	43%
Apple	21%	Sony	17%
Amazon	-28%	Softbank	38%
Facebook	-48%	Keyence Corp	-1%
Alphabet	31%	NTT	94%
MSCI Europe	15%	MSCI China (Offshore)	-39%
Nestle	3%	Alibaba	-72%
Roche	8%	Tencent	-46%
Novartis	2%	Meituan	-32%
ASML Holdings	40%	CCB	5%
SAP	-34%	Ping An Insurance	-46%

Source: Bloomberg

China vs. the US



Source: BCA

2018 Trade Time-Lapse: US vs. China

Trade Time-Lapse: USA vs. China Each Country's Biggest Trading Partner by Year (1980 - 2018)



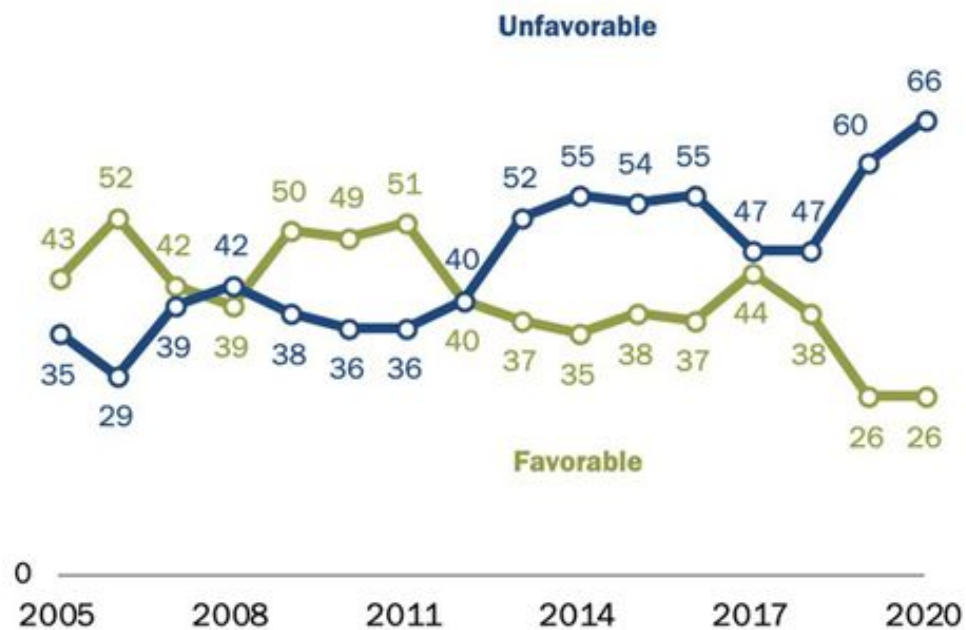


Negative Views of China Continue to Grow

Negative views of China continue to grow in U.S.

% who say they have a ___ opinion of China

100 %



Note: Don't know responses not shown.

Source: Survey of U.S. adults conducted March 3-29, 2020. Q5b.

"U.S. Views of China Increasingly Negative Amid Coronavirus Outbreak"

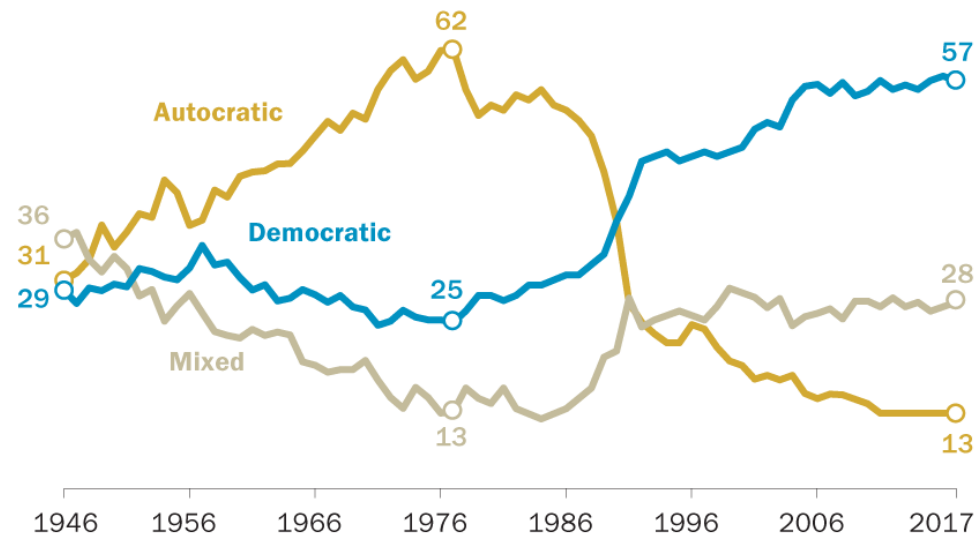
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Democracy vs Autocracy

More than half of governments are democracies

% of countries under each regime type, 1946-2017



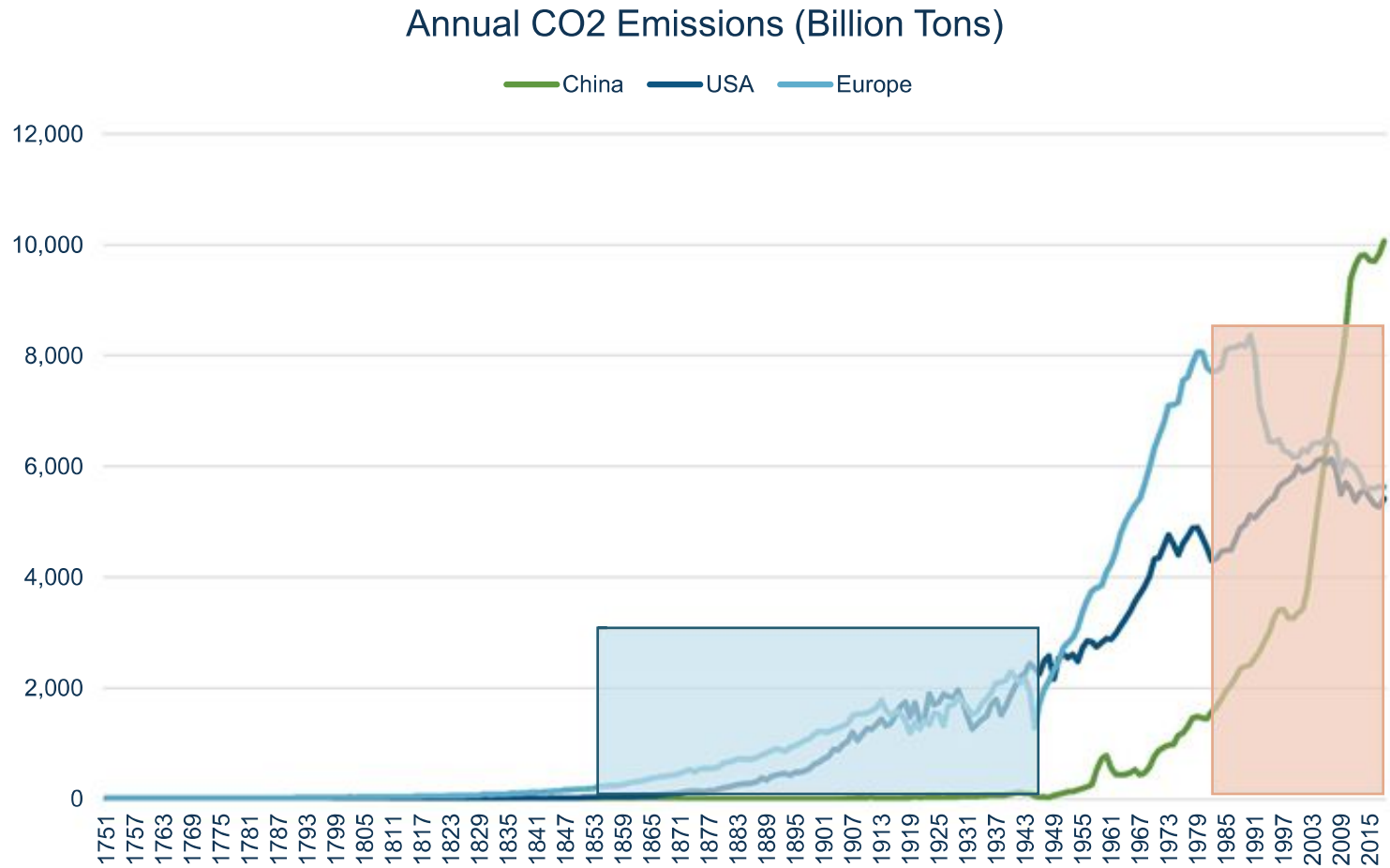
Note: Data available only for 167 countries included in the Polity IV database. Countries labeled “mixed” have a blend of democratic and autocratic regime characteristics.

Source: Center for Systemic Peace’s Polity IV Project.

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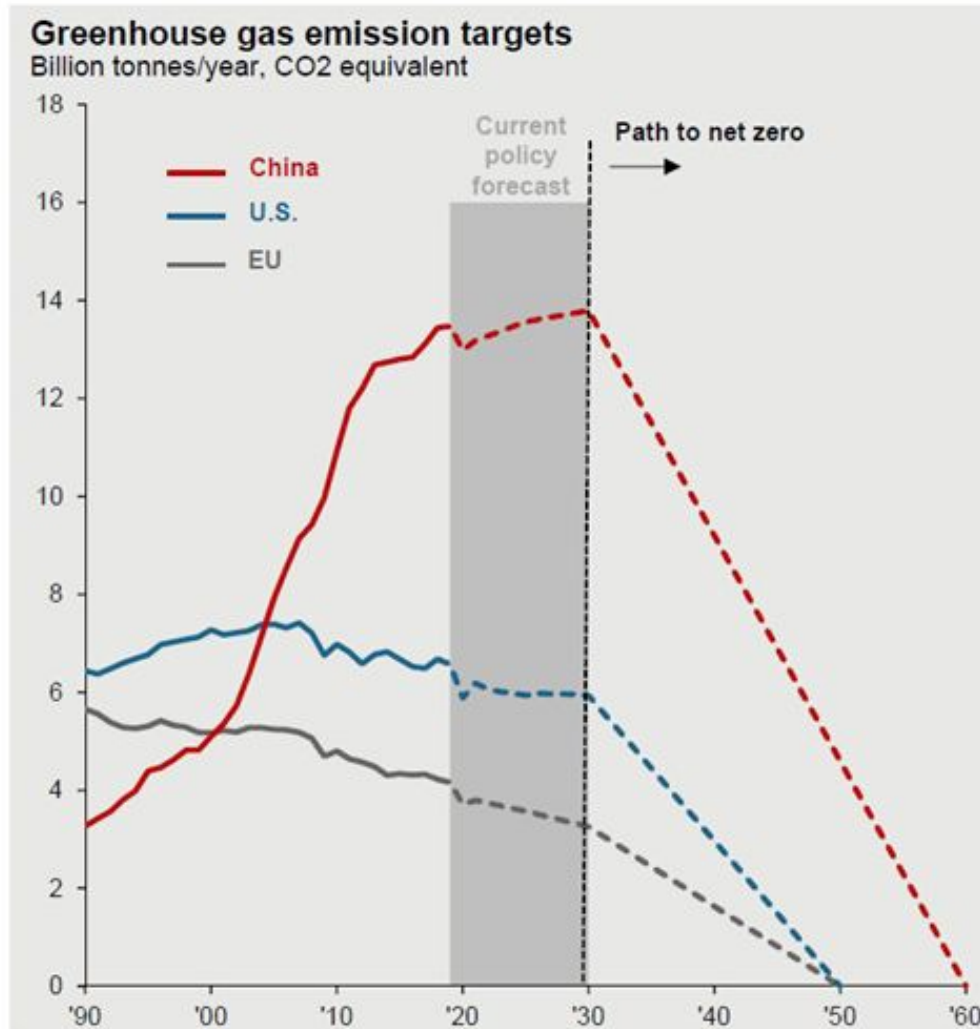
Largest Emitters by Region





US, Europe & Chinese Emissions

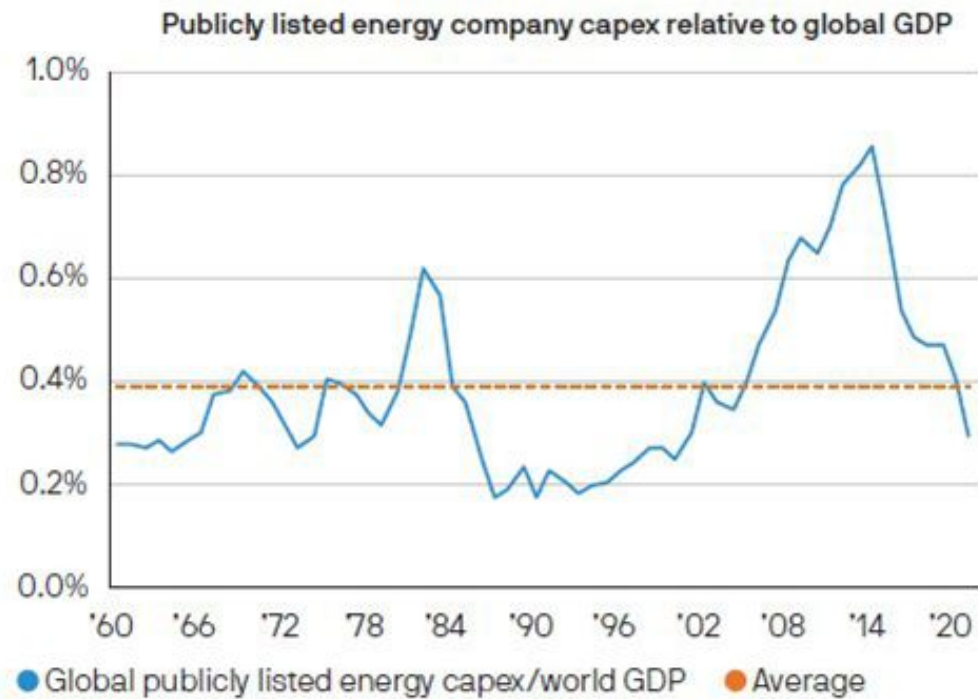
US and Europe Targeting Net Zero Emissions by 2050, China Targeting 2060



Source: JP Morgan, Guide to China 3Q 2021



Capital Investment for Energy at 20-year Lows



Source: Empirical Research Partners, World Bank, J.P. Morgan Asset Management; data as of December 31, 2021.



Low Upstream Capital Expenditures



Source: IHS Markit, Rystad Energy, EIA, Quantum Energy Partners

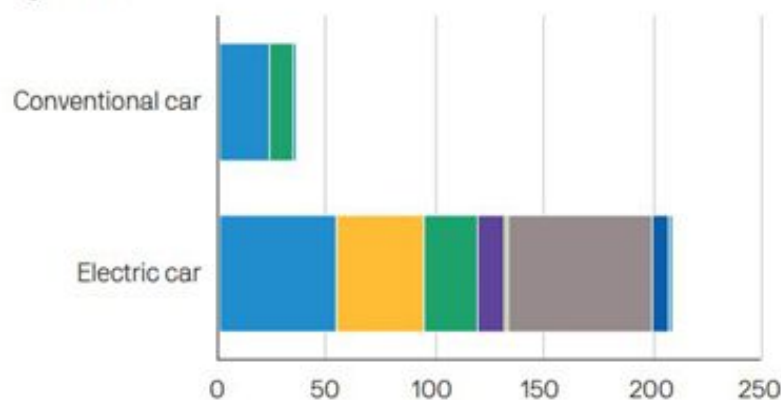


Renewables Require Minerals

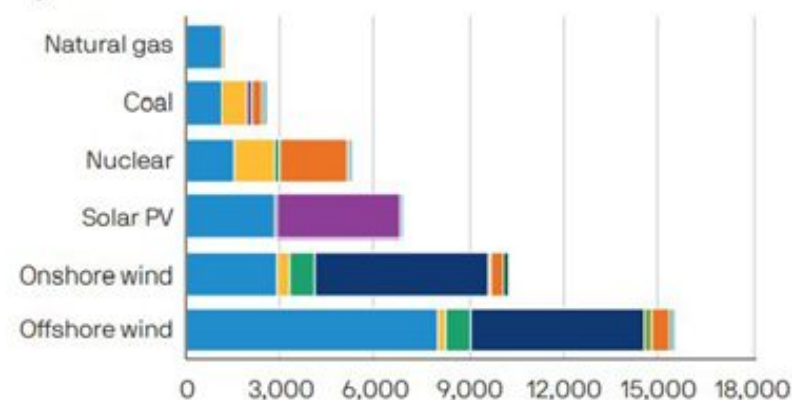
Building solar parks, wind farms and electric vehicles requires substantial mineral inputs

Exhibit 5: Minerals used in vehicle and electricity construction

Kg/vehicle



Kg/MW



● Copper ● Nickel ● Manganese ● Cobalt
● Rare earths ● Graphite ● Lithium ● Others

● Copper ● Nickel ● Manganese ● Cobalt ● Zinc
● Rare earths ● Chromium ● Molybdenum ● Silicon ● Others

Source: IFR, J.P. Morgan Asset Management; data as of June 2022.

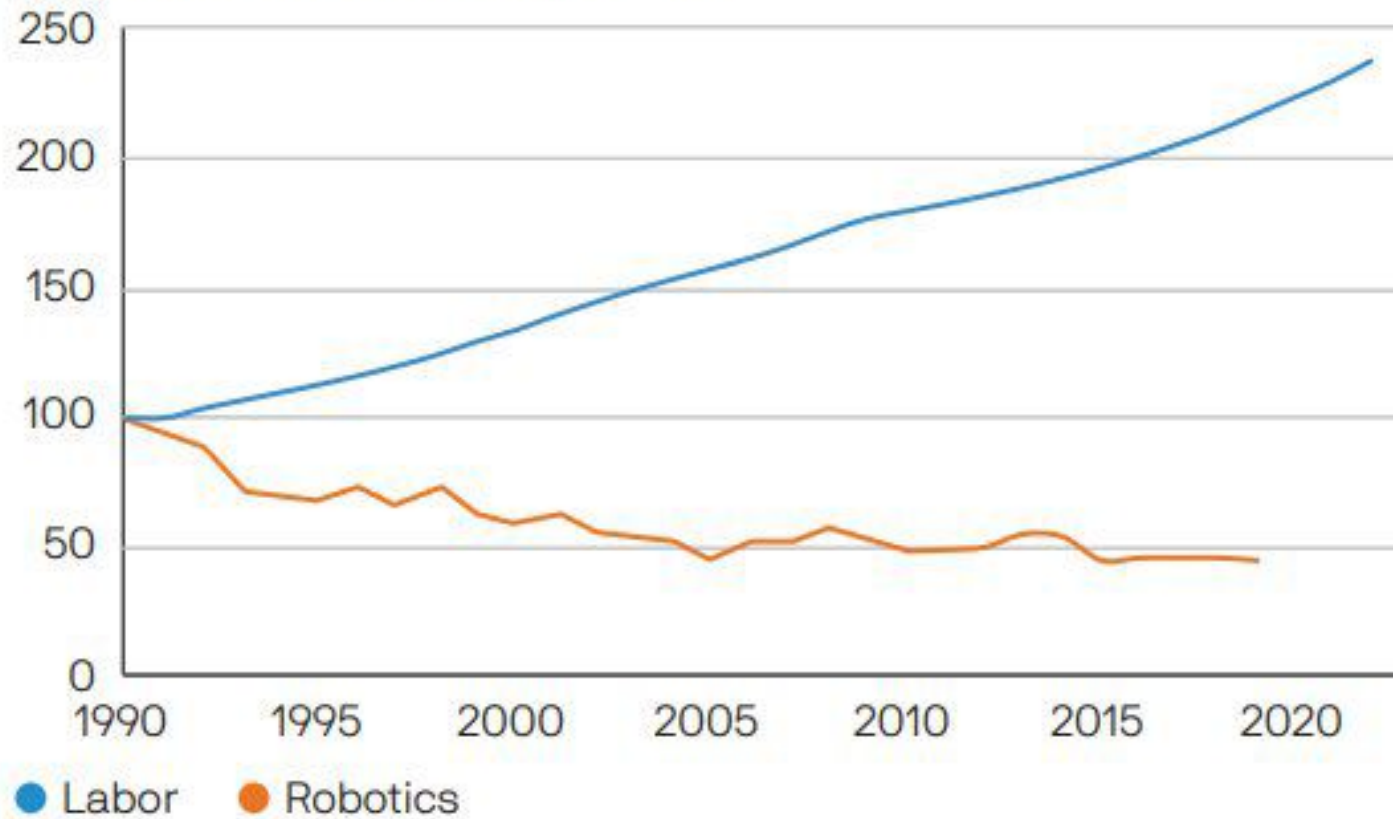
“Existential Risk”

- Risks that threaten the destruction of humanity’s long-term potential.
- The instant result of an existential risk (catastrophe) would either cause outright human extinction or irreversibly lock in a drastically inferior state of affairs



Declining Costs of Automation

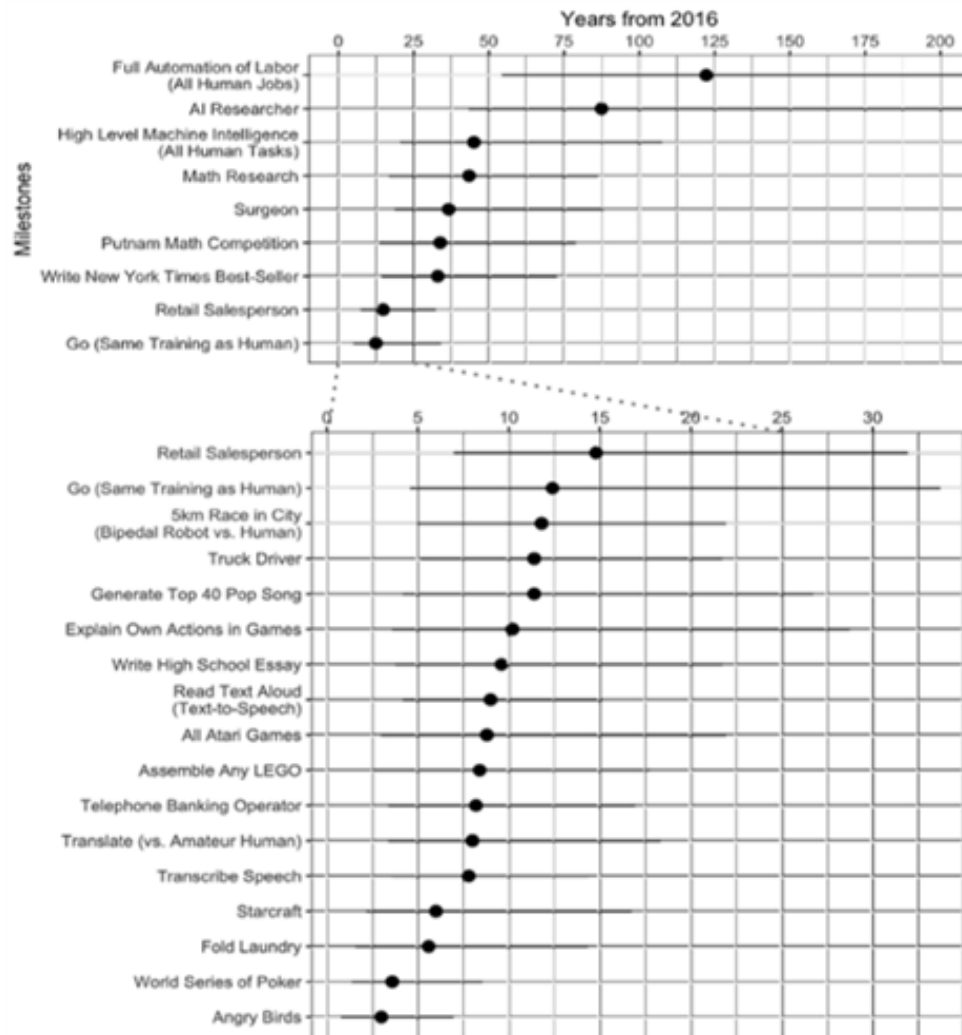
Index of average robot prices and labor compensation in manufacturing in U.S., 1990 = 100



Source: CBO, EIU, IFR, McKinsey, J.P. Morgan Asset Management; data as of June 2022.

Future of AI

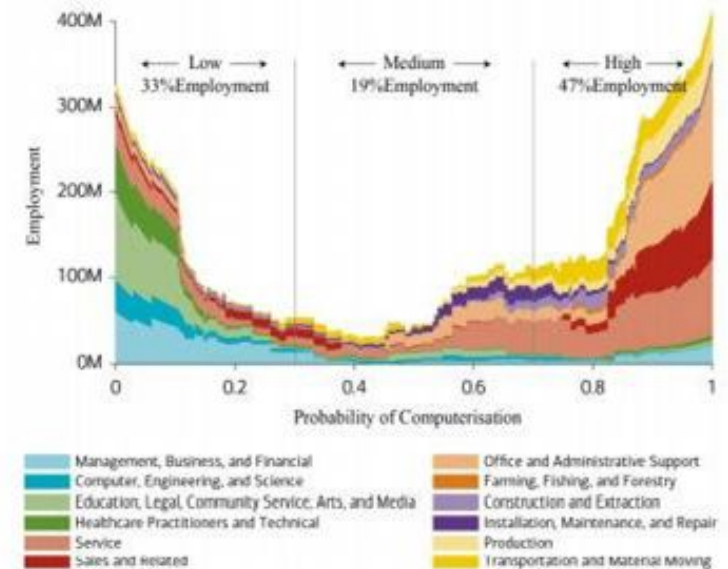
AI Adoption Timeline



Future of AI

Exhibit 40: 47% of jobs in US at risk of being computerised in 20Y

Distribution of US occupational employment & the probability of computerization (share in low, medium, high probability categories)



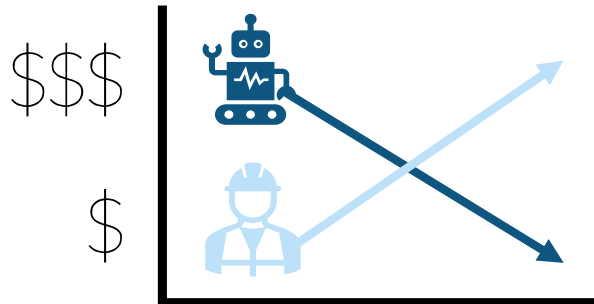
Source: Frey and Osborne 2013. Note: total area under all curves is equal to total US employment.

As automation intensifies, some occupations will see automation well before others



Labor Market

SHORT-TERM IMPACTS



As robots become cheaper compared to human labor, their adoption will expand rapidly

Note: Automotive sector has already passed the threshold for automation

...By 2030, 2 billion jobs are projected to disappear³

LONG-TERM IMPACTS

Experts anticipate an average forecasted unemployment rate of **24% by 2050¹**

50% chance of full AI (AI with full human capabilities) by 2050;
90% chance by 2075²

Even with human's ability to evolve, full automation of jobs is expected in **125 years²**

Robots/AI have automated tasks with the help of co-bots, but not yet entire sectors in the foreseeable future

Source:

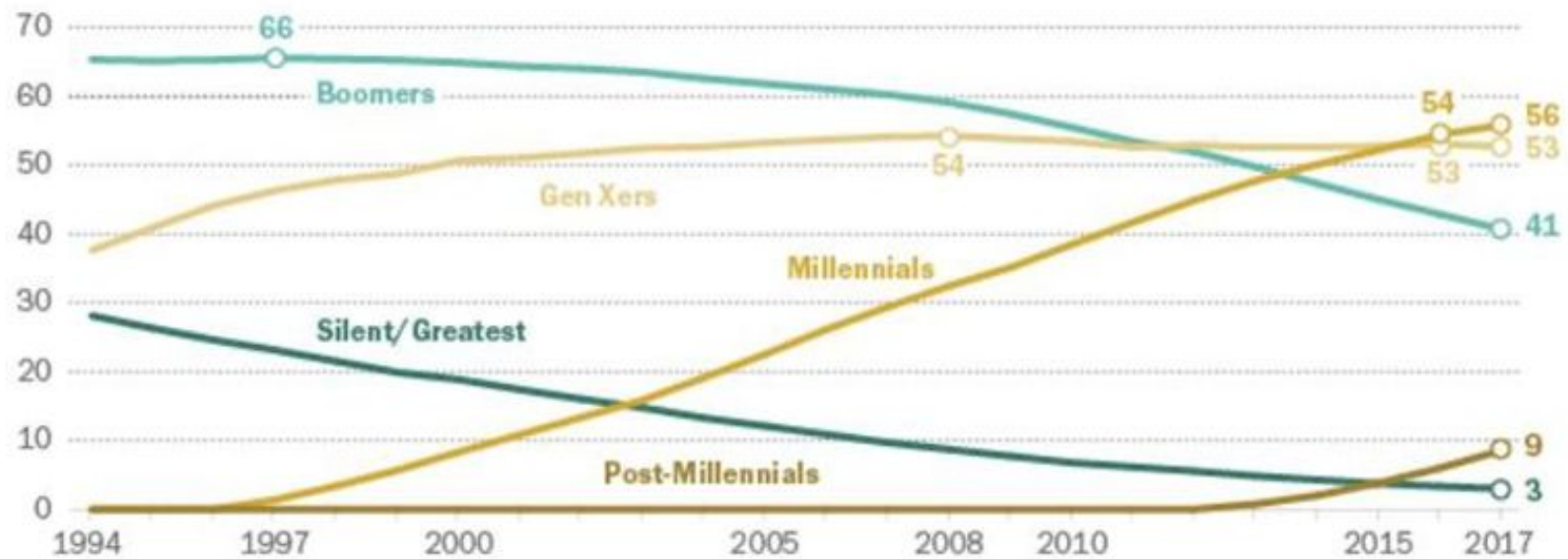
- 1) 2050:The Future of Work. Findings of an International Delphi Study of The Millennium Project
- 2) When Will AI Exceed Human Performance? Evidence from AI Experts, Yale, Grace et al 2017
- 3) Thomas Frey, Futurist Speaker, *2 Billion Jobs to Disappear by 2030*, 2012



Millennials Largest Generation in Labor Force

Millennials became the largest generation in the labor force in 2016

U.S. labor force, in millions



Note: Labor force includes those ages 16 and older who are working or looking for work. Annual averages shown.
Source: Pew Research Center analysis of monthly 1994-2017 Current Population Survey (IPUMS).

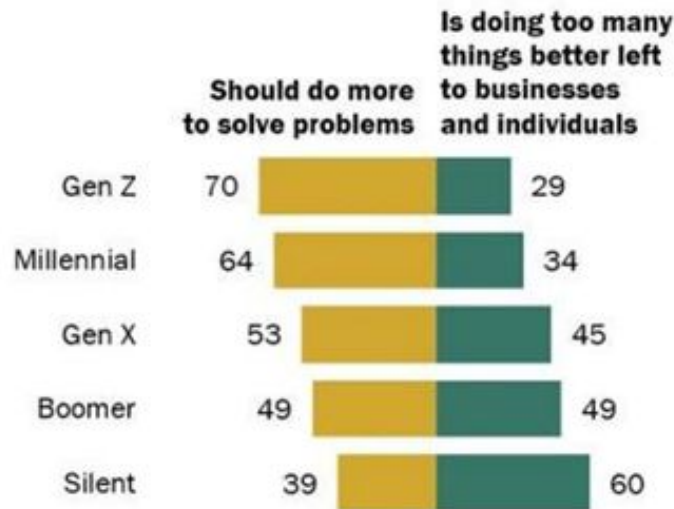
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Millennials

Gen Z and Millennials see bigger role for government

% saying government ...



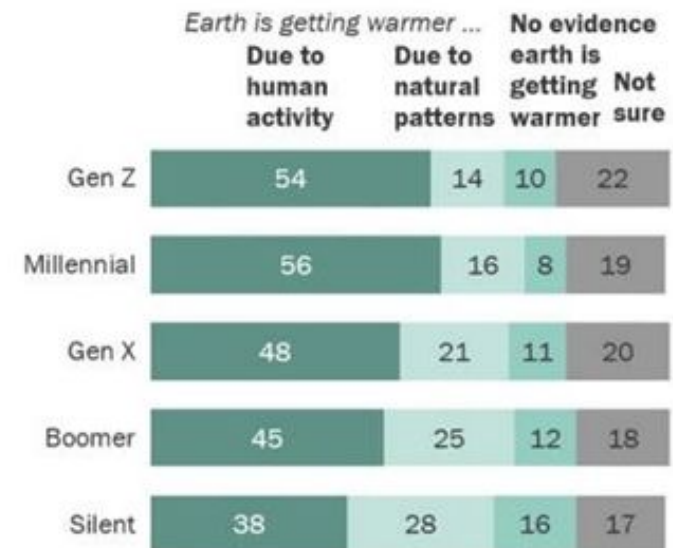
Note: Share of respondents who didn't offer an answer not shown.
 Source: Surveys of U.S. adults ages 18 and older conducted Sept. 24-Oct. 7, 2018, and U.S. teens ages 13 to 17 conducted Sept. 17-Nov. 25, 2018.

"Generation Z Looks a Lot Like Millennials on Key Social and Political Issues"

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Gen Z, Millennials most likely to see link between human activity, climate change

% saying ...

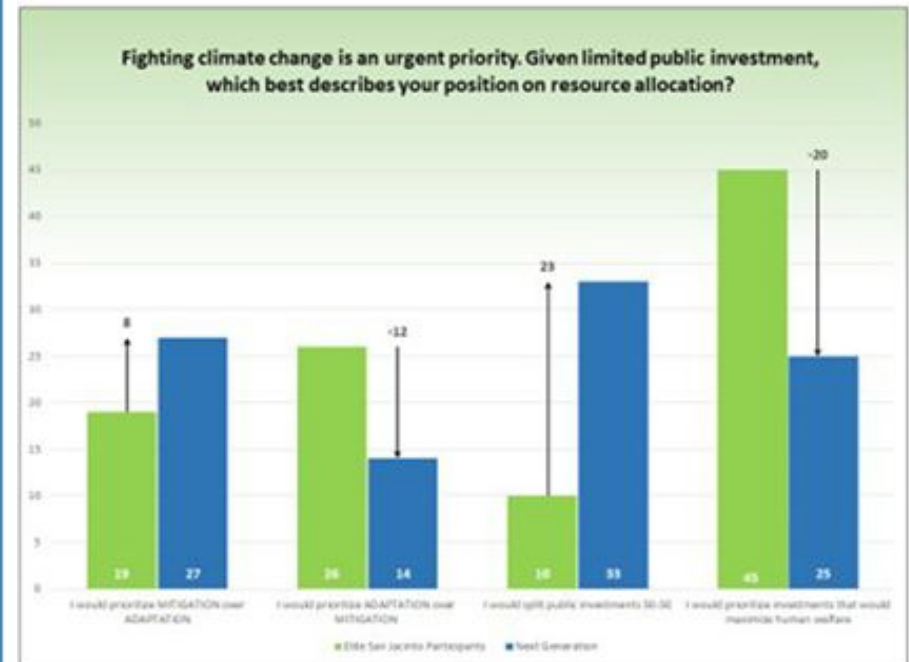
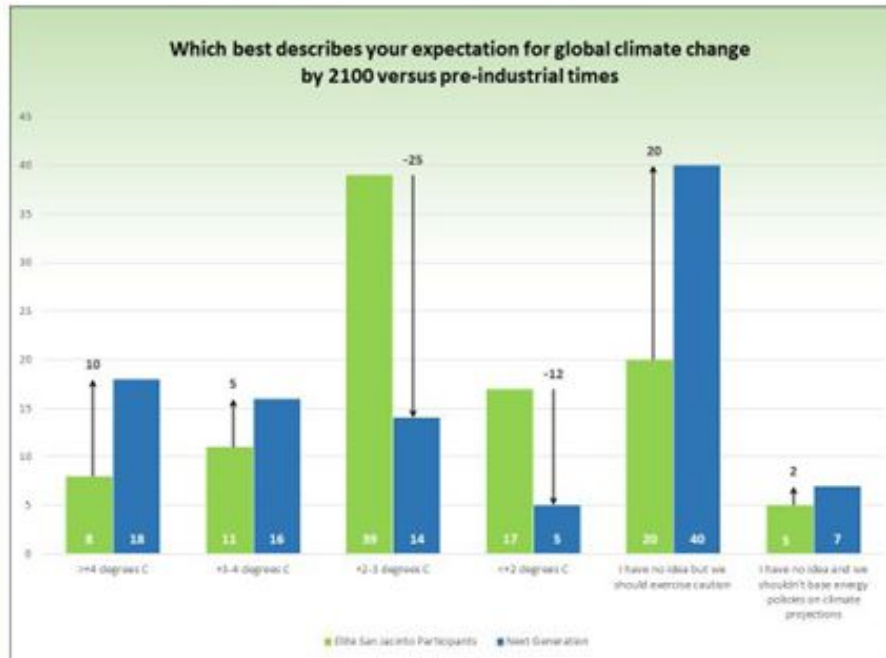


Note: Share of respondents who didn't offer an answer not shown.
 Source: Surveys of U.S. adults ages 18 and older conducted Sept. 24-Oct. 7, 2018, and U.S. teens ages 13 to 17 conducted Sept. 17-Nov. 25, 2018.

"Generation Z Looks a Lot Like Millennials on Key Social and Political Issues"

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Gen Z

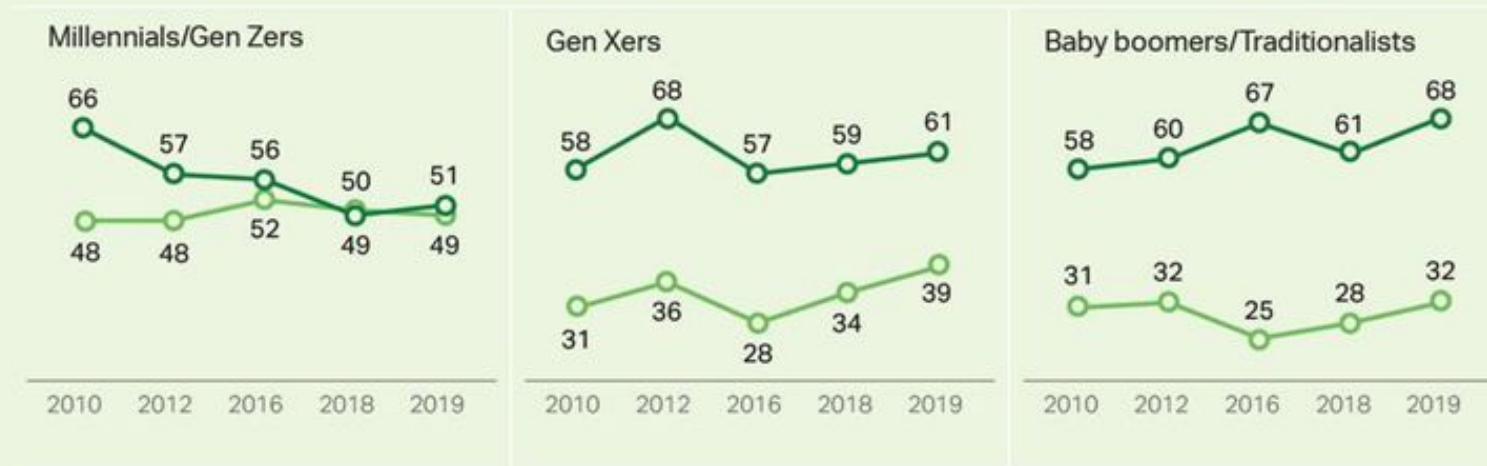




Millennials

Trend in Positive Views Toward Capitalism and Socialism, by Generation

○ Capitalism (% Positive) ○ Socialism (% Positive)



Millennials/Gen Zers: Ages 18 to 39 in 2019

Gen Xers: Ages 40 to 54 in 2019

Baby boomers/Traditionalists: Ages 55 and older in 2019

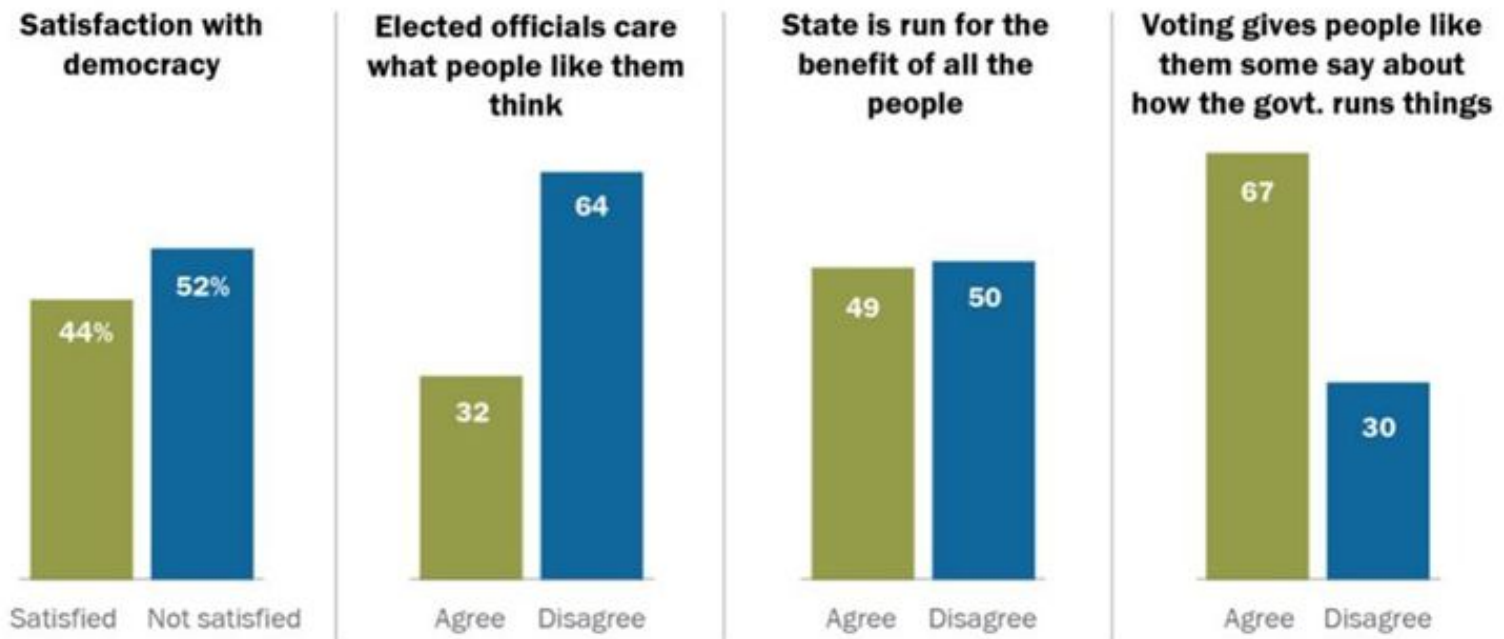
GALLUP

Source: Pew Research Center



Dissatisfaction with Democracy

Globally, many are dissatisfied with the way democracy works and frustrated with elected officials but still value voting



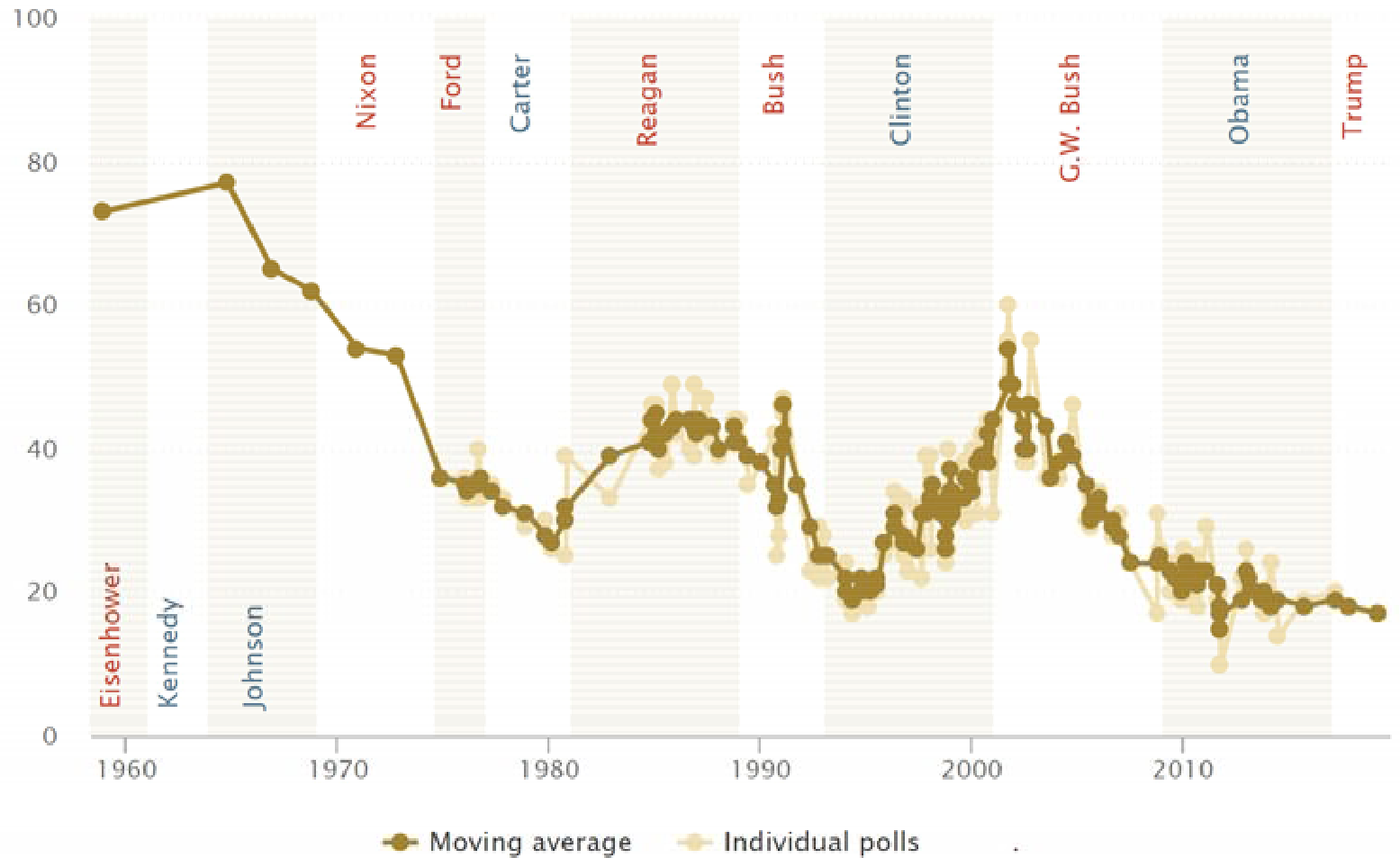
Note: Percentages are medians based on 34 countries.
Source: Spring 2019 Global Attitudes Survey. Q5, Q50a-b, e.
"Democratic Rights Popular Globally but Commitment to Them Not Always Strong"

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Public Trust in Government

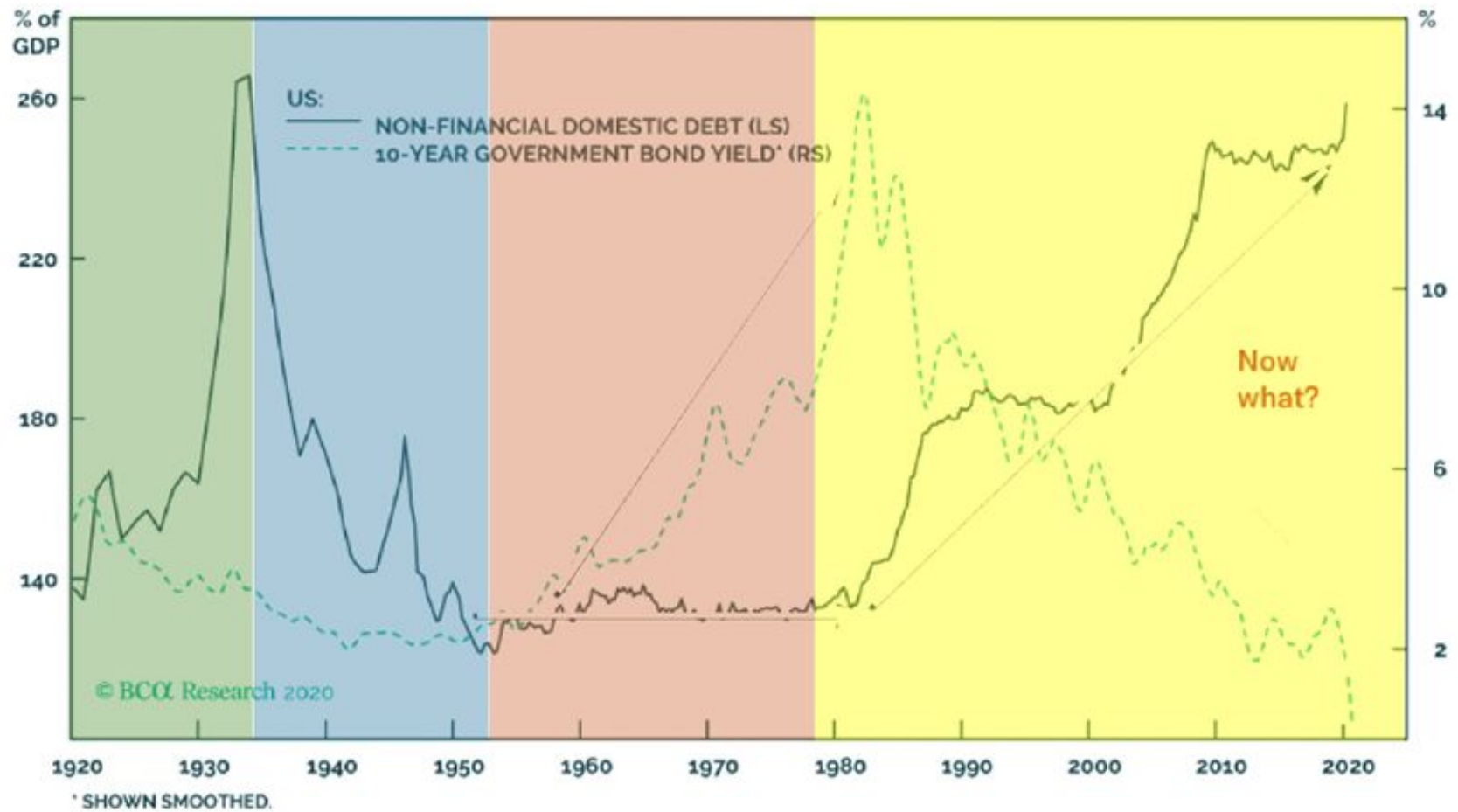
% who trust the govt in Washington always or most of the time



Source: Pew Research



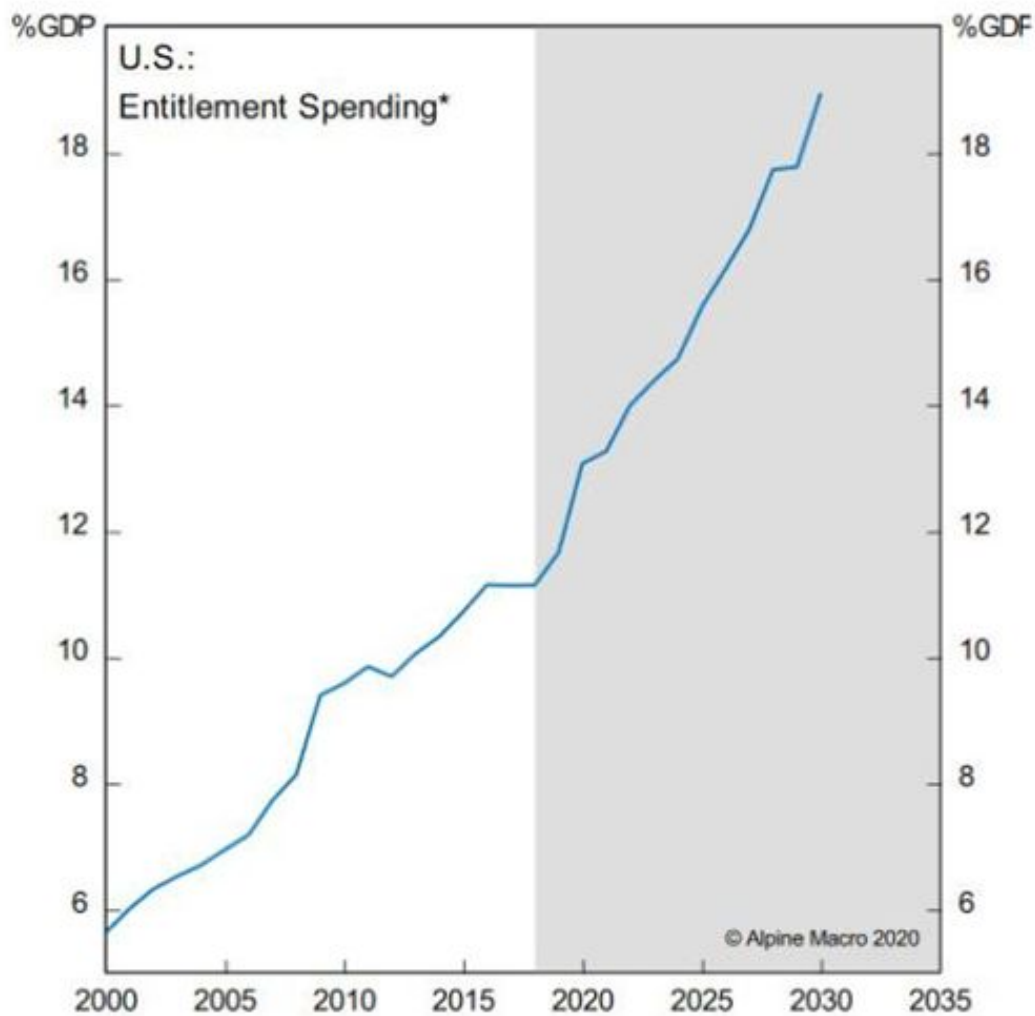
US Long Term Debt Super Cycle



Source: BCA Research



US Entitlement Spending



*Includes social security, medicare and medicaid;
source: Congressional Budget Office
Note: Shading denotes forecast period

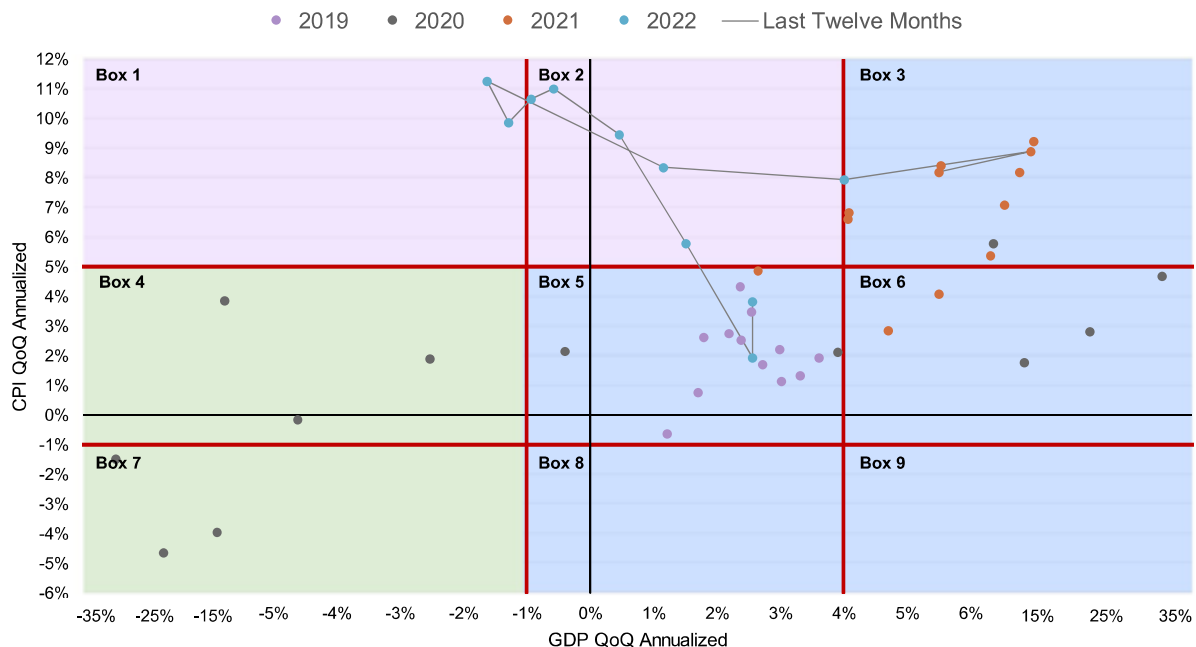
Source: Alpine Macro



Current Economic Regime

Period Ending October 31, 2022

US POLICY SIGNAL CHART



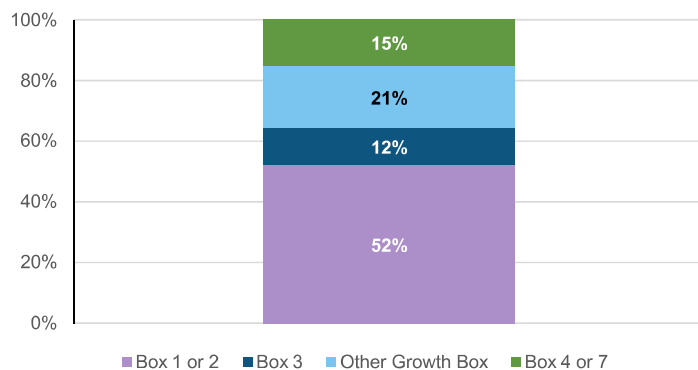
Legend:

- Green: Stable Value
- Blue: Global Equity
- Purple: Real Return

Historical Market Annualized Returns

Box #	S&P 500 Nominal	S&P 500 Real
1	18.2%	8.7%
2	-4.3%	-11.7%
3	11.0%	2.4%
4	7.4%	5.4%
5	12.0%	9.4%
6	11.6%	9.1%
7	-7.1%	-2.7%
8	20.1%	23.1%
9	44.8%	45.0%

Environmental Indicator One Year After Box 3



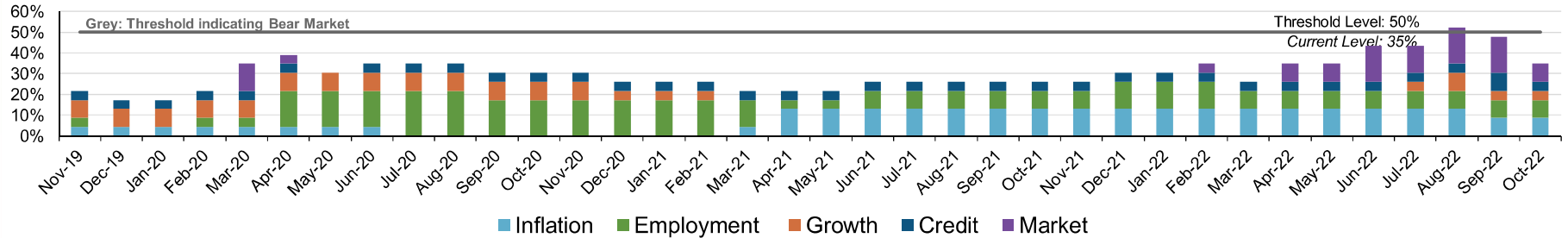
Global Policy Signals Summary

Quarterly Signals	9/30/2022	6/30/2022	3/31/2022
US	5	2	1
Europe	2	2	2
Japan	5	5	5
China	5	4	6



US Bear Market Indicators

October 2022



Type Indicator	On/Off	Indicator Level	Last Update	Last 36 Months	% On Last 36 Months	Type Indicator	On/Off	Indicator Level	Last Update	Last 36 Months	% On Last 36 Months				
		Current	Threshold					Current	Threshold						
Inflation	5yr Breakeven Inflation < 1.25%*	Off	2.7%	1.3%	10/22		11%	Credit	US HY Yield > Long-term Avg.	Off	9.1%	9.6%	10/22		3%
	10yr Breakeven Inflation > 3%	Off	2.5%	3.0%	10/22		0%		Non-Mortgage Delinquency Rate > 3.5%*	Off	1.9%	3.5%	9/22		0%
	YoY Inflation > 12m Moving Avg.*	On	6.3%	6.0%	10/22		67%		Real Rates < 0%*	On	-3.6%	0.0%	10/22		97%
	YoY CPI Energy > 20%*	Off	17.6%	20.0%	10/22		47%	Market	YoY Equity Markets < -5%	On	-16.5%	-5.0%	10/22		17%
	YoY PCE Deflator > 3%*	On	6.2%	3.0%	9/22		53%		Investment Banks < 12m Moving Avg. - 1 SD	Off	4.1%	0.0%	10/22		22%
Employment	Employment Growth < 0%*	Off	3.5%	0.0%	10/22		33%		Cons. Discretionary < 12m Moving Avg. - 1 SD	Off	0.6%	0.0%	10/22		19%
	YoY Avg. Hourly Earnings > 3%	On	4.7%	3.0%	10/22		89%		US Dollar 24m Change > 10%	On	21.4%	10.0%	10/22		14%
	YoY NonFinc Labor Costs > 3.5%*	On	8.2%	3.5%	6/22		56%								
	Consumer Confidence Spread < -20%	Off	-3.5%	-20.0%	10/22		11%								
Growth	Unemployment 3mo MA > .33% off lows*	Off	3.6%	3.9%	10/22		64%								
	Inventory/Sales > Long-term Avg.*	Off	1.33	1.36	9/22		36%								
	YoY Leading Economic Indicator < 0%*	On	-2.7%	0.0%	10/22		50%								
	Leading/Coincident Ratio Drawdown > 26 months*	Off	10.0	26.0	10/22		0%								
	Fed Recession Probability > 25%*	Off	23.1%	25.0%	10/22		8%								
Residential Construction (% of GDP) > 5%	Off	3.6%	5.0%	9/22		0%									
Total Investment (% of GDP) > 18.5%	Off	13.2%	18.5%	9/22		0%									

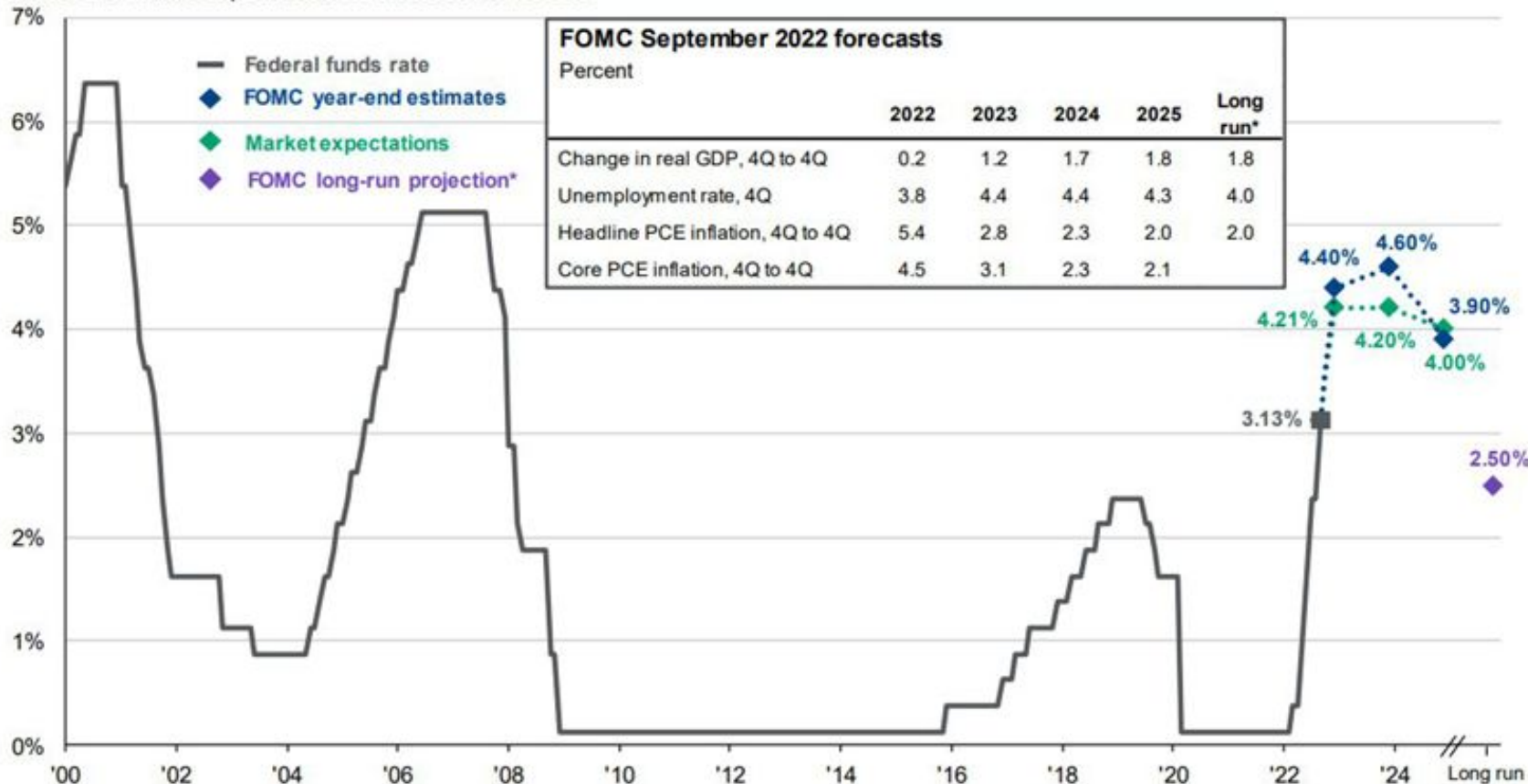
8/23 Indicators "On"



The Fed has turned hawkish to crush inflation...

Federal funds rate expectations

FOMC and market expectations for the federal funds rate



Source: Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management.

Market expectations are based off of the respective Federal Funds Futures contracts for December expiry. *Long-run projections are the rates of growth, unemployment and inflation to which a policymaker expects the economy to converge over the next five to six years in absence of further shocks and under appropriate monetary policy. Forecasts are not a reliable indicator of future performance. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated.

Guide to the Markets – U.S. Data are as of September 30, 2022.

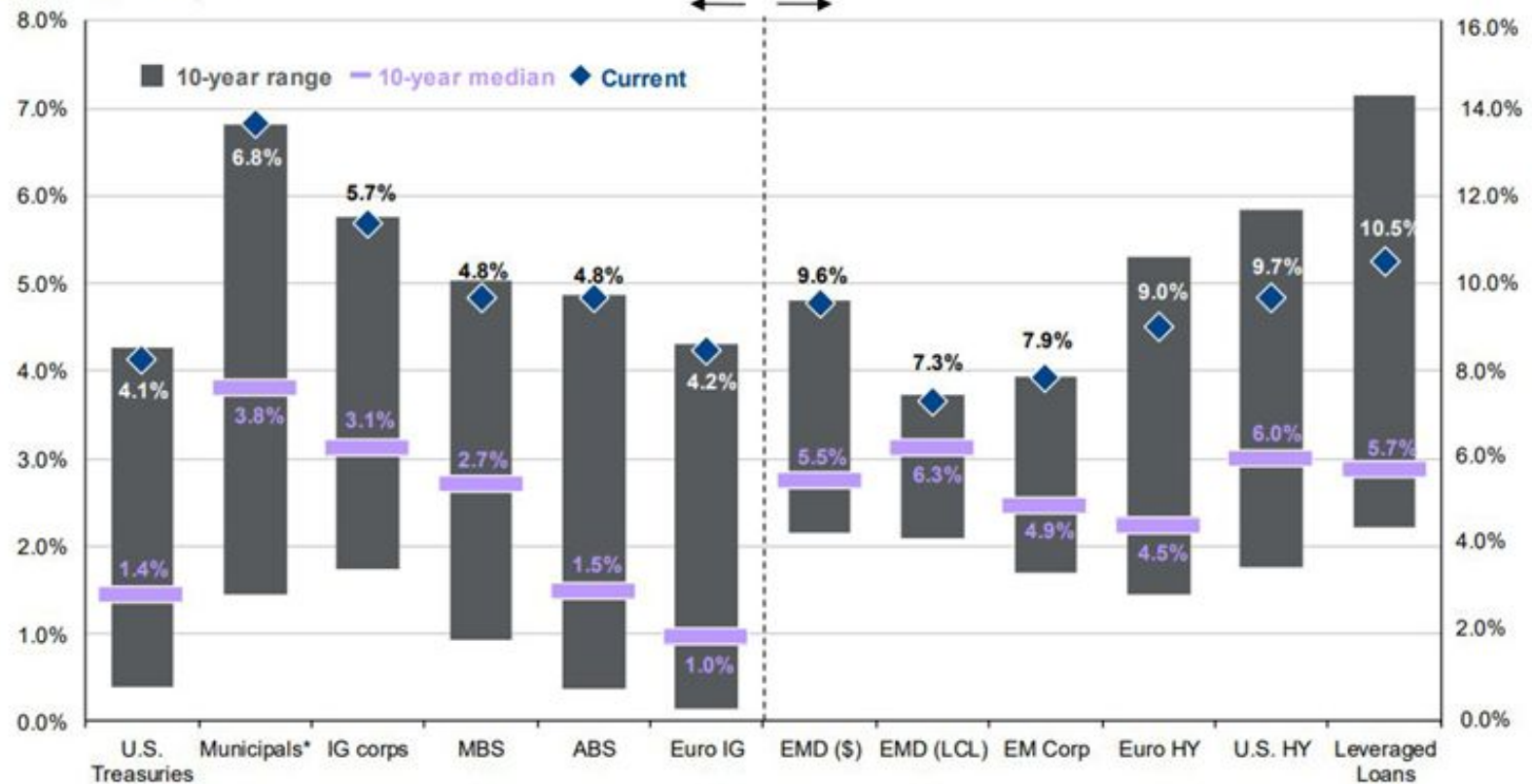
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Bonds look attractive relative to recent history

Yield-to-worst across fixed income sectors

Percent, past 10 years



Source: Bloomberg, FactSet, J.P. Morgan Credit Research, J.P. Morgan Asset Management. Indices used are Bloomberg except for emerging market debt and leveraged loans; EMD (\$): J.P. Morgan EMIGLOBAL Diversified Index; EMD (LCL): J.P. Morgan GBI-EM Global Diversified Index; EM Corp.: J.P. Morgan CEMBI Broad Diversified; Leveraged loans: JPM Leveraged Loan Index; Euro IG: Bloomberg Euro Aggregate Corporate Index; Euro HY: Bloomberg Pan-European High Yield Index. Yield-to-worst is the lowest possible yield that can be received on a bond apart from the company defaulting. All sectors shown are yield-to-worst except for Municipals, which is based on the tax-equivalent yield-to-worst assuming a top-income tax bracket rate of 37% plus a Medicare tax rate of 3.8%.
 Guide to the Markets – U.S. Data areas of September 30, 2022.

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Equity valuations have improved

S&P 500 Index: Forward P/E ratio



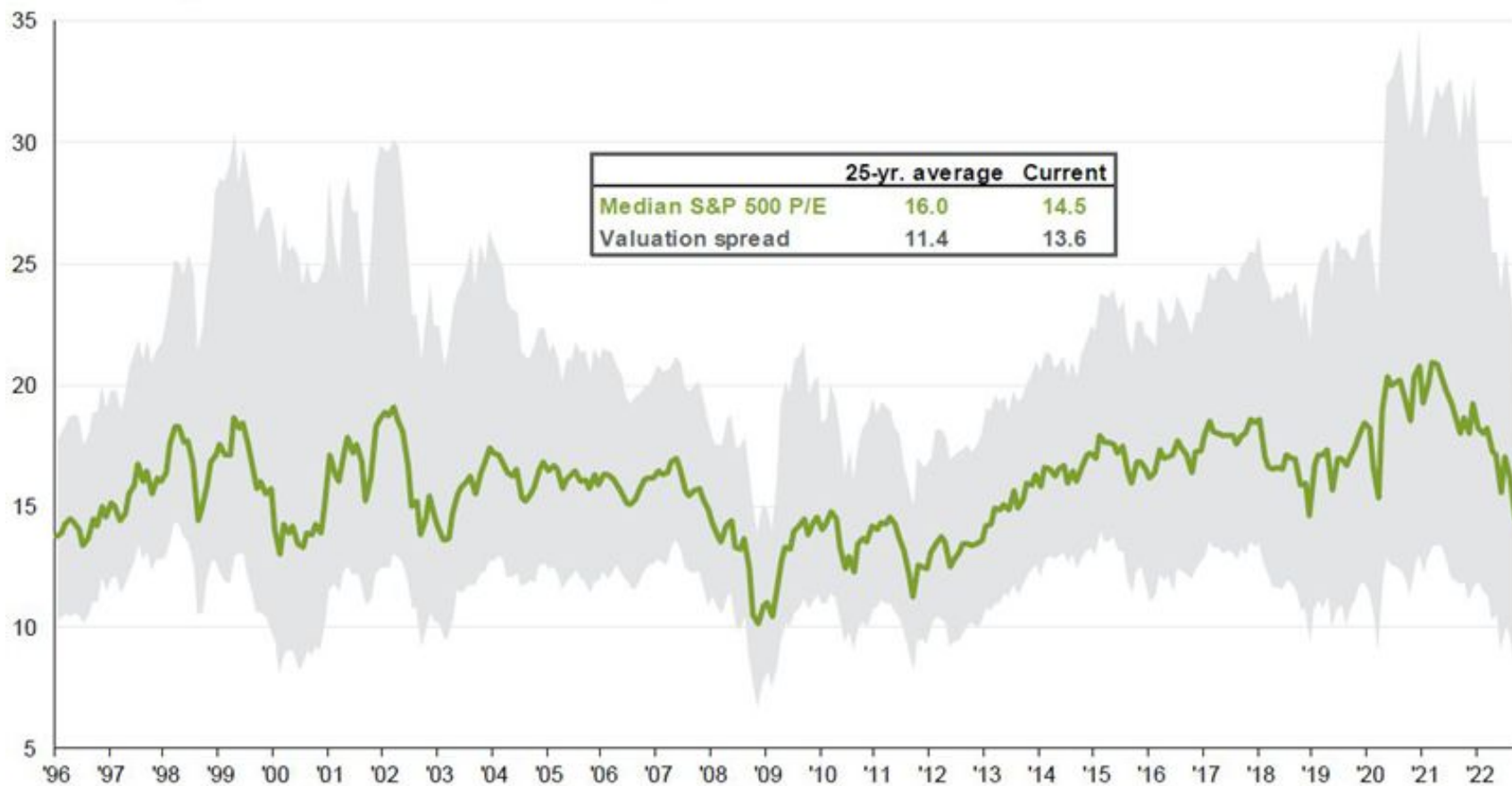
Source: FactSet, FRB, Refinitiv Datastream, Robert Shiller, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management. Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since August 1997 and by FactSet since January 2022. Current next 12-months consensus earnings estimates are \$241. Average P/E and standard deviations are calculated using 25 years of history. Shiller's P/E uses trailing 10-years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12-months consensus dividend divided by most recent price. Price-to-book ratio is the price divided by book value per share. Price-to-cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure. *P/CF is a 20-year average due to cash flow availability. Guide to the Markets - U.S. Data are as of September 30, 2022.

J.P.Morgan
ASSET MANAGEMENT



S&P 500: Valuation Dispersion

Valuation dispersion between the 20th and 80th percentile of S&P 500 stocks



Source: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management.
Guide to the Markets – U.S. Data are as of September 30, 2022.

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Hotel Demand and Office Occupancy Levels



Kastle Office Occupancy, Kalibri Labs, CBRE Econometric

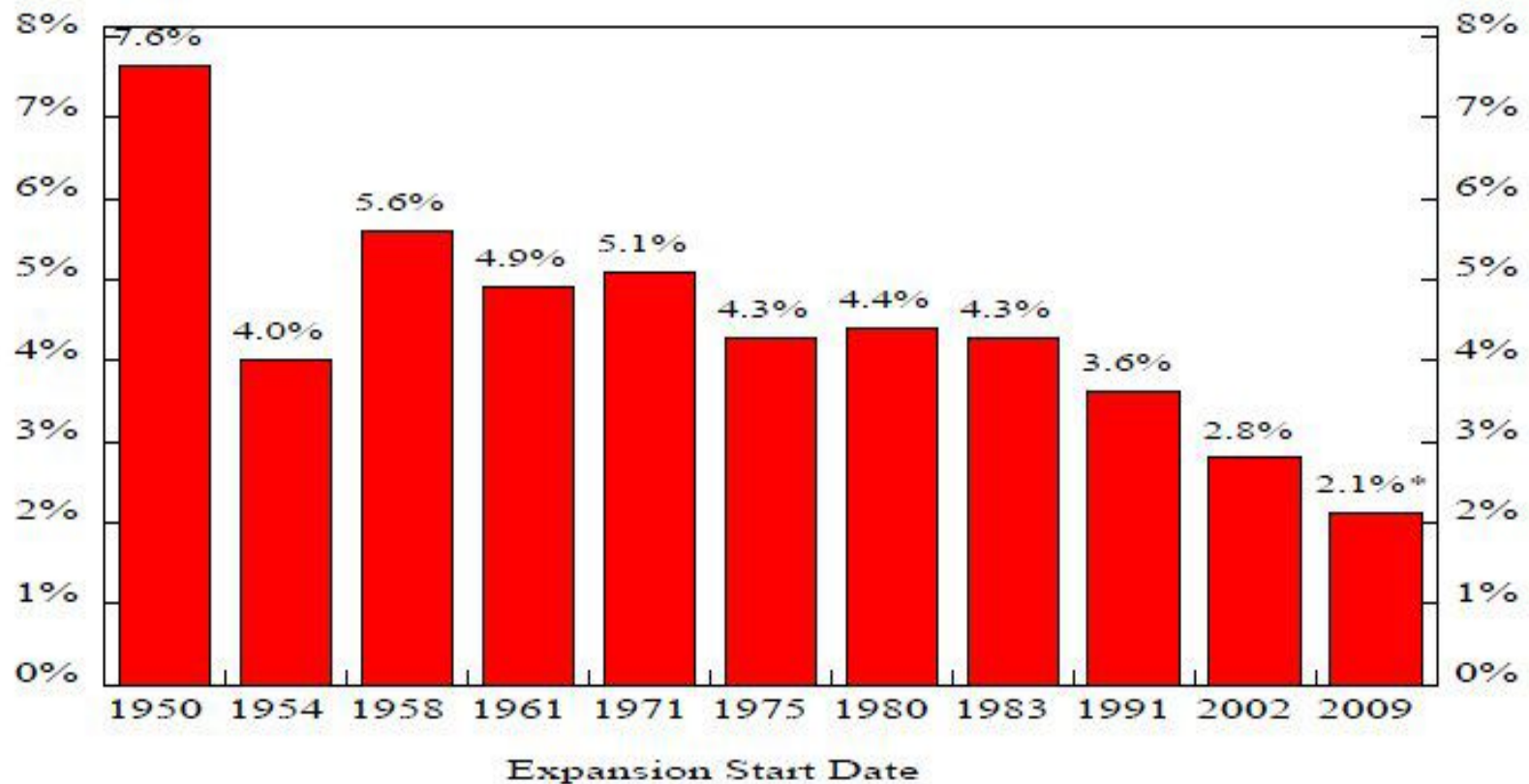


Appendix



Real GDP Growth During Expansions

Real GDP Growth During Expansions
annualized rates of expansion from NBER trough to peak



* Through 1Q 2020

Source: Bureau of Economic Analysis and National Bureau of Economic Research



Returns After Down (19%)

Periods from 1987 through 2022

Date on which decline in S&P 500* exceeded 19%	S&P 500* 12-mo. Return after 19% threshold exceeded	Associated w/recession?
March 11, 2020	43.7%	Yes
August 31, 1998	37.9%	No
December 24, 2018	37.1%	No
October 21, 1957	31.0%	Yes
October 11, 1990	29.1%	Yes
May 28, 1962	26.1%	No
August 29, 1966	24.6%	No
October 19, 1987	23.2%	No
September 25, 1981	9.4%	Yes
March 6, 1978	12.6%	No
January 27, 1970	8.3%	Yes
October 3, 2011	0.0%	No
March 2, 2001	-8.3%	Yes
November 26, 1973	-28.1%	Yes
July 2, 2008	-28.9%	Yes

Average	14.5%	
Median	23.2%	
		Count
Recession	7.0%	8
No Recession	23.1%	7

Source: Leuthold



Portfolio Optimizations

Alternative Strategic Allocations

	Baseline portfolio	Optimized portfolio with new LTCMA	Optimized portfolio with new regime correlation	New regime portfolio
Stock-bond correlation	-0.16	-0.16	0.12	0.12
Arithmetic Return	8.2%	8.1%	8.1%	8.1%
Annualized Volatility	10.2%	9.3%	9.6%	9.7%
Sharpe Ratio	0.57	0.61	0.69	0.59
Asset	Weight			
US Equity	28.0%	18.3%	15.3%	20.0%
EAFE Equity	14.0%	8.4%	3.5%	13.5%
Emerging Markets Equity	6.0%	9.9%	11.8%	6.5%
Private Equity	6.0%	6.0%	6.0%	6.0%
Total	54%	43%	37%	46%
US Intermediate Treasury	10.0%	0.0%	0.0%	5.0%
US Long Treasuries	8.0%	21.7%	0.0%	10.0%
IG Corporate Bonds	8.0%	0.0%	24.7%	10.0%
High Yield Bonds	4.0%	20.0%	18.1%	10.0%
Emerging Market Debt	2.0%	1.8%	6.5%	5.0%
	32.0%	43.5%	49.3%	40.0%
Hedge Funds	2.0%	2.0%	2.0%	2.0%
Direct Lending	3.0%	3.0%	3.0%	3.0%
	5.0%	5.0%	5.0%	5.0%
Real Estate	5.0%	5.0%	5.0%	5.0%
Infrastructure	4.0%	4.0%	4.0%	4.0%
	9.0%	9.0%	9.0%	9.0%

Source: J.P. Morgan Asset Management; as of September 30, 2022. "Alternatives" represents a diversified basket of alternative assets, including 30% private equity, 25% real estate, 20% infrastructure, 10% hedged funds and 15% direct lending. "New regime" analysis is a hypothetical scenario. The scenario risk matrix is generated using an exponentially weighted three-month half-life approach with data in September 2022.



BARRA Factor-Based Returns Evaluation

Periods Ending September 30, 2022

Developed Markets

Market-Based	20 Yrs	10 Yrs	1 Yr
Momentum	3.22	3.63	3.58
BETA	2.14	1.90	(2.46)
Long-Term Reversal	0.57	0.36	4.36
Mid Capitalization	0.28	0.16	0.41
Size	(0.45)	0.16	2.19
Liquidity	(0.71)	(0.74)	(4.45)
Residual Volatility	(1.72)	(2.40)	(6.24)

Fundamental	20 Yrs	10 Yrs	1 Yr
Earnings Yield	2.23	0.80	3.43
Book-to-Price	1.88	1.11	0.53
Earnings Quality	1.2	0.79	0.40
Investment Quality	1.14	0.83	2.21
Profitability	0.92	0.94	0.66
Growth	0.77	0.82	(0.64)
Dividend Yield	0.56	0.15	(0.13)
Leverage	(0.15)	(0.02)	0.51
Earnings Variability	(0.55)	(0.60)	(0.34)

Emerging Markets

Market-Based	20 Yrs	10 Yrs	1 Yr
Momentum	5.56	6.11	5.21
Short-Term Reversal	5.1	1.99	5.71
BETA	2.6	1.92	(2.39)
Industry Momentum	2.4	1.67	0.08
Downside Beta	1.82	1.74	2.68
DM Sensitivity	1.71	0.35	2.81
Size Nonlinearity	0.65	0.98	0.78
Seasonality	1.71	2.05	4.07
Oil Sensitivity	0.23	0.26	2.56
Liquidity	(1.79)	(1.79)	(4.97)

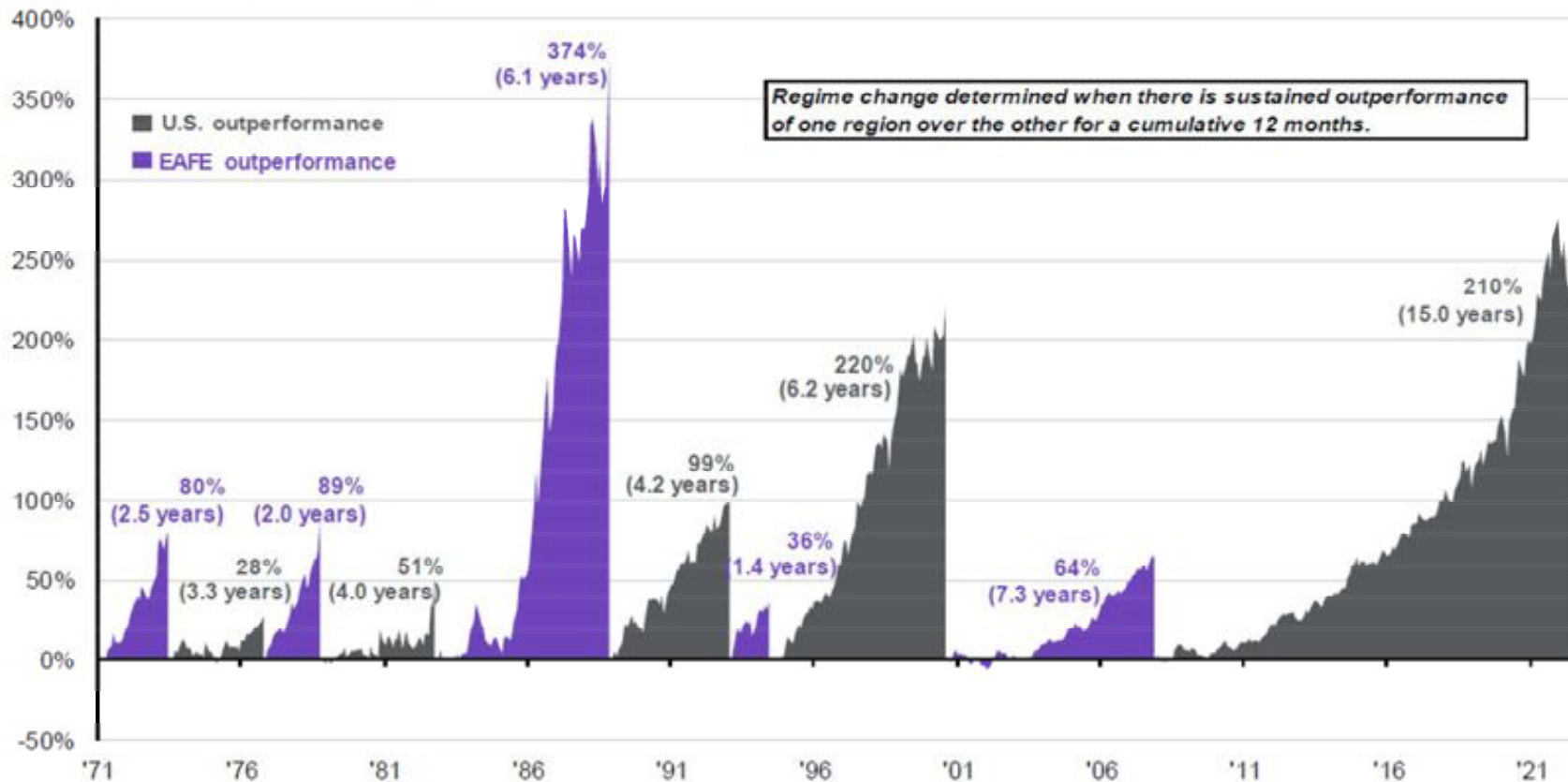
Fundamental	20 Yrs	10 Yrs	1 Yr
Earnings Yield	1.84	0.91	2.76
Book-to-Price	1.54	0.72	0.42
Dividend Yield	1.43	0.91	(0.69)
Quality	1.03	1.22	1.30
Growth	0.47	0.28	(0.66)
Leverage	(0.25)	(0.18)	(1.97)



Cycles of US Equity Outperformance

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 September 30, 2022.

J.P.Morgan
ASSET MANAGEMENT

Agenda Item
UTIMCO Board of Directors Meeting
December 9, 2022

Agenda Item: UTIMCO Performance and Market Update

Developed By: Hall

Presented By: Hall

Type of Item: Information Item

Description: Rich Hall will review UTIMCO's performance and provide an update on the financial markets.

Reference: *UTIMCO Performance and Market Update* presentation



UTIMCO Performance and Market Update

Board of Directors Meeting
December 9, 2022
Rich Hall, Chief Investment Officer

Market Overview





Market Overview

First time in 150 years with both Equities and Long Bonds declining more than 10%



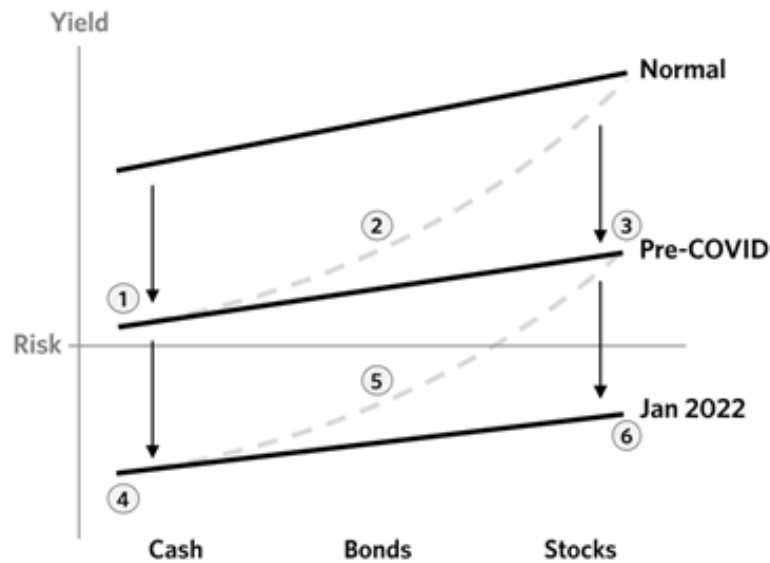
Source: Bloomberg, NBER, Jordà-Schularick-Taylor Macrohistry Database, Morgan Stanley Research;
Note: Data back to 1871. Bond return is return on long-maturity UST. As of November 9, 2022.



Market Overview

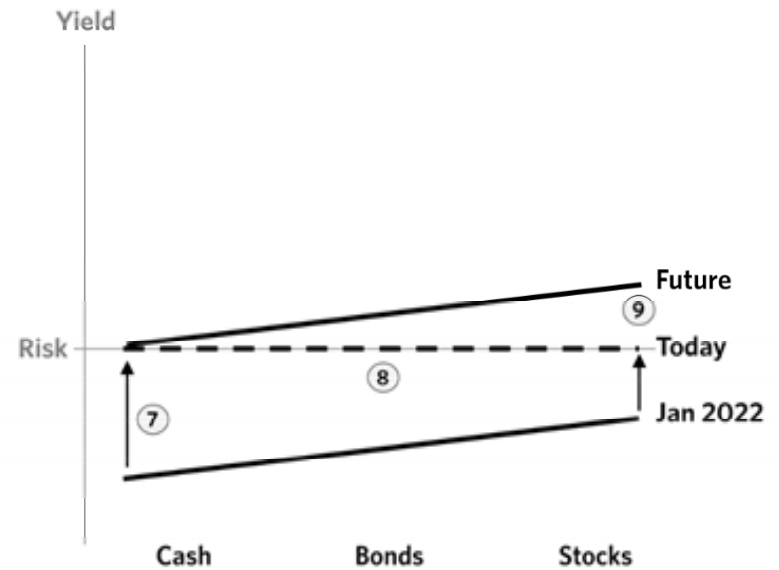
What drove the rise and fall of asset values? Market mechanics.

The last 40 years, generally



Source: Bridgewater

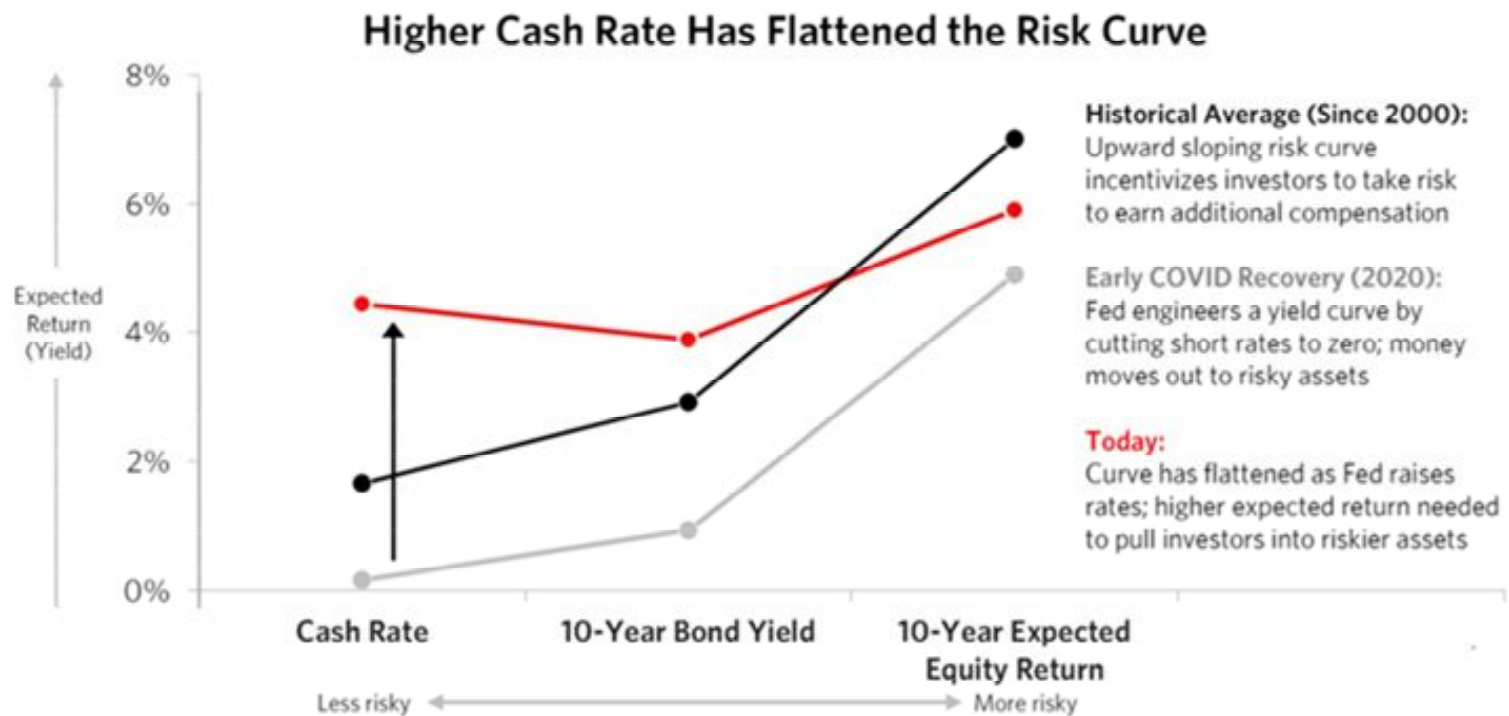
This year





Market Overview

Where do asset values go from here?

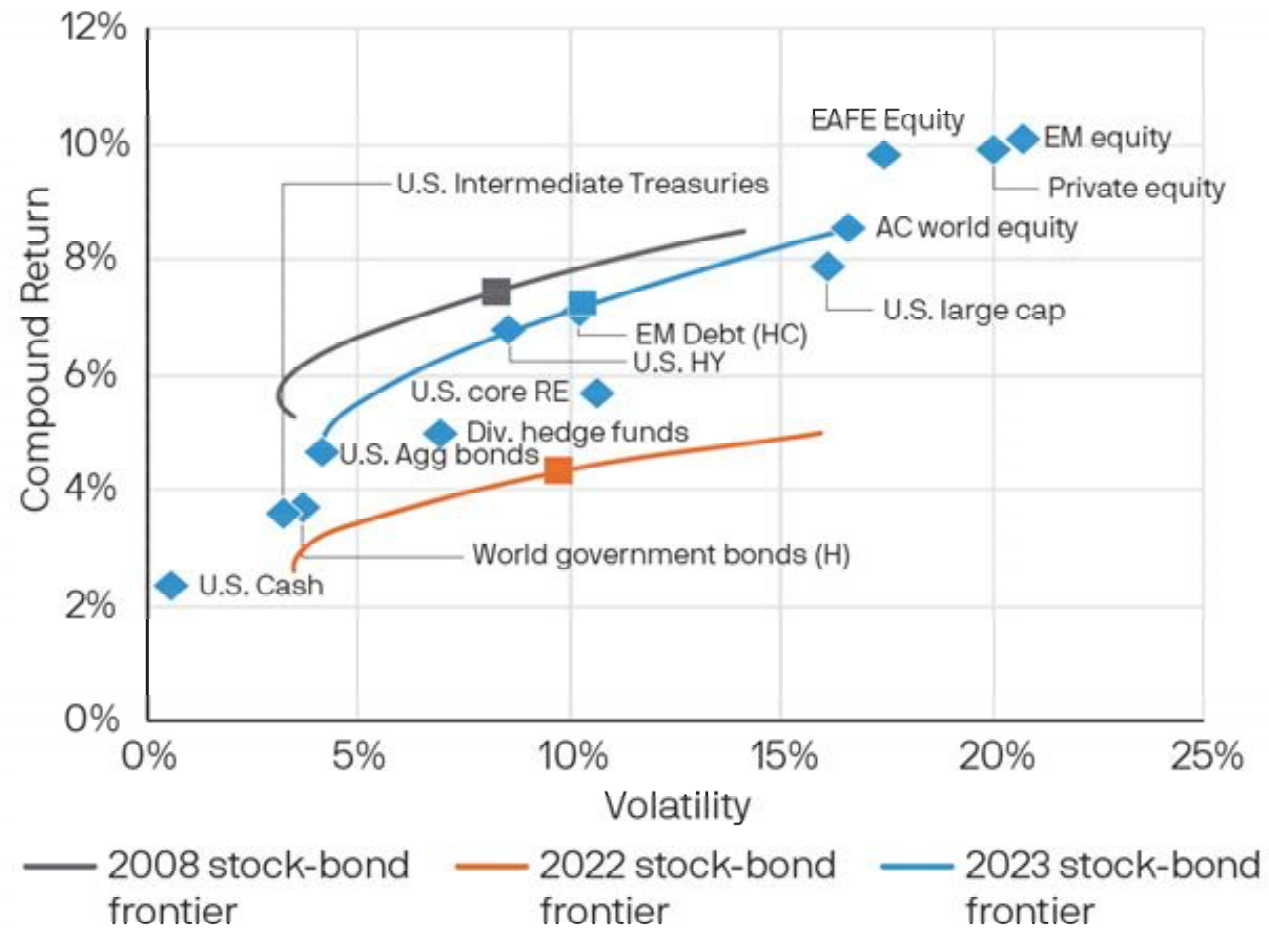


Source: Bridgewater



Market Overview

What are future return expectations? How do they compare to the past?



Source: JP Morgan

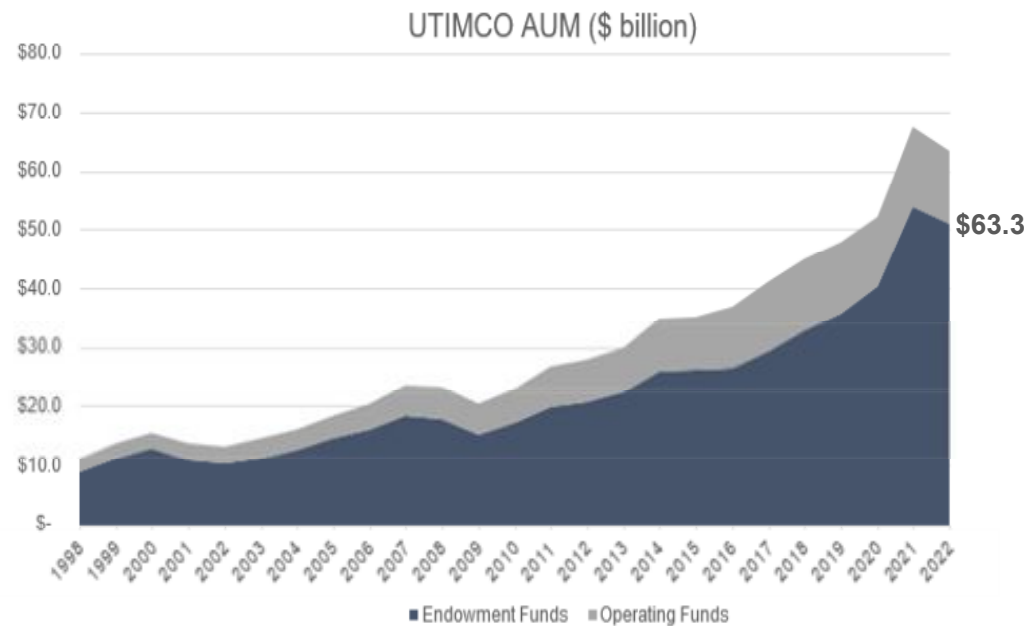
Portfolio Performance





Growth in Assets Under Management (AUM)

Total Assets through September 30, 2022



3 Month Change in AUM

	\$ Billion
Beginning Net Asset Value (NAV)	64.7
Contributions	1.5
Net Investment Income	-2.3
Distributions	-0.6
Ending Net Asset Value	63.3

3 Year Change in AUM

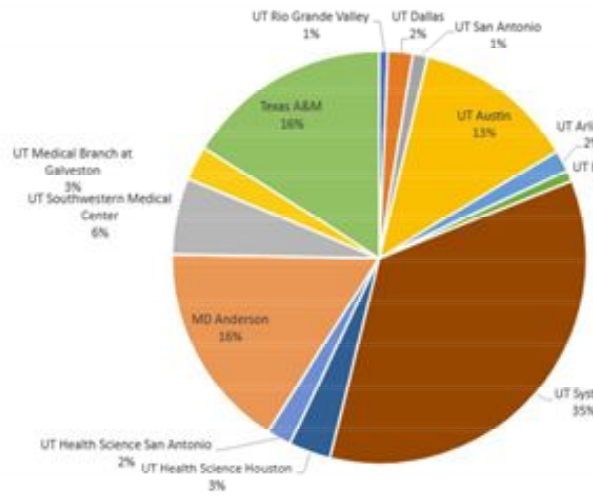
	\$ Billion
Beginning Net Asset Value	48.2
Contributions	8.2
Net Investment Income	13.2
Distributions	-6.3
Ending Net Asset Value	63.3



AUM Breakdown

As of September 30, 2022

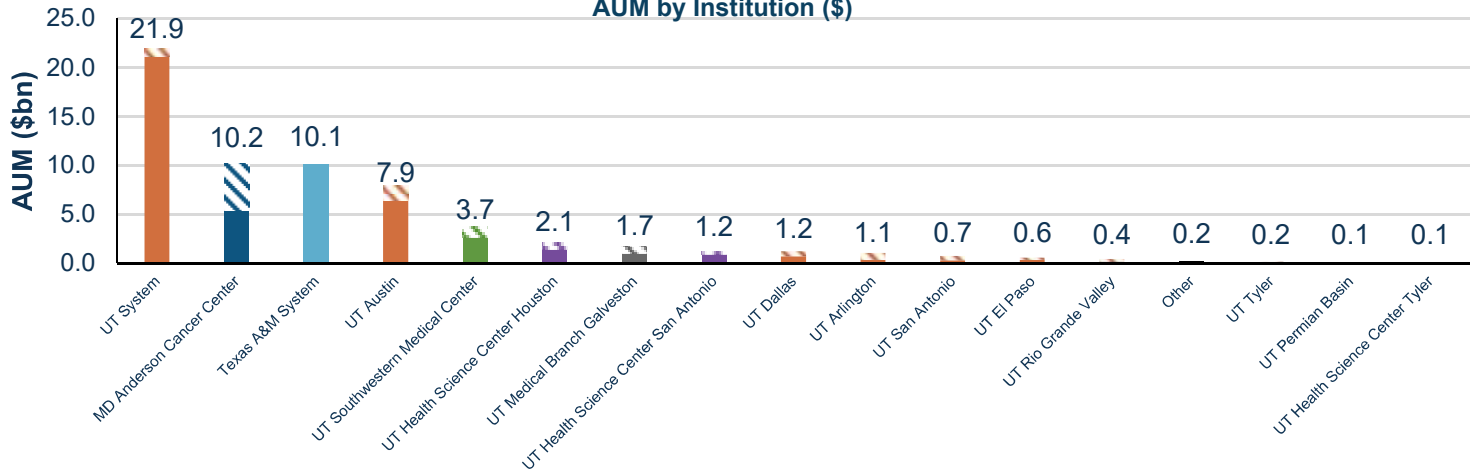
AUM by Institution (%)



AUM by Fund



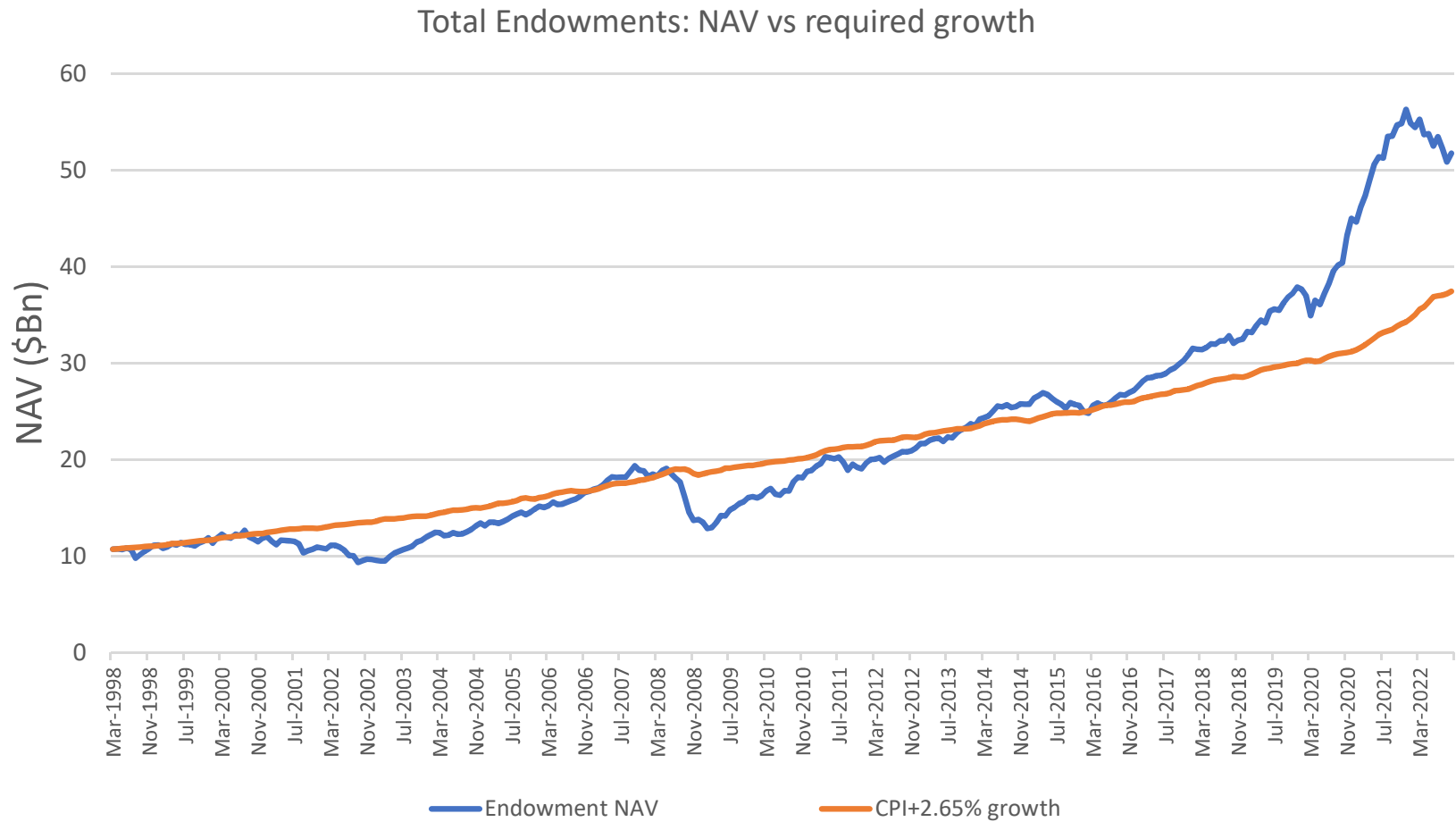
AUM by Institution (\$)





Margin of Safety

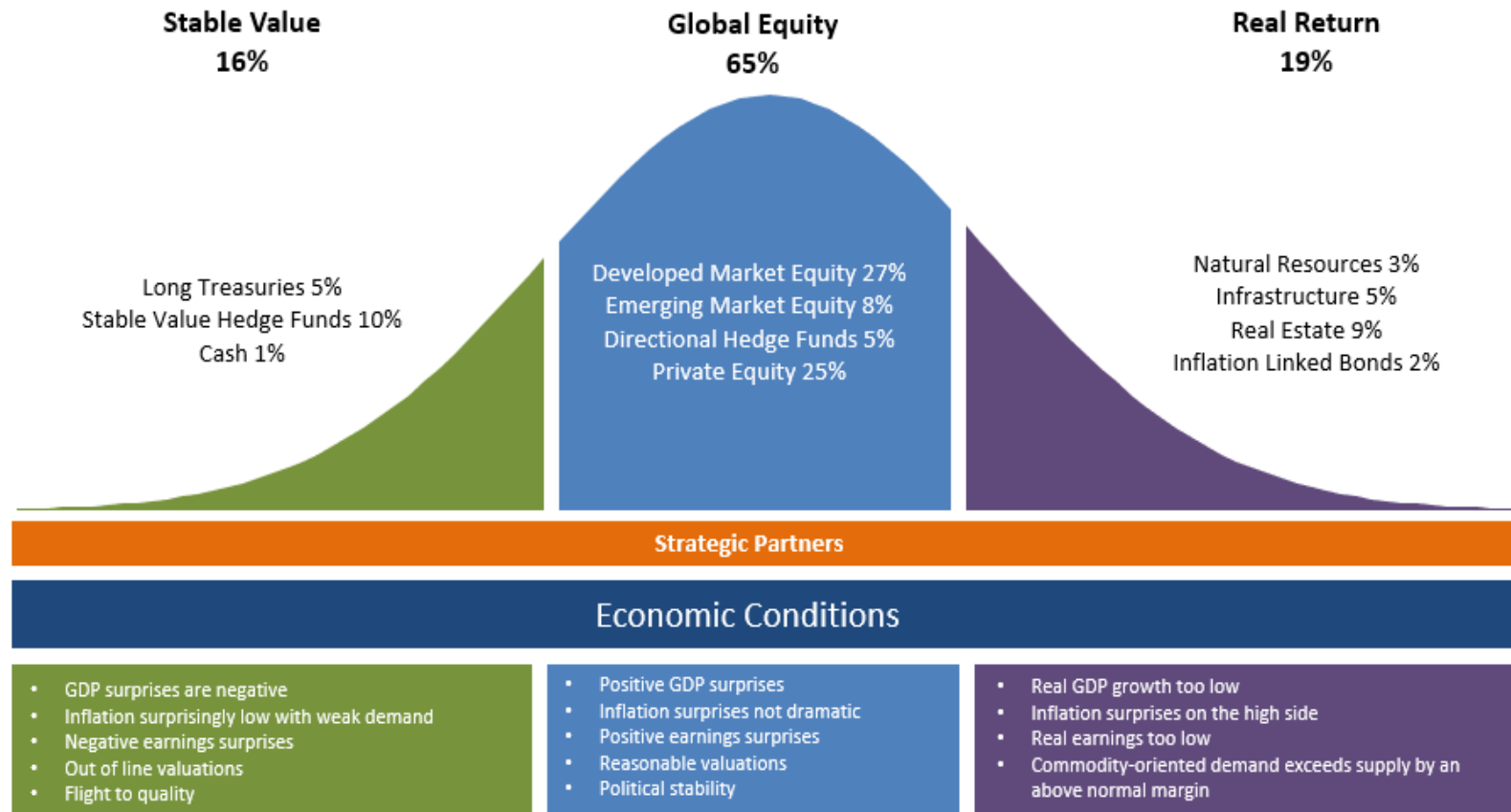
Ability to make distributions remains strong





UTIMCO Diversification Framework

Returns as of September 30, 2022



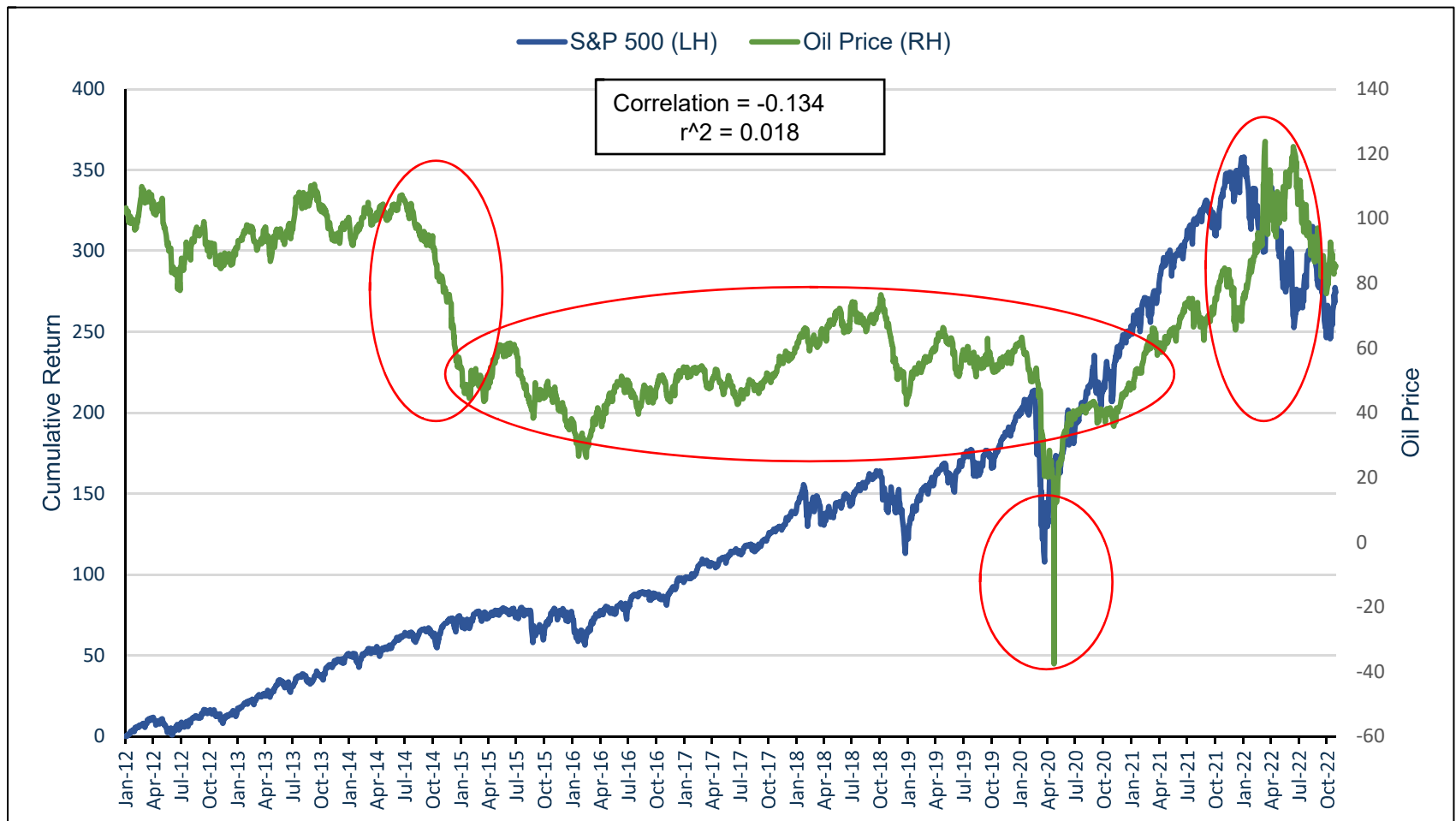
*LTSAA Policy Weights

Annualized Returns			Annualized Returns			Annualized Returns		
1 Yr	3 Yr	10 Yr	1 Yr	3 Yr	10 Yr	1 Yr	3 Yr	10 Yr
(2.3)	2.4	2.1	(12.9)	11.3	9.7	6.5	8.7	6.0



Total Asset Diversification

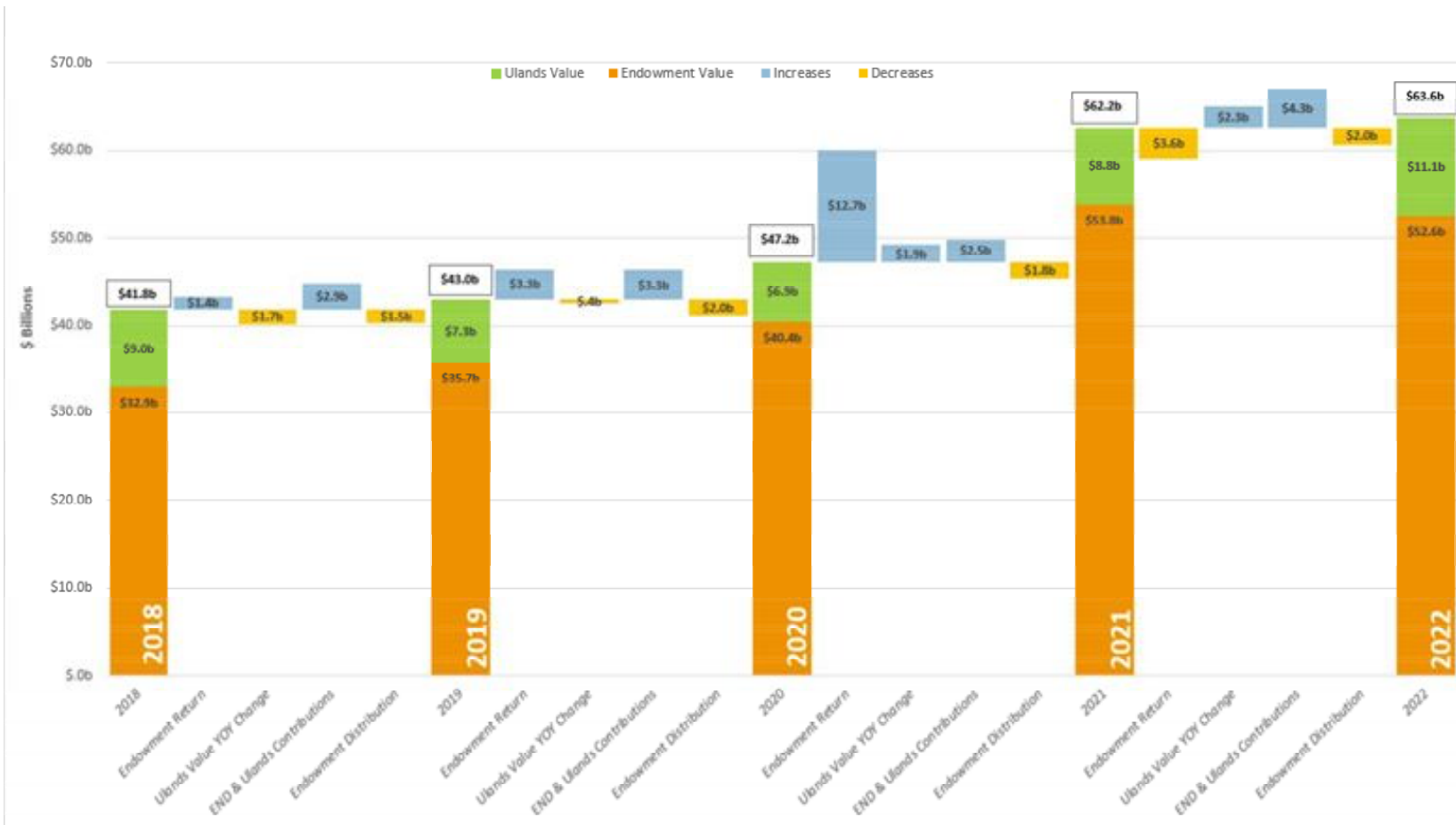
10-year history: Price of Oil vs. S&P 500





Total Asset Diversification

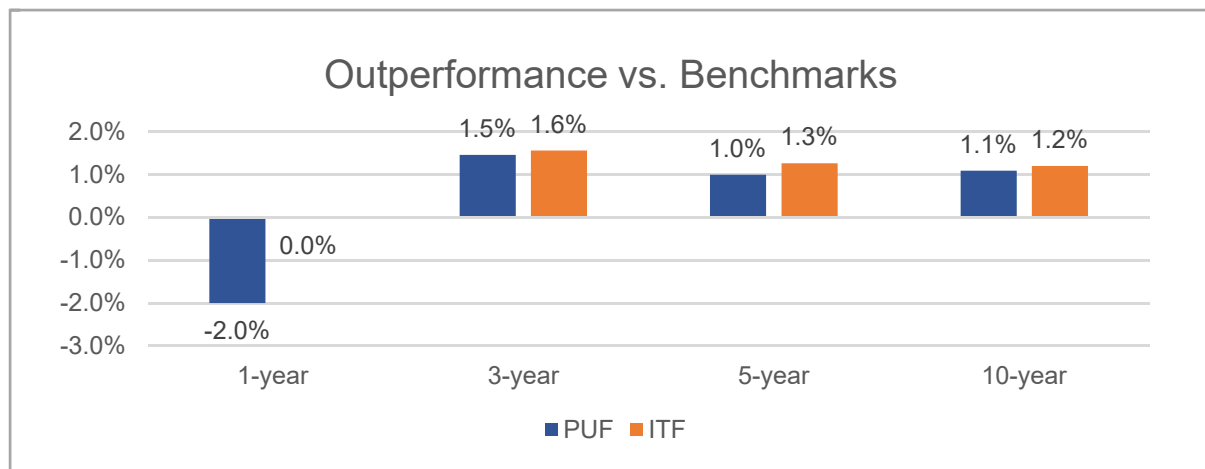
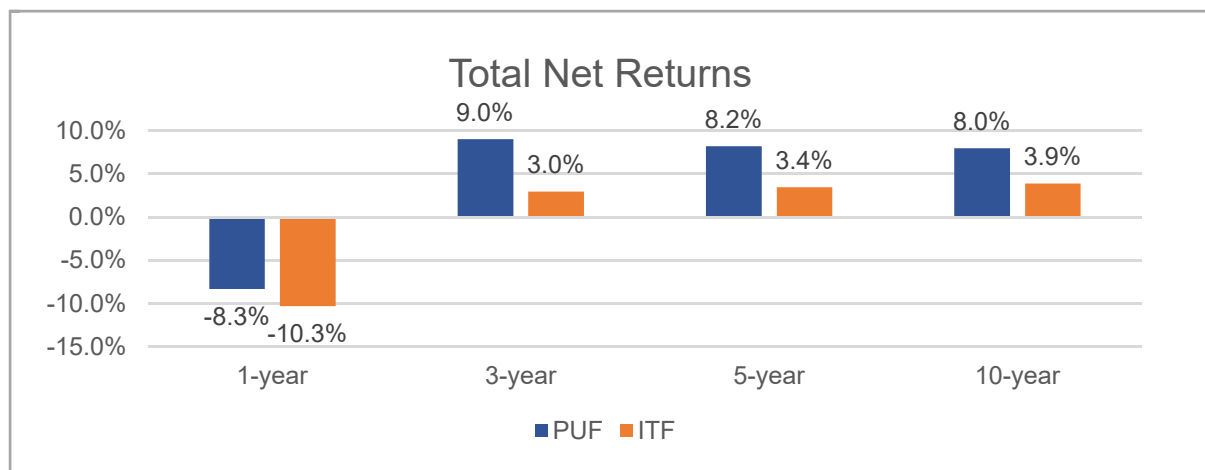
Diversification has had a positive impact on UT and A&M Total Asset Value





UTIMCO Returns and Alpha

As of September 30, 2022





Endowment Returns and Alpha

Through September 30, 2022

		1-Year		3-Year		Asset Allocation		
		Return	Alpha	Return	Alpha	\$ Invested	% of Fund	Over / (Under)
Global Equity	Public Equity	(27.5%)	(5.7%)	2.6%	(0.4%)	13,137	25.9%	(1.3%)
	Directional Hedge Funds	(6.4%)	0.4%	6.3%	2.3%	3,131	6.2%	(0.2%)
	Total Private Equity	3.3%	3.0%	23.9%	4.7%	14,545	28.6%	0.8%
	Total Global Equity	(12.9%)	(2.1%)	11.3%	1.7%	30,813	60.6%	(0.7%)
Stable Value	Investment Grade Fixed Income	(12.2%)	(0.2%)	(1.9%)	1.2%	2,077	4.1%	0.5%
	Long Treasuries	(26.9%)	(0.3%)			747	1.5%	(0.6%)
	Cash	0.7%	0.1%	0.6%	(0.0%)	1,024	2.0%	1.0%
	Stable Value Hedge Funds	7.9%	8.6%	8.6%	4.1%	4,758	9.4%	0.1%
	Total Stable Value	(2.3%)	4.4%	2.4%	1.6%	8,601	16.9%	1.0%
Real Return	Inflation Linked Bonds	(11.2%)	0.3%			979	1.9%	(0.1%)
	Natural Resources	2.3%	(23.6%)	1.3%	(5.3%)	2,431	4.8%	0.1%
	Infrastructure	9.9%	(2.1%)	24.8%	13.9%	1,614	3.2%	0.1%
	Real Estate	12.9%	(3.7%)	10.5%	0.1%	4,184	8.2%	0.3%
	Total Real Return	6.5%	(9.5%)	8.7%	0.4%	9,208	18.1%	0.4%
Strategic Partnerships	Total Strategic Partnerships	(19.0%)	3.2%		0.0%	2,228	4.4%	(0.6%)
TAA	TAA	0.1%	0.1%	0.1%	0.1%	(3)		
Total Fund	Endowment Total	(8.3%)	(1.7%)	9.0%	1.6%	50,846	100.0%	0.0%



ITF Returns and Alpha Detail

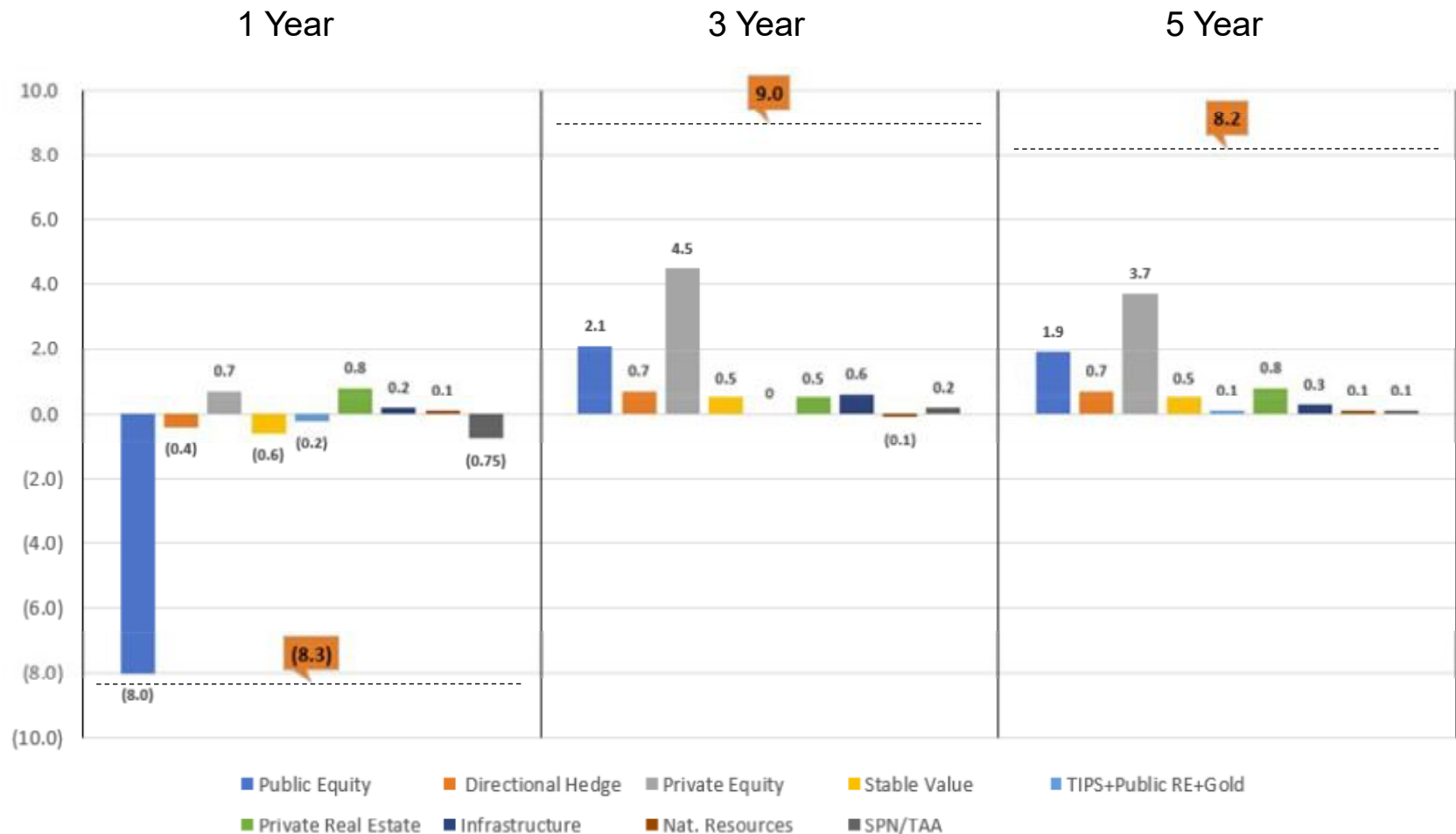
Through September 30, 2022

		1-Year		3-Year		Asset Allocation		
		Return	Alpha	Return	Alpha	\$ Invested	% of Fund	Over / (Under)
Global Equity	Public Equity	(27.7%)	(5.8%)	2.0%	(0.7%)	1,108	12.8%	(1.2%)
	Directional Hedge Funds	(6.5%)	0.4%	6.3%	2.3%	3,314	38.4%	0.7%
	Total Global Equity	(12.2%)	(1.2%)	5.4%	1.7%	4,422	51.2%	(0.6%)
Stable Value	Investment Grade Fixed Income	(12.3%)	(0.2%)	(1.9%)	1.2%	1,332	19.8%	0.3%
	Long Treasuries	(27.2%)	(0.5%)			313	3.6%	(0.6%)
	Cash	0.7%	0.1%	0.6%	(0.0%)	287	3.3%	1.3%
	Stable Value Hedge Funds	7.6%	8.3%	8.7%	4.2%	1,445	16.7%	(0.0%)
	Total Stable Value	(7.0%)	2.1%	0.2%	1.7%	3,376	39.1%	1.0%
Real Return	Inflation Linked Bonds	(11.3%)	0.3%			414	4.8%	(0.2%)
	Commodities	10.7%	(1.1%)			222	2.6%	0.1%
	Real Estate	(19.7%)	(3.1%)			194	2.3%	(0.3%)
	Total Real Return	(10.5%)	(3.5%)			831	9.6%	(0.4%)
Total Fund	ITF Total	(10.3%)	(0.0%)	3.0%	1.6%	8,629	100.0%	0.0%



Return Attribution by Asset Class

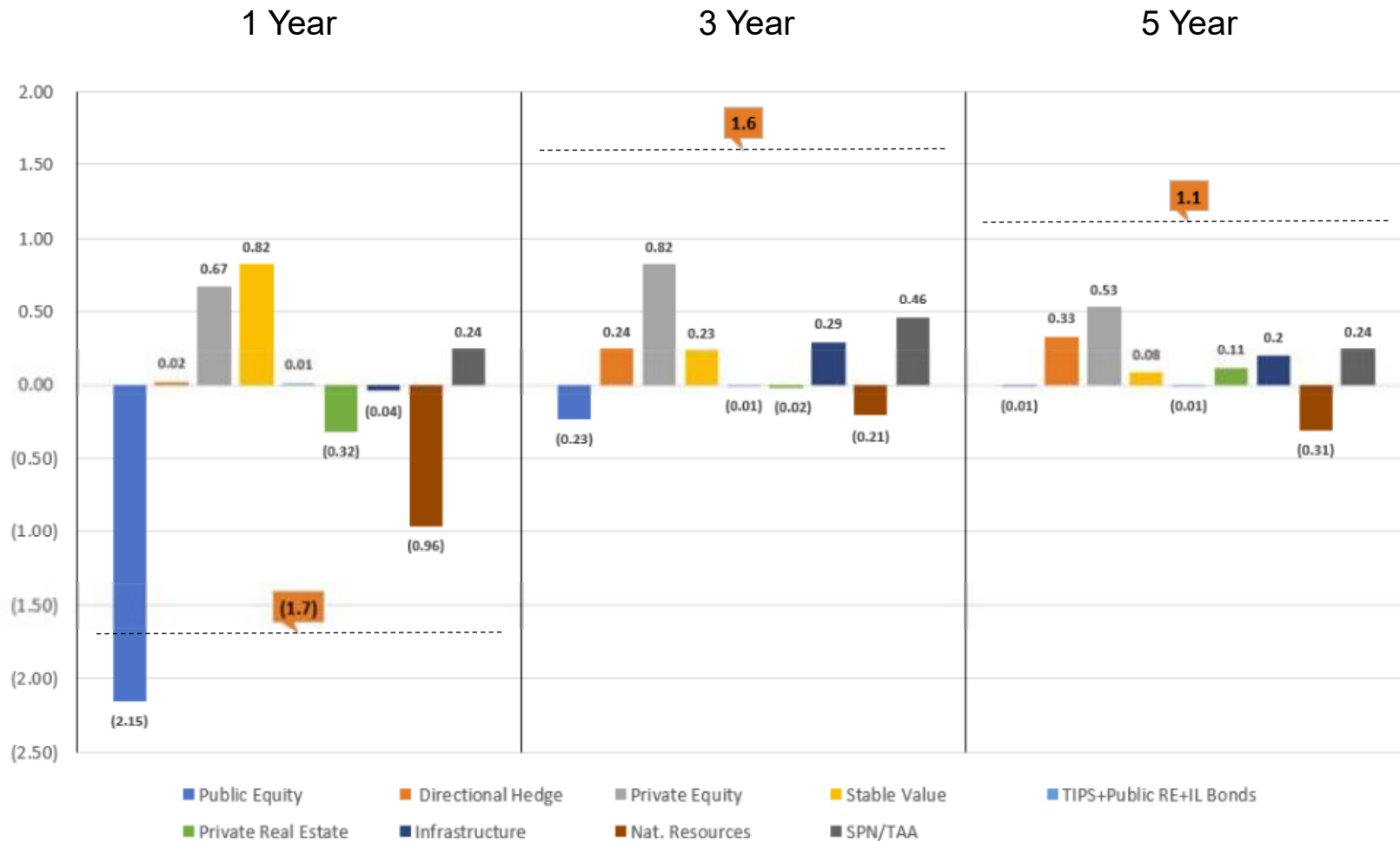
Through September 30, 2022 / Attribution = Asset Class Return x Weight





Alpha Attribution by Asset Class

Through September 30, 2022 / Attribution = Asset Class Alpha x Weight

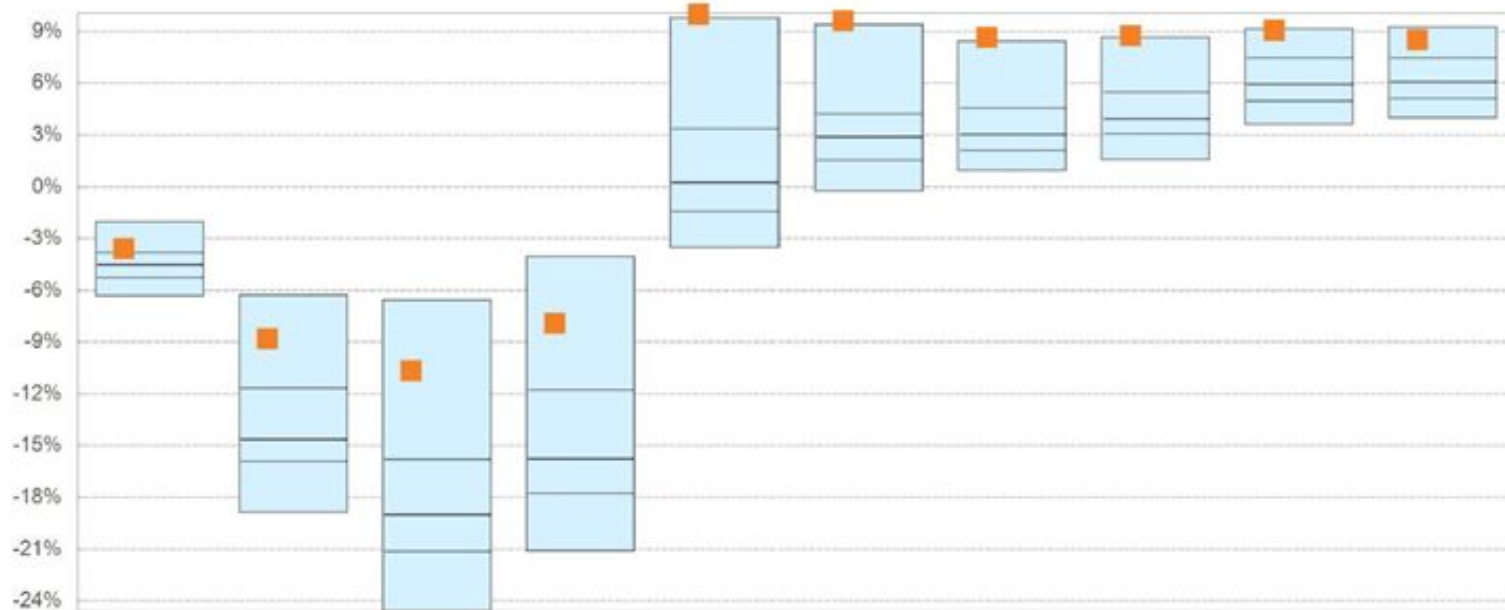




Q3 TUCS

Trust Universe Comparison Service Performance Comparison

Total Returns of Master Trusts - Foundation & Endowment
Cumulative Periods Ending : September 30, 2022

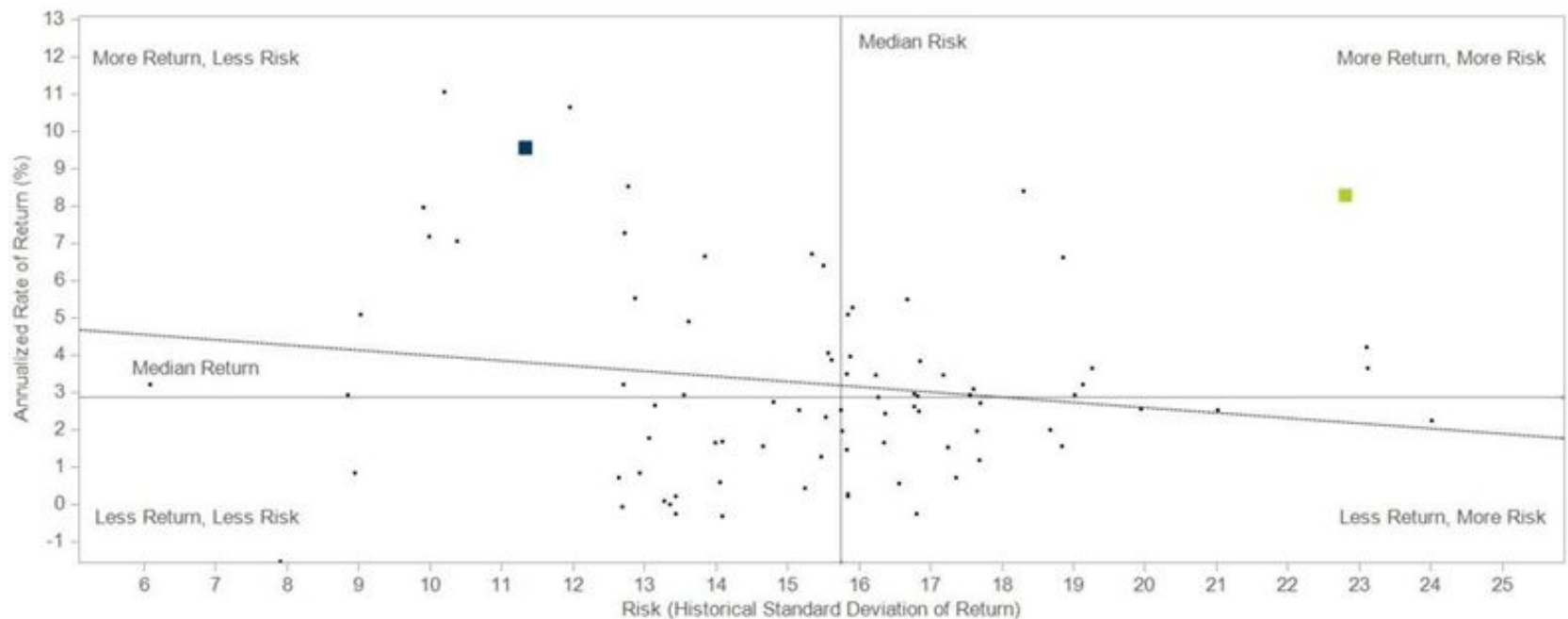


Percentile Rankings	1 Qtr	2 Qtrs	3 Qtrs	1 Year	2 Years	3 Years	4 Years	5 Years	7 Years	10 Years
5th	-2.04	-6.26	-6.57	-4.03	9.76	9.40	8.44	8.67	9.14	9.26
25th	-3.80	-11.66	-15.81	-11.77	3.36	4.23	4.56	5.51	7.48	7.46
50th	-4.53	-14.66	-19.00	-15.75	0.25	2.87	3.05	3.92	5.95	6.10
75th	-5.26	-15.91	-21.11	-17.79	-1.44	1.56	2.12	3.09	4.96	5.12
95th	-6.29	-18.86	-24.59	-21.09	-3.53	-0.23	0.94	1.59	3.62	3.99
No. Of Obs	97	94	93	93	89	86	80	79	77	74
PUF TOTAL FUND	-3.80 (26)	-9.02 (14)	-10.90 (14)	-8.13 (16)	9.76 (5)	9.42 (4)	8.44 (6)	8.56 (6)	8.86 (7)	8.28 (10)



Q3 TUCS: Risk and Return

Trust Universe Comparison Service Risk vs Total Returns of Master Trusts - Foundation & Endowment 3 Years Ending September 30, 2022



	Risk Value	Risk Rank	Return Value	Return Rank
GEF TOTAL FUND	11.40	89	9.40	5
PUF TOTAL FUND	11.41	88	9.42	4
S&P 500	22.87	3	8.16	7
Median	15.75		2.87	

Appendix





Sector Return Dispersion

As of October 31, 2022

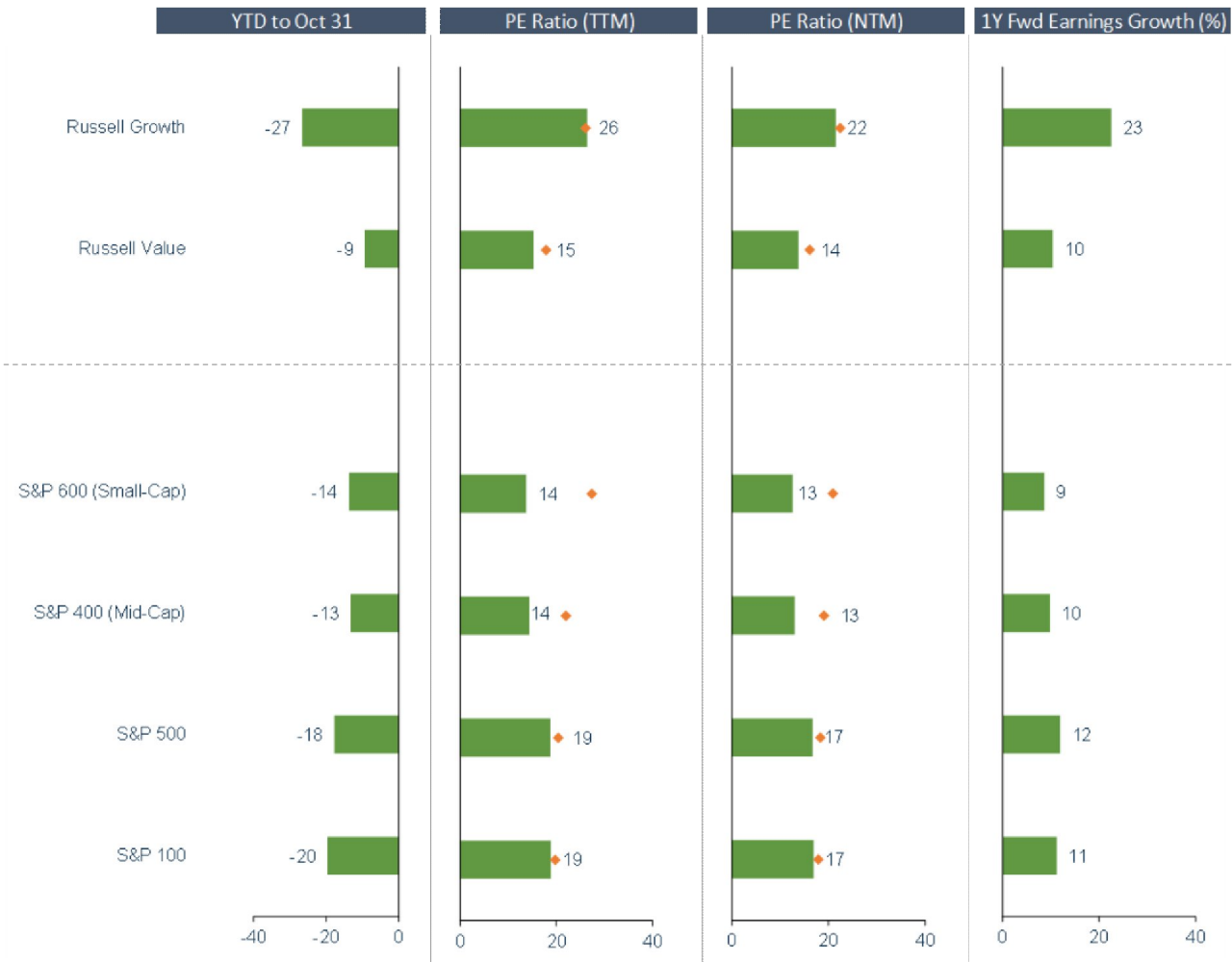


◆ 10-year Average P/E Ratios



Style and Market Cap Return Dispersion

As of October 31, 2022

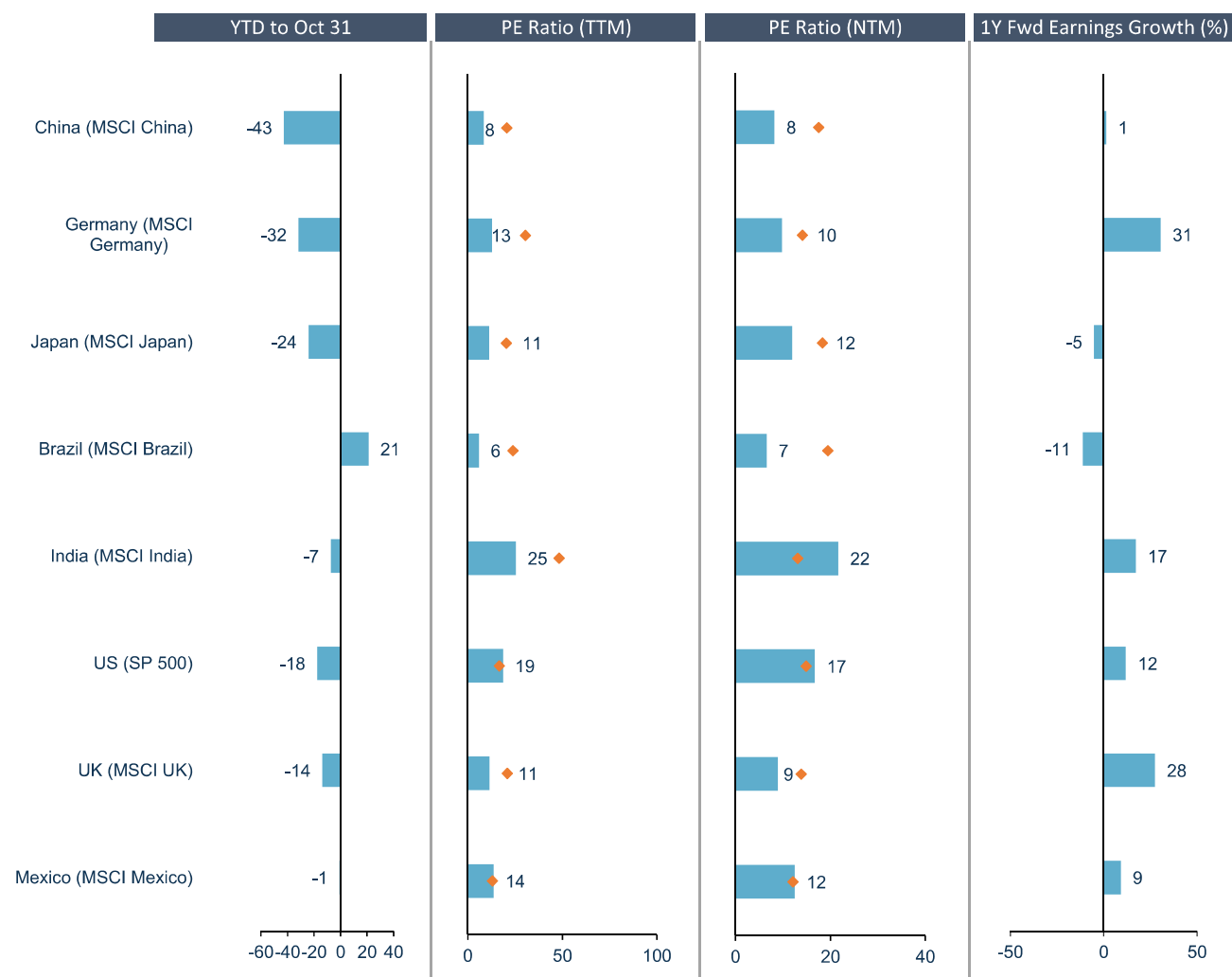


◆ 10-year Average P/E Ratios



Country Return Dispersion

As of October 31, 2022



◆ 10-year Average P/E Ratios



Economic Indicators

Estimates as of 11/11/22

	Quarterly Real GDP		Real GDP		S&P 500 EPS		Unemployment		Core PCE	
	Q4	Q1	2022	2023	2022	2023	2022	2023	2022	2023
AGMR	1.4%	-0.5%	0.5%	-0.6%	\$194	\$177	3.9%	5.7%	4.8%	3.7%
Barclays	0.0%	-0.5%	1.8%	-0.1%	\$221	\$210	3.8%	4.9%	5.0%	3.3%
BofA	0.5%	-1.5%	1.8%	-0.4%	\$220	\$200	3.6%	5.5%	5.0%	3.8%
Citi	1.7%	1.5%	1.9%	0.7%	\$221	\$215	3.4%	5.3%	5.0%	4.4%
Credit Suisse	0.5%	0.9%	1.8%	0.9%	\$227	\$230	3.5%	3.7%	5.0%	3.7%
Goldman	0.8%	0.8%	1.9%	1.0%	\$224	\$224	3.6%	4.1%	4.6%	2.9%
ISI	2%		0.6%	0.0%	\$222	\$222	4.0%	4.7%	4.0%	3.0%
JP Morgan	1.5%	1.0%	1.9%	1.1%	\$225	\$225	3.7%	4.4%	5.0%	3.5%
Morgan Stanley	0.8%	0.0%	1.6%	0.6%	\$220	\$212	3.9%	4.4%	4.8%	3.7%
UBS	0.9%	0.8%	0.3%	-0.9%	\$223	\$198	3.5%	4.4%	4.7%	2.1%
Yardeni	1.0%	1.5%	0.2%	2.5%	\$215	\$235	3.3%		5.4%	

Median	0.9%	0.8%	1.8%	0.6%	\$221	\$215	3.6%	4.6%	5.0%	3.6%
Average	1.0%	0.4%	1.3%	0.4%	\$219	\$213	3.7%	4.7%	4.8%	3.4%
FOMC			0.2%	1.2%			3.8%	4.4%	4.5%	3.1%

	2020	2021	2020	2021	2020	2021	2020	2021
Prior Years	-3.4%	5.7%	\$142	\$208	6.7%	3.9%	1.5%	4.9%



Economic Indicators

Inflation Trend (CPI through October / PCE + GDP through September)

	CPI	Core CPI	Median CPI	PCE*	Core PCE*	GDP*
Mar-21	265.03	271.35	296.51	113.63	115.46	19,216.20
Apr-21	266.73	273.67	297.18	114.24	116.19	19,216.20
May-21	268.60	275.72	298.06	114.82	116.79	19,216.20
Jun-21	270.96	277.92	299.03	115.46	117.35	19,544.20
Jul-21	272.18	278.79	299.71	115.99	117.81	19,544.20
Aug-21	273.09	279.31	300.70	116.44	118.20	19,544.20
Sep-21	274.21	280.02	301.92	116.81	118.45	19,672.60
Oct-21	276.59	281.71	303.45	117.48	118.93	19,672.60
Nov-21	278.52	283.18	304.89	118.20	119.54	19,672.60
Dec-21	280.13	284.77	306.20	118.84	120.19	20,006.20
Jan-22	281.93	286.43	307.96	119.47	120.76	20,006.20
Feb-22	284.18	287.88	309.59	120.18	121.21	20,006.20
Mar-22	287.71	288.81	311.07	121.32	121.65	19,924.10
Apr-22	288.66	290.46	312.71	121.56	122.03	19,924.10
May-22	291.47	292.29	314.53	122.30	122.49	19,924.10
Jun-22	295.33	294.35	316.83	123.51	123.26	19,895.30
Jul-22	295.27	295.28	318.49	123.37	123.32	19,895.30
Aug-22	295.62	296.95	320.84	123.69	123.98	19,895.30
Sep-22	296.76	298.66	322.98	124.10	124.54	20,021.70
Oct-22	298.06	299.47	324.69			
	Actual Percent Change (Not annualized)					
Last 18 months	11.7%	9.4%	9.3%	9.2%	7.9%	4.2%
Last 12 months	7.8%	6.3%	7.0%	6.2%	5.1%	1.8%
Last 6 months	3.3%	3.1%	3.8%	2.3%	2.4%	0.5%
Last 3 months	0.9%	1.4%	1.9%	0.5%	1.0%	0.6%
Last 1 month	0.4%	0.3%	0.5%	0.3%	0.5%	
	Annualized Change					
Last 6 months	6.6%	6.3%	7.8%	4.6%	4.8%	1.0%
Last 3 months	3.8%	5.8%	8.0%	1.9%	4.2%	2.6%
Last month	5.4%	3.3%	6.5%	4.1%	5.5%	



Market Dashboard: CY2021 and YTD 2022

Rates

	12/31/2021	Change 2021	YTD 11/25/2022	Change YTD
Fed Funds	0.25	0.00	4.00	3.75
2-yr Treasury	0.73	0.61	4.45	3.72
5-yr Treasury	1.26	0.90	3.86	2.59
10-yr Treasury	1.51	0.60	3.68	2.17
30-yr Treasury	1.90	0.26	3.73	1.83
Investment Grade Bonds	2.34	0.51	5.65	3.31
High Yield	4.61	0.02	8.72	4.11

Equities

	12/31/2021	Change	11/25/2022	Change
S&P 500	4,766	29%	4,026	-16%
Forward P/E	21.4x	-1.2x	17.5x	-3.9x
Trailing P/E	24.6x	-6.1x	19.5x	-5.1x
Shiller P/E	38.1x	7.3x	28.2x	-9.9x
Forward Earnings Yield	4.7%	0.2%	5.7%	1.0%
Nasdaq	15,645	22%	11,226	-28%
MSCI Europe	162	17%	148	-14%
MSCI Japan	1,232	2%	1,234	-15%
MSCI China	84	-22%	57	-31%
Developed: MSCI World	9,756	22%	8,286	-15%
Emerging: MSCI EM	608	-3%	477	-22%
Global: MSCI ACWI	389	19%	328	-16%

Inflation

	12/31/2021	Change	11/25/2022	Change
5-yr TIPS	-1.66	-0.03	1.49	3.16
5-yr TIPS Breakeven	2.9	0.9	2.4	-0.6
10-yr TIPS	-1.10	-0.01	1.35	2.45
10-yr TIPS Breakeven	2.6	0.6	2.3	-0.3

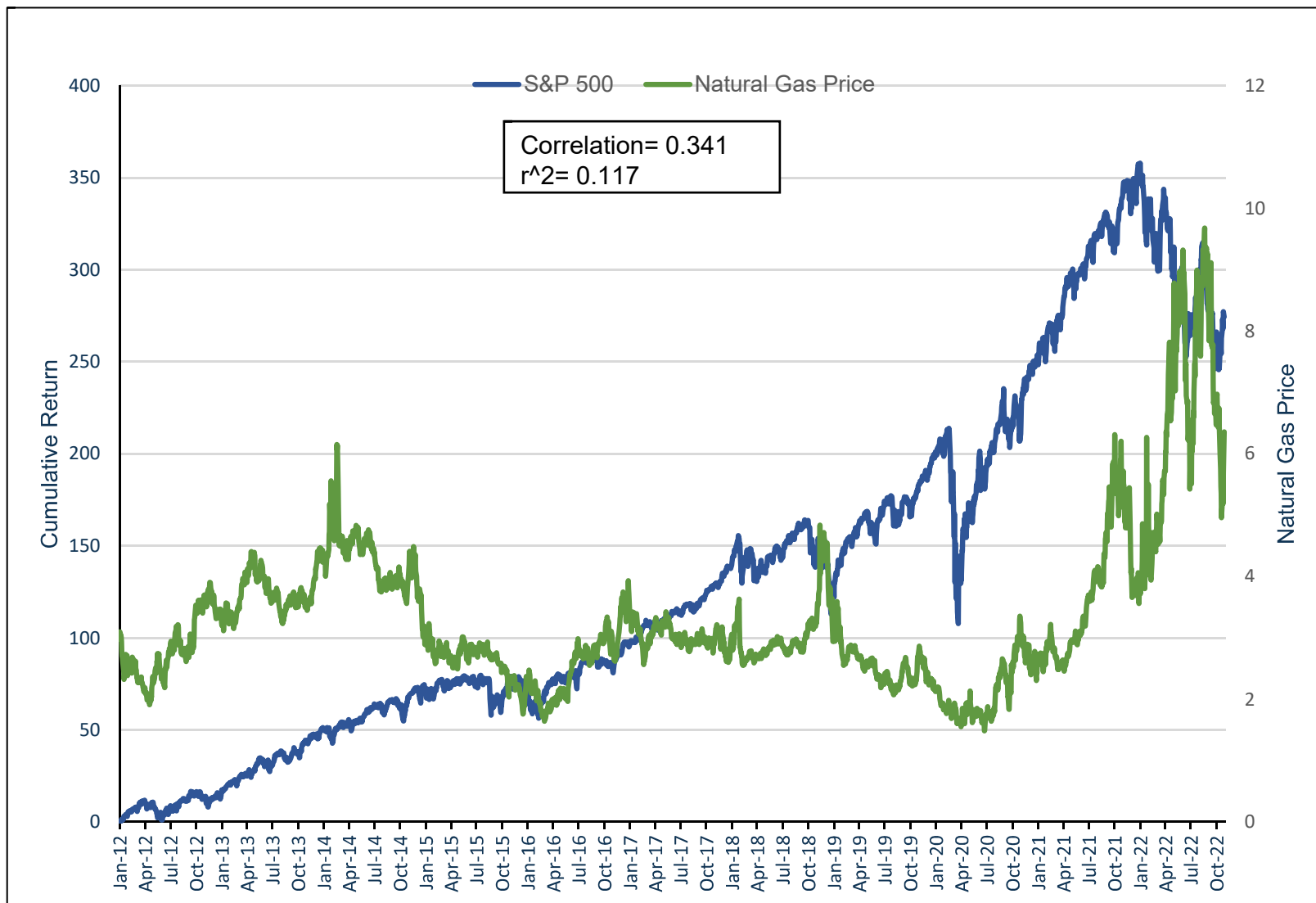
Commodities

	12/31/2021	Change	11/25/2022	Change
Gold	1,829	-4%	1,755	-4%
Oil	75	55%	76	1%
Copper	446	27%	363	-19%
Bloomberg Commodities Index	212	27%	249	18%



Total Asset Diversification

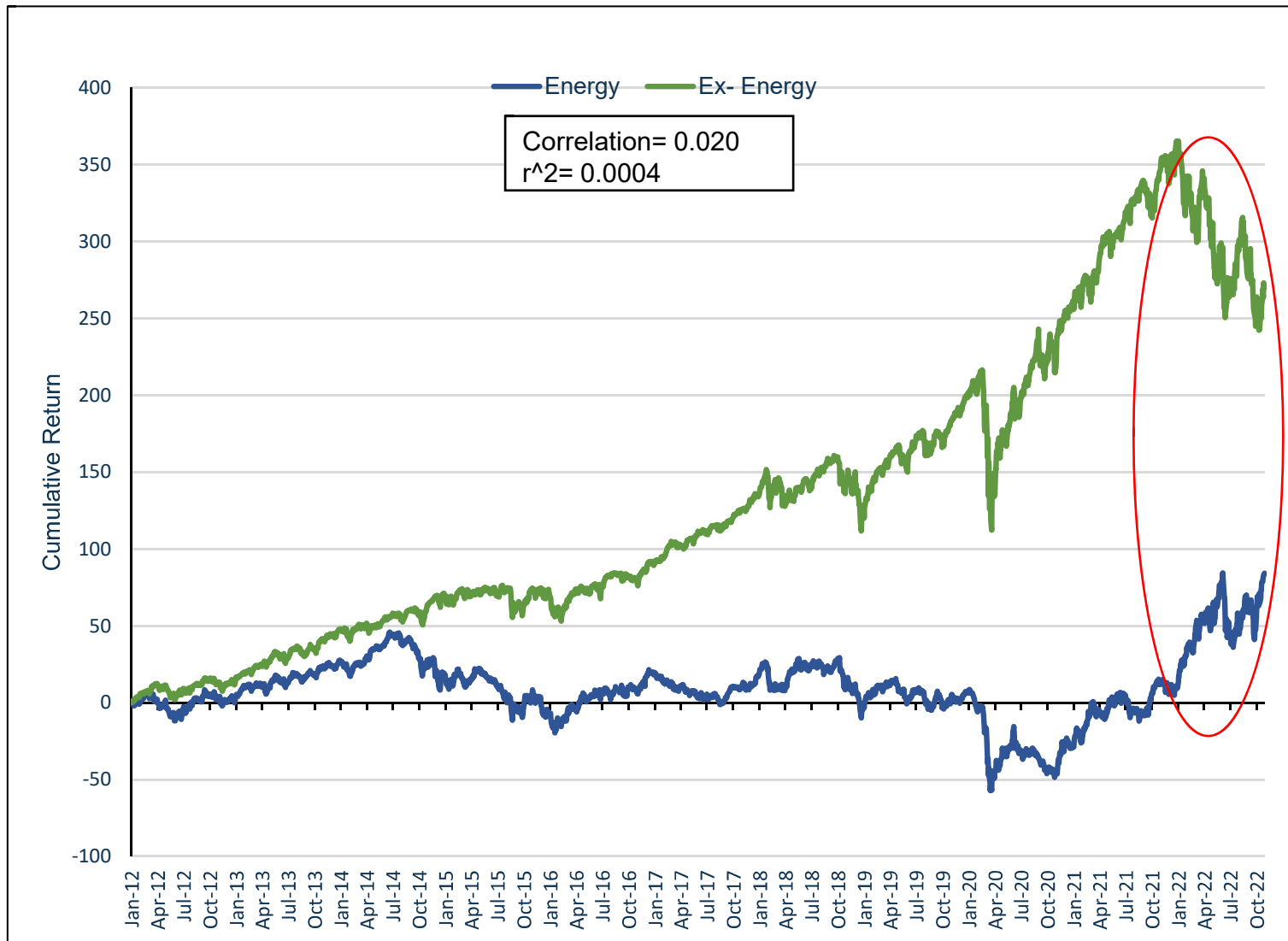
10-year history: Price of Natural Gas vs. S&P 500





Total Asset Diversification

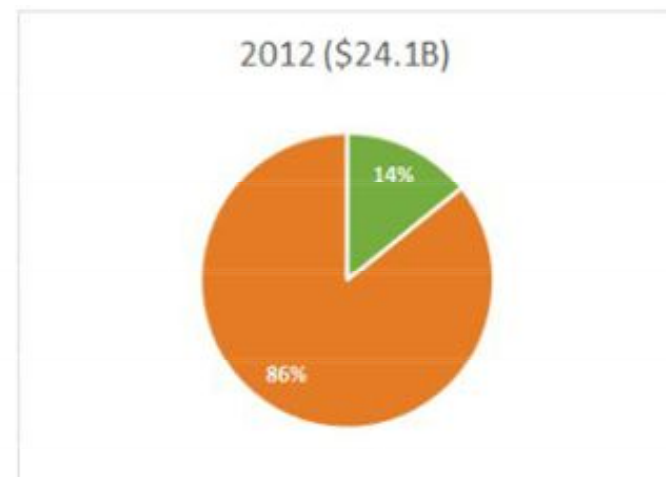
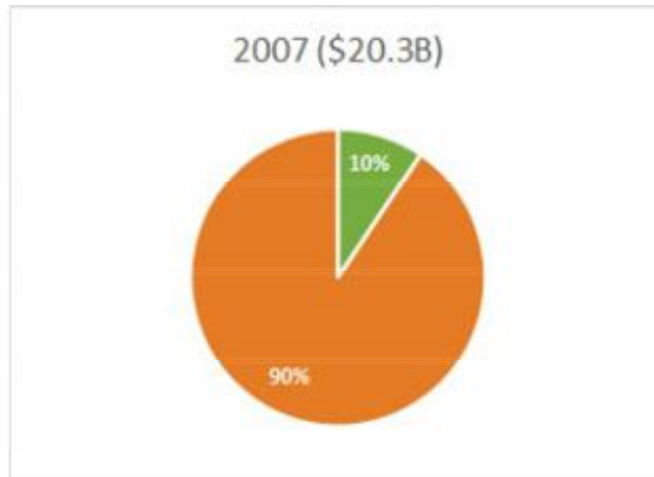
10-year history: S&P 500 Energy vs. S&P 500 Ex-energy





UT and A&M Total Asset Value

Total Asset Value Composition Changes over time



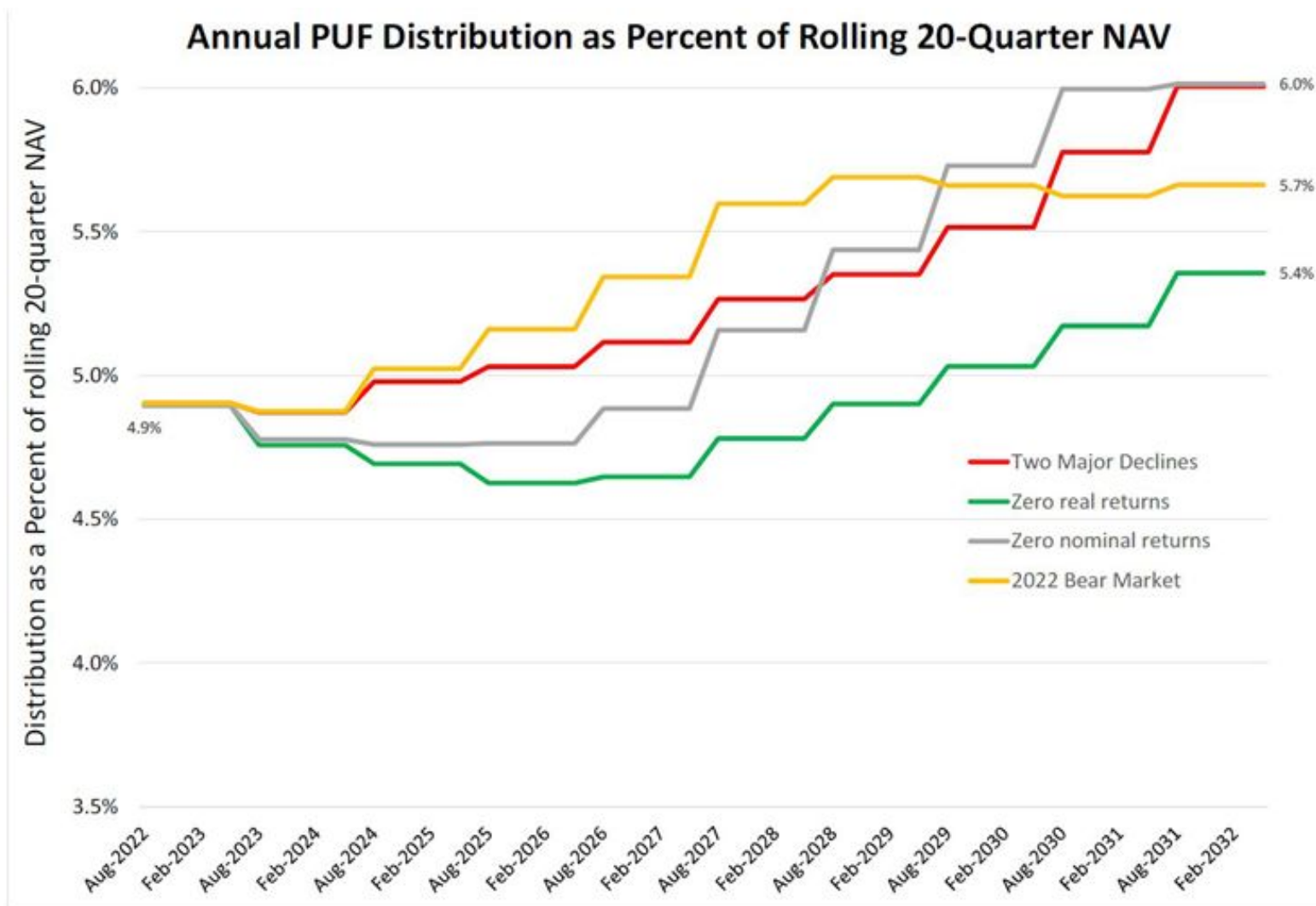
■ ULANDS

■ Endowment Funds



Margin of Safety

Ability to make distributions remains strong



Agenda Item
UTIMCO Board of Directors Meeting
December 9, 2022

Agenda Item: Operations Presentation

Developed By: Hill, Bauer

Presented By: Hill, Bauer

Type of Item: Information Item

Description: The Operations Team consists of the Operations, Accounting and Reporting (the "OAR") team which provides accounting and reporting for the funds under management, and the Corporate Accounting team which provides accounting, payroll, and benefits management for the corporation. Gary Hill will present the OAR overview and Kim Bauer will report on the Corporate Accounting team.

Reference: *Operations Overview* presentation



Operations Overview

Gary Hill, Managing Director – Operations, Accounting and Reporting
Kim Bauer, Senior Director – Corporate Accounting

December 9, 2022



Executive Summary

Talented and capable teams in place

- Continued growth in institutional knowledge and cross-training
- Highly qualified and competent additions to teams as a result of minimal turnover

Dynamic and ever-changing environment

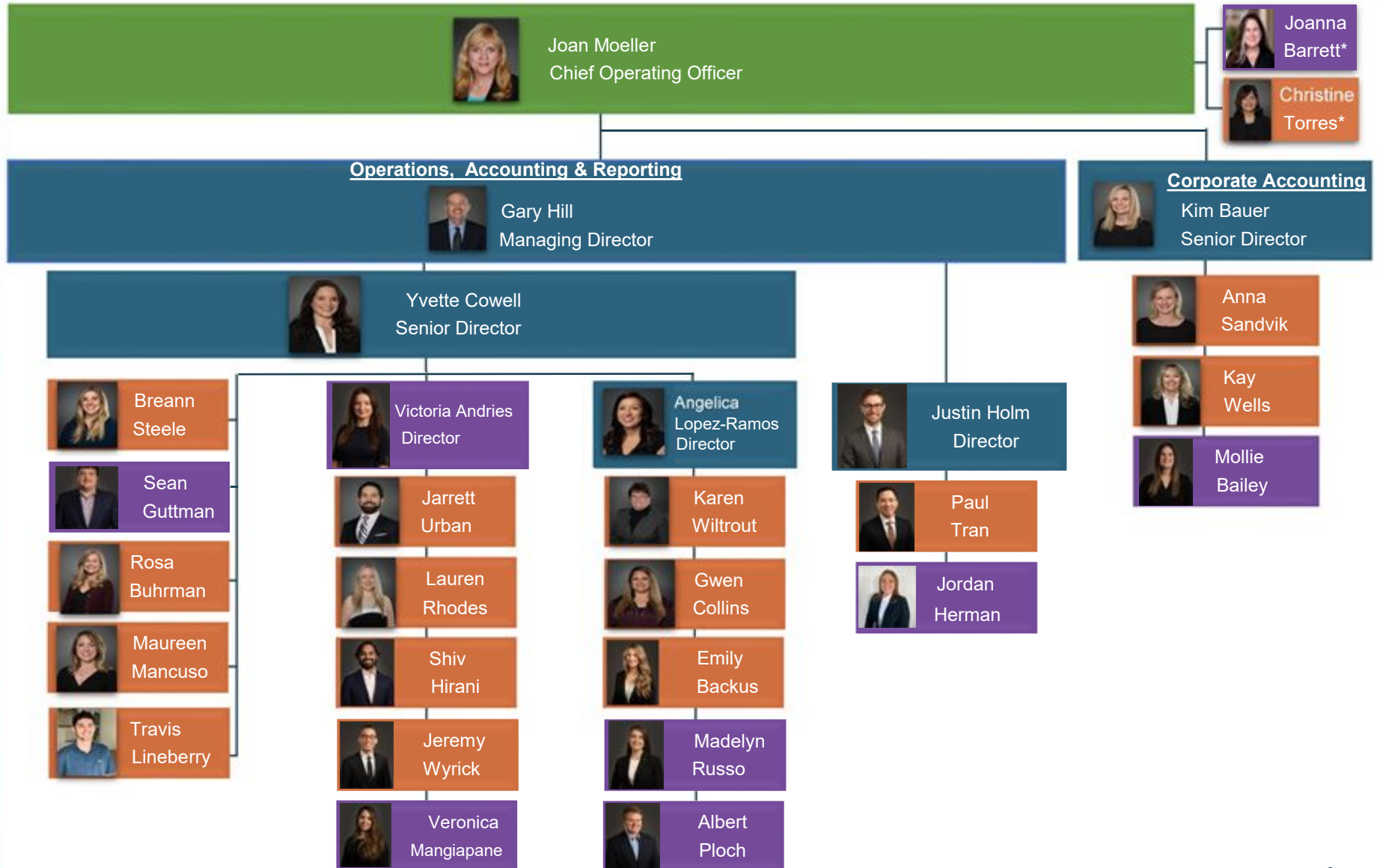
- Continued use of new tools and technology as we focus on process improvements and efficiencies
- New Corporate Accounting cloud-based accounting and reporting system

High volumes of data and reporting processed and produced

- Approximately 16,500 endowment and other accounts invested in the Long Term Fund
- Approximately 135 new accounts established at BNY Mellon for new internal strategies and external investment managers



Operations Team



* COO Team Support



Operations, Accounting & Reporting

The team is 22 members led by Managing Director Gary Hill, Senior Director Yvette Cowell, and Directors Angelica Lopez-Ramos, Victoria Andries and Justin Holm

What we do:

- Account for all assets we manage
- Report net asset value and performance information
- Investment Fund Reporting
- Reporting for Individual Endowment Accounts
- Maintain master securities file
- Operational Due Diligence
- Facilitate movements of cash
- Document Management
- Provide other support as needed

Who we work with:

- Investment Team
- BNY Mellon – Global Custodian
- External investment managers
- Cambridge Associates
- UT and Texas A&M Systems
- Auditors (External and UT System)
- Development Offices
- Dreyfus
- Legal & Compliance



Corporate Accounting

The team is 4 members led by Kim Bauer, Senior Director

Corporate Accounting is responsible for managing the activities related to UTIMCO corporate business, including:

- Corporate Financial Reporting
 - General Ledger Accounting – cash management, operating and employee expenses, disbursements, corporate insurance, travel, and fixed asset management
 - Financial Statement Preparation and Annual Audit – clean audits since inception
 - Tax Return – prepared and filed annually
 - Annual Budget and 5-Year Strategic Plan

- Payroll and Benefits
 - Payroll Administration – payroll processing and tax reporting
 - Benefits Administration and Reporting
 - Retirement Plans – 403(b) and 457(b)
 - Plan Administrative Committee
 - Health and Welfare plans
 - Annual census reporting and benefits discrimination reporting
 - Compensation Management
 - Mercer compensation survey and study
 - Performance compensation

Appendix





Audits and Reviews

- External Auditing Firm – Deloitte & Touche, LLP
 - Annual Audits of the Investment Funds (7 separate audit reports)
 - PUF, PUF Detail Schedules of Investment Securities, GEF, PHF, LTF, ITF and Performance Statistics
- Corporate Audits
 - UTIMCO Corporate
 - 403(b) audit
- Review of Performance Calculations
- UT System Audit Office
 - Variety of audits, reviews and agreed upon procedures (AUP)
 - Next up – Securities Lending (2023)
 - Recent engagements
 - IT Asset Management Audit (2022)
 - UTIMCO's Compliance Program (2021)
 - AUP engagement of Risk Team's monitoring plan and activities used to monitor key risks (2019/2020)
 - Travel and entertainment expenses (2018)
 - UTIMCO Software Development Life Cycle (2018)



2022 Operations, Accounting and Reporting Action Plan

Orange = Complete

Green = Success Criteria

Enhance Reporting	Create Efficiency	Build Trust	Talent Management
<p>Q1 – Update Tax ID for Funds</p> <ul style="list-style-type: none"> Confirmation of Action or No Action from all notified parties <p>Q1 – Partner with Investment teams comply with record retention policies</p> <ul style="list-style-type: none"> Completed sign off form from all teams <p>Q3 – Work with BNY Mellon to comply with Initial Margin Regulatory Requirements</p> <ul style="list-style-type: none"> Defined processes and procedures in place by 9/1 <p>Develop visual ODD memo to better inform IIC of operational risks</p> <ul style="list-style-type: none"> Survey stakeholders on new format (Q3) Complete implementation of new format, Power BI (Q3) <p>Q4 – Partner with ISS to Modernize Legacy Applications</p> <ul style="list-style-type: none"> Complete 5-7 Applications Complete Outline of CRT Processes & Automation <p>Q4 – Utilize Power BI to streamline workflow and create efficiencies</p> <ul style="list-style-type: none"> Migrate 5-7 processes to utilize Power BI functionality <p>Q4 – Partner with ISS to Implement New Data Architecture</p> <ul style="list-style-type: none"> Assist in completion of documentation of data flows 	<p>Q2 – Use Microsoft Project to standardize timelines and assist prioritizing team assignments</p> <ul style="list-style-type: none"> Full implementation to include team assignments and deadlines <p>Ongoing review of team reporting and processes</p> <ul style="list-style-type: none"> Timely response to clients & customer requests (ongoing) Complete outsourcing futures/cleared derivatives products (Q3) <p>Q4 – Partner with ISS for Successful Implementation of MPA, Replacing PAR</p> <ul style="list-style-type: none"> Complete deliverables outlined in project plan <p>Q4 – Partner with ISS to Support Information Classification through Technology and PM</p> <ul style="list-style-type: none"> Complete initial assessment and defined implementation plan. <p>Q4 – Process optimization to improve Document Management efficiency (Maureen)</p> <ul style="list-style-type: none"> Implement the usage of Dynamo Exchange, determining if it creates efficiencies or not If deemed efficient, roll out usage amongst all participating managers 	<p>Successful and timely execution of team processes</p> <ul style="list-style-type: none"> Accurate and timely accounting & performance reporting (ongoing) Timely funding of investment mandates (ongoing) Achieve clean audits (Q4) <p>Evaluate background check ongoing monitoring platform value add to ODD</p> <ul style="list-style-type: none"> Determine if current program meets policy requirements (Q1) Update provider or policy (Q3) <p>Q4 – Enhance client service by providing training to UT System institutions</p> <ul style="list-style-type: none"> Plan and complete 5 training sessions for UT System institutions <p>Q2 – Launch and facilitation of ODD Learning Series</p> <ul style="list-style-type: none"> One learning session per quarter post launch 	<p>Stay Committed to Mission, Vision, Values</p> <p>Embrace, assist, and support D&I</p> <p>New Hire Onboarding</p> <ul style="list-style-type: none"> Hire and integrate Director to team (Q2) Hire and integrate Data Specialist to team (Q2) Define plan to accomplish objectives of Data Specialist position (Q4) Hire and integrate Analyst (Q4) <p>Q4 – Team initiatives (Yvette)</p> <ul style="list-style-type: none"> Complete IDP goals Plan and complete 5 team trainings/lunch and learns Participation in 2 Blackrock Educational Academy sessions <p>Q4 – Adopt and Apply Essentialism into Operations, Accounting and Reporting workflow</p> <ul style="list-style-type: none"> "Less But Better": Improve our processes by eliminating bureaucracy
<p>Develop more meaningful, informative, and useful reports</p>	<p>Streamline activities and processes to provide time and cost savings</p>	<p>Maintain an effective control environment to mitigate risks</p>	<p>Create a harmonious environment with motivated and knowledgeable people now and in the future</p>



2022 Corporate Accounting Action Plan

Orange = Complete

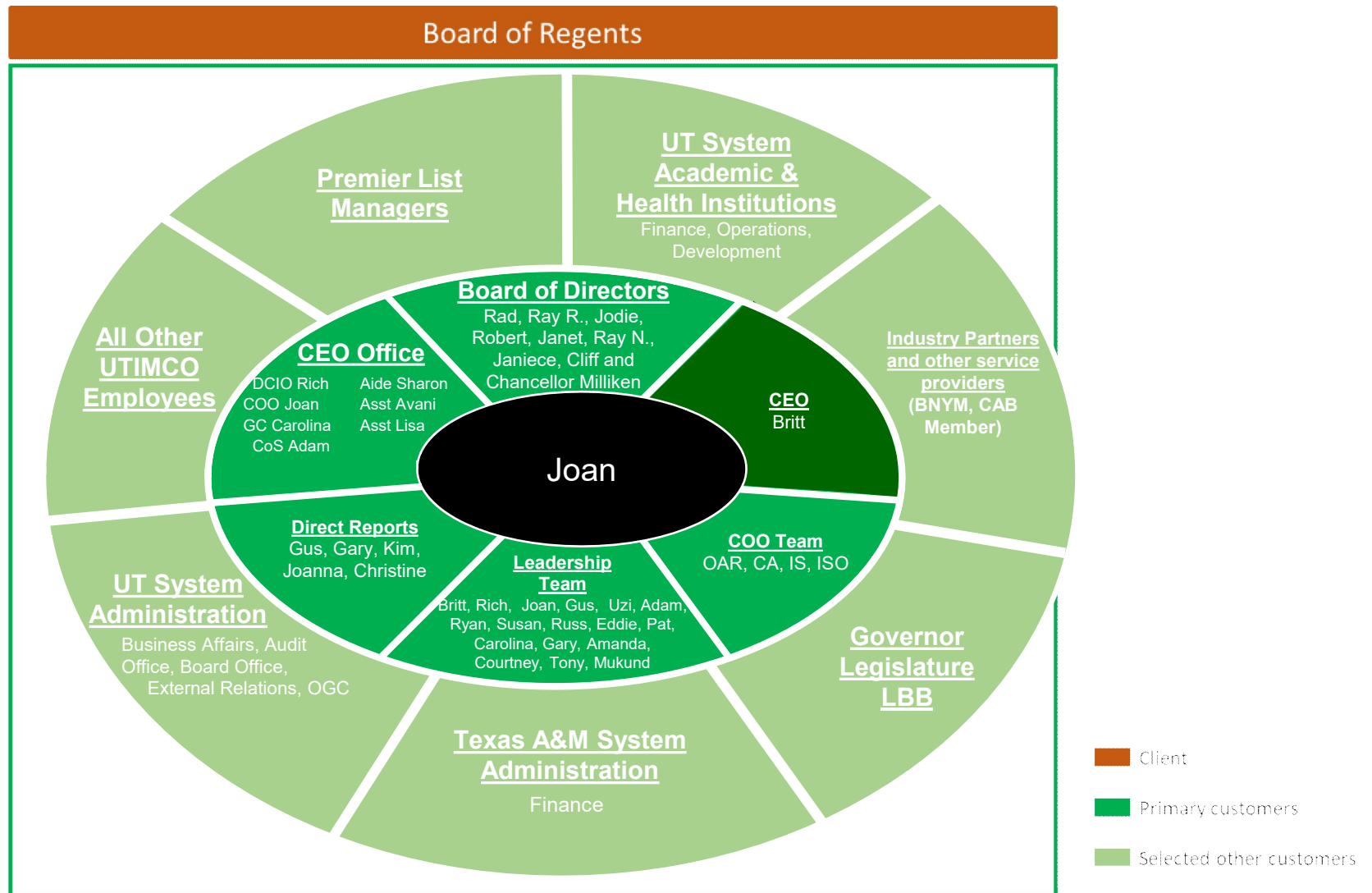
Green = Success Criteria

Enhance Reporting	Create Efficiency	Build Trust	Talent Management
<p>Q3 –Corporate Accounting will work with ISS to replace Dynamics Desktop Application</p> <ul style="list-style-type: none"> Identify vendor, agree to SOW, establish timelines and complete preliminary planning (Q1) Complete testing, migration of data, training, and go-live (Q3) <p>Q3-4 – Research and assess impact of GASB 96 (subscription-based IT arrangements); research software options for implementation</p> <ul style="list-style-type: none"> Identify qualifying agreements Discuss implementation with auditor Identify software options and plan for implementation <p>Q4 – Final implementation of GASB 87 (lease accounting) in FY22 financial statements</p> <ul style="list-style-type: none"> Accurately record entries for FY22 and restate FY21; create and present revised financial statements format 	<p>Q2-4-Ongoing review of team reporting and processes</p> <p>Financial Reporting & Accounting</p> <ul style="list-style-type: none"> Create updated process documentation related to new accounting system(Q4) Cross-train and realign team member responsibilities (Q2) <p>Payroll & Benefits</p> <ul style="list-style-type: none"> Streamline 403(b) audit prep by creating new reports and recons prior to audit (Q2) Create documentation for current and new 403(b) plan processes and controls prior to audit (Q2) 	<p>Q1-4 – Successful and timely execution of team processes</p> <ul style="list-style-type: none"> Accurate and timely accounting & financial reporting on a regular basis around the third week of the month (ongoing) Timely funding of 403(b), 457(b), and HSA contributions within an average of 3-4 business days (ongoing) Accurate and timely payroll processing and benefits administration by deadlines (ongoing) Successful budget planning and preparation (Q2) Tax reporting - preparation and filing by deadlines (Q1 for extensions and 4720 payment, Q3 for 990 and 4720 filing, Q4 for 5500s) Corporate insurance review and renewal by deadlines (Q2) Achieve clean audits (Q4 for corporate and Q3 for 403b) 	<p>Q3 – New Hire Onboarding</p> <ul style="list-style-type: none"> Create job description and begin recruiting for Assistant Controller/Associate Director (or Director) (Q4) <p>Q4 – Team initiatives</p> <ul style="list-style-type: none"> Complete IDP goals Plan and complete team trainings <p>Q4 – Stay Committed to Mission, Vision, Values</p> <p>Q4 – Adopt and Apply Essentialism into Corporate Accounting workflow</p> <ul style="list-style-type: none"> "Less But Better": Improve our processes by eliminating bureaucracy <p>Q4 – Embrace, assist, and support D&I</p>
<p>Develop more meaningful, informative, and useful reports</p>	<p>Streamline activities and processes to provide time and cost savings</p>	<p>Maintain an effective control environment to mitigate risks</p>	<p>Create a harmonious environment with motivated and knowledgeable people now and in the future</p>



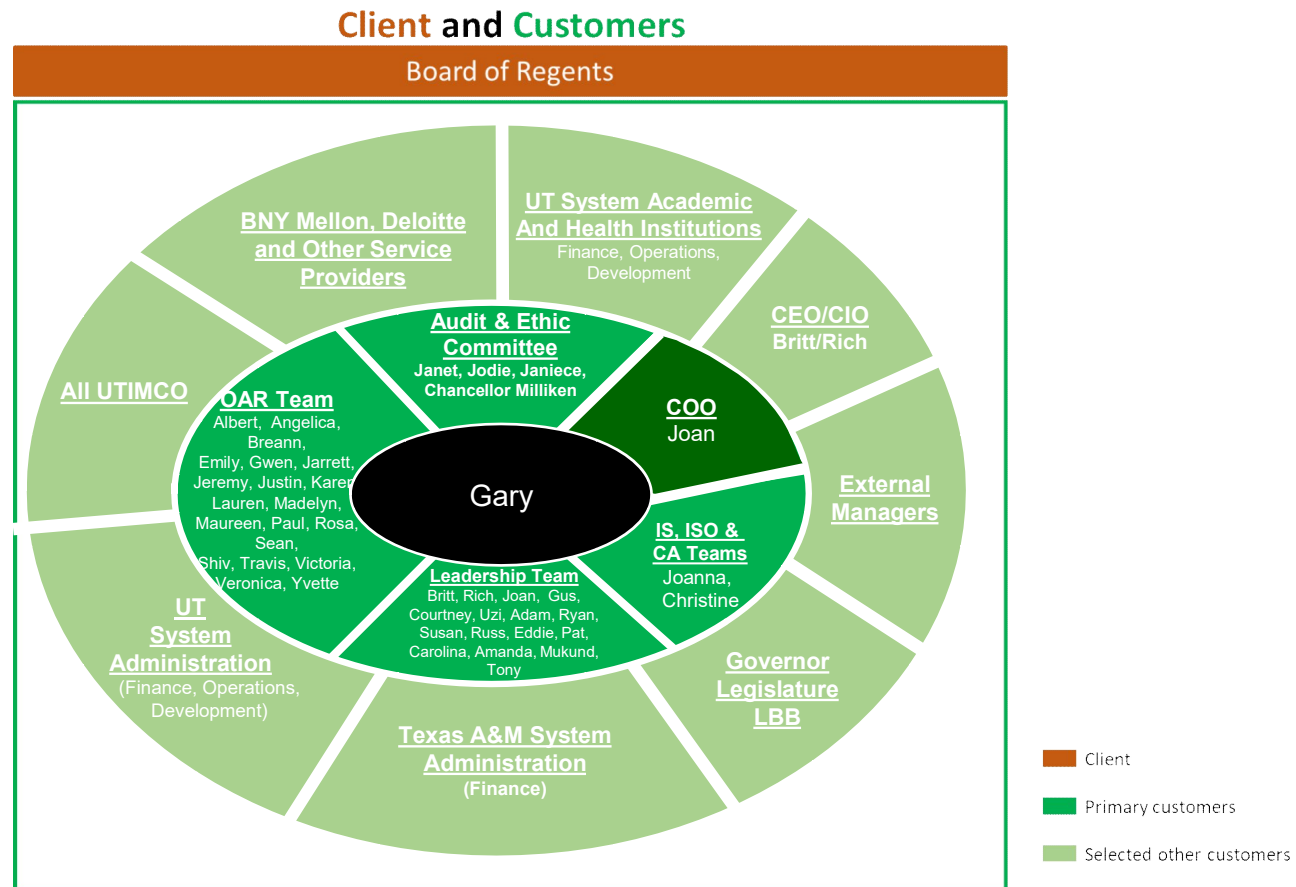
Customer Chart - Joan Moeller

Client and Customers



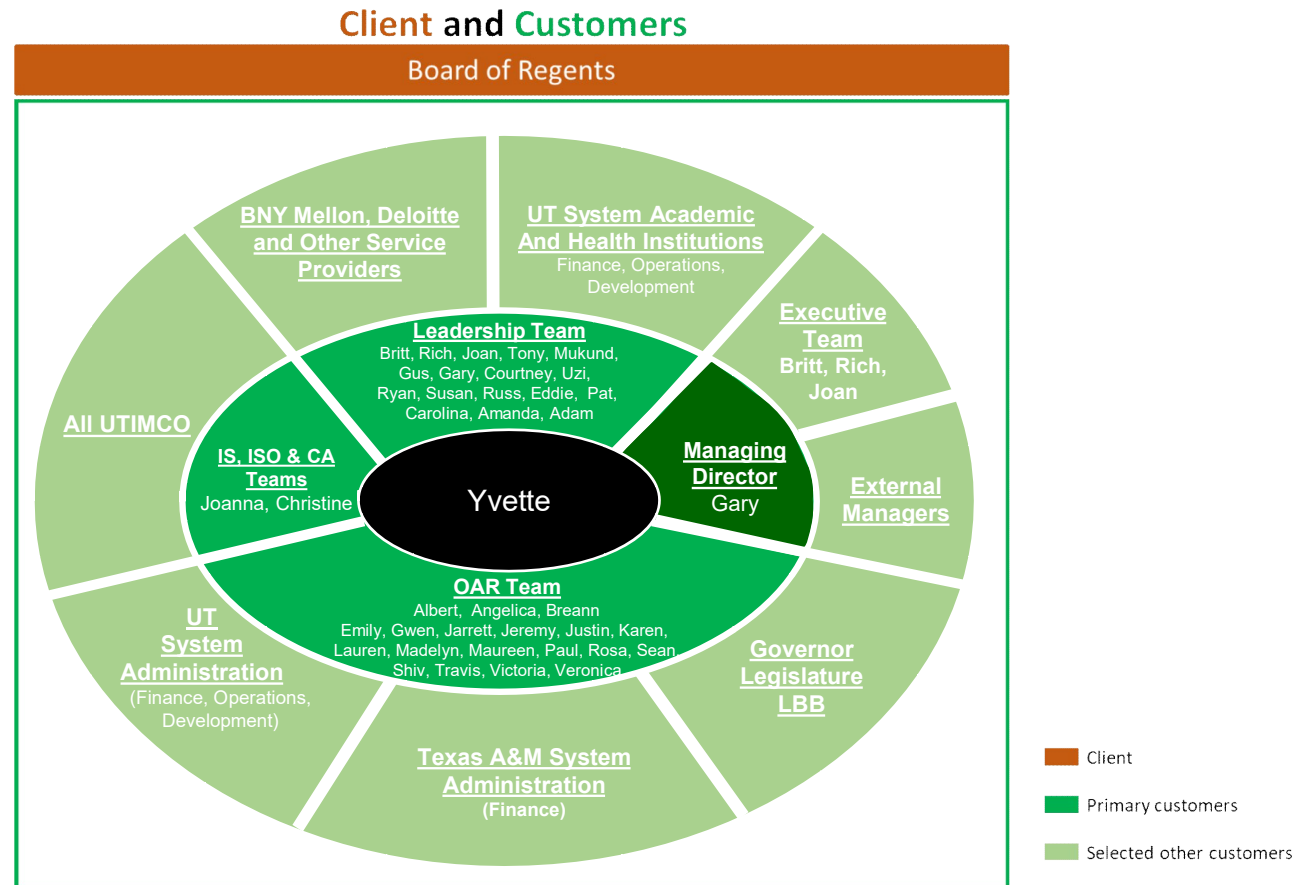


Customer Chart - Gary Hill



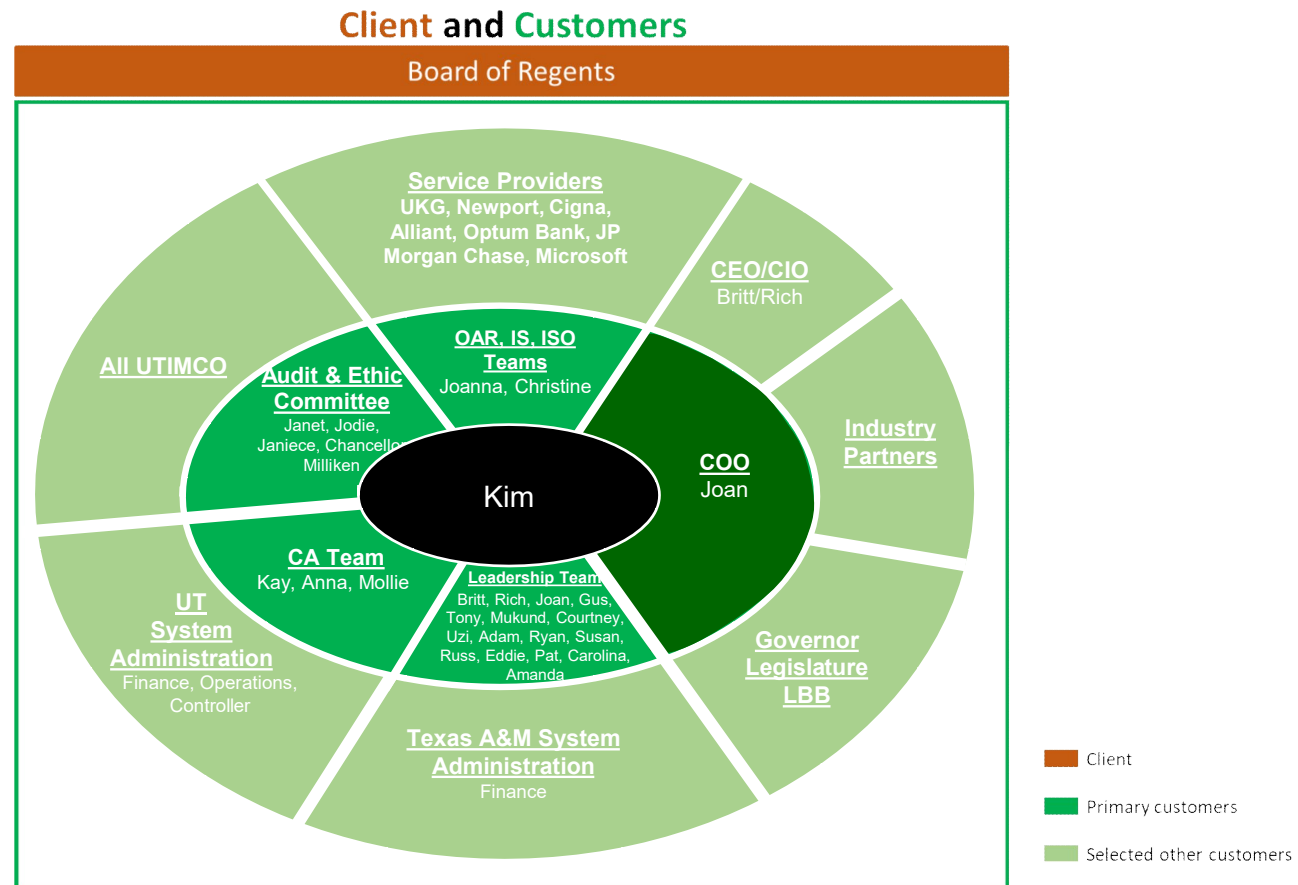


Customer Chart – Yvette Cowell





Customer Chart – Kim Bauer



Agenda Item
UTIMCO Board of Directors Meeting
December 9, 2022

Agenda Item: Legal & Compliance Presentation

Developed By: de Onís

Presented By: de Onís

Type of Item: Information Item

Description: Carolina de Onís will provide an overview of the Legal & Compliance team.

Recommendation: None

Reference: *Legal & Compliance Overview* presentation



Legal & Compliance Overview

Carolina de Onís, General Counsel & Chief Compliance Officer

December 9, 2022



Executive Summary

Year Two of ONE TEAM

- Consolidated Legal, Compliance and ERM Functions
- Cross training and redundancy of key and time-sensitive processes fully addressed
- Smart leveraging of external resources
 - Fiduciary counsel, external counsel and BNY Mellon

How We Practice Law

- Relentless Client Focus: “Your Agenda is Our Agenda”
- Commercial, practical solutions: “Get to Yes” if prudent and possible
- Sound and informed advice, appropriate risk mitigation

How We Practice Compliance

- Independent, Robust, Approachable, Embedded, and Preventative
- Clear, Informed Reporting: “What You Need to Know”
- Set the example: “Talk the Talk, Walk the Walk”

Key Accomplishments

- Modernized and Institutionalized Key Legal and Compliance Functions



Legal & Compliance Team Structure

Harmonious, Engaged and Empowered Team



Carolina de Onis
General Counsel & Chief Compliance Officer
BA, Government, University of Texas ("UT"), 1992
JD – UT, 1996
Joined UTIMCO in 2020



Lane Arnold, CAIA
Senior Director
BA Economics, Harvard College, 2003
JD – Southern Methodist University,
2007
Joined UTIMCO in 2021



Lisa Kabler
Senior Analyst
BA, International Studies, University of St.
Thomas 2000
Joined UTIMCO in 2011



Kimberly Davis
Senior Director
BA English and Communications,
Trinity University, 1997
JD – Fordham University, 2002
Joined UTIMCO in 2021



Patrick Dies
Director
BA Economics/Business Economics
UT, 2009
Masters in Professional Accounting
2010, JD – UT, 2013
Joined UTIMCO in 2018



Reena Auplish
Associate
BS Business Administration
Alfred Lerner School of Business,
University of Delaware, 2006
Joined UTIMCO in 2022



Kati Stephens
Associate
BS Administration of Justice - George
Mason University / A.A.S.
Administration of Justice / Northern
Virginia Community College
Joined UTIMCO in 2017



Kaylie Lopez
Analyst
BS, Political Science, UH 2018
Joined UTIMCO in 2019



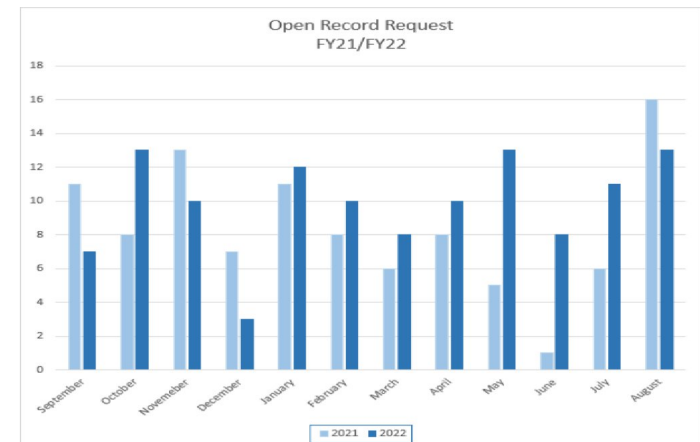
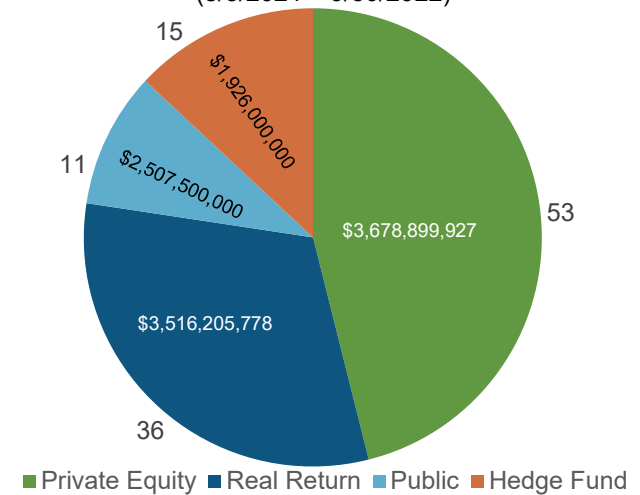
By the Numbers: What We Do (Legal)

High Volume, High Complexity: Operating as an In-House Law Firm

Legal

- 10 Investment Transactions per month (down from 12 last year)
- 6 NDAs per month (up from 4 last year)
- 3 MFNs per month (same as last year)
- 11 Vendor Agreements per month (up from 8 last year)
- Derivatives Contracts and UMR Compliance
- Legislative Issues
- Litigation
- Board Matters
- Labor and Employment
- General Advisory
- Tax Matters
- 403/457 Plan Issues
- Governance and Policies

115 (\$11.6 B) in Closed Transactions*
(8/5/2021 – 9/30/2022)



**10 Open Records Requests per month (up from 8)
2 OAG Rulings**



By the Numbers: What We Do (Compliance)

Evolving Compliance Program: Collaborative and Risk-Oriented

Fund Compliance

- Delegation of Authority Testing for all new transactions
- Review custodian exception reports for compliance with Fund and external manager investment guidelines
 - 332 Rules each day/month
- Monthly review of all Board Policies and Investment Risk Packet
- Daily management of the preclearance list and restricted list

Ethics Compliance

- Average of 234 Certificates of Compliance per month
- Monthly compliance training for new employees
- Clear ~27 Personal Trade Exceptions per month
- Financial and other disclosures
 - 515 annual disclosures
 - 84 New Hire and Intern disclosures
- Ethics and Conflict of Interest Matters
 - Restricted List
 - Referral List
 - Public disclosure review and follow-up
 - Gifts and Entertainment
 - Outside Business Activity Approvals

ERM and Other

- Responding to Audit Observations
- Quarterly Review of Key Risks Report
- Regulatory Matters
- Launching ERM Framework and Risk Assessments
- Advisory to Legal on Compliance Issues
- Policy Reviews
- Governance Recommendations
- Advise on Domestic and Foreign regulations (e.g., exchange rules, sanctions, data protection statutes)



Key Accomplishments in 2022

Deep Dive into Four “Move the Needle” Initiatives

ComplySci

- **Problem:** Manual personal trading process relied on honor system
- **Process:** Onboarded and trained employees; launched ComplySci
- **Solution:** Mitigated unknown risks, obtained complete and reliable trading data

New Investment Counsel

- **Problem:** Only one external counsel firm for investments
- **Process:** Onboarded four new firms with various specialties and breadth
- **Solution:** Greater efficiency, expertise, specialty, market color, and cost savings

Policy Review

- **Problem:** Certain policies outdated, best practice to conduct a periodic review
- **Process:** Line by line review; sought input firm-wide; broad socialization with firm and Board
- **Solution:** Policy improvements and clarifications

Contract Management System

- **Problem:** Haphazard and delayed vendor contract review
- **Process:** Reassign to Legal; make and keep agreements; review, select, and implement CMS
- **Solution:** User-friendly standardized process and customer satisfaction



Key Priorities in 2023

Build on Our Successes

- Stay ahead of the curve
 - Support Innovation and Disruption Portfolio
 - Legal challenges come in times of economic distress
 - Support the business effectively, efficiently, and on time
- Institutionalize new ERM Program
- Refine BNY Mellon Compliance Support
- Effectively manage all external counsel
 - Onboard employment counsel and litigation monitoring counsel
- Compliance awareness and training
 - Reinforce collaborative and proactive partnership with business
- Manage legal spend prudently
 - Continue to manage under budget
- DE&I Council
 - Make meaningful contributions as Co-Chair



Appendix





2022 Legal & Compliance Action Plan

Game Changers	Top-to-Bottom Reviews	Achieve Excellence in Daily Work	Create Firm and Industry Impact
<p>Goal: Accomplish game changing, strategic projects that materially mitigate risk across UTIMCO.</p> <ul style="list-style-type: none"> ▪ Successfully implement ComplySci compliance software platform (Q4 2022): <ul style="list-style-type: none"> – Preclearance and trade disclosures – Annual Compliance Certifications, Gifts, Entertainment and OBAs ▪ Successfully onboard and integrate four new investment law firms (Q2 2022) ▪ Select litigation monitoring counsel and begin monitoring potential securities fraud cases (Q3 2022) ▪ Launch ERM framework and reporting (Q4 2022) 	<p>Goal: Conduct and document top-to-bottom review of existing policies, procedures and practices.</p> <ul style="list-style-type: none"> ▪ Complete Policy review <ul style="list-style-type: none"> – Board policies (Q2 2022) – Internal policies (Q4 2022) ▪ Examine current compliance rules, testing and monitoring and explore ways to improve and automate compliance functions (Q4 2022) ▪ Assess existing legal interpretations with fresh eyes and document existing or new interpretations as needed (Q4 2022) ▪ Recommend governance improvements (Q2 2022) 	<p>Goal: Successfully perform day-to-day work with quality output and relentless client focus.</p> <ul style="list-style-type: none"> ▪ Complete investment work on a timely basis (Q4 2021) ▪ Launch and implement Contract Management System and complete vendor agreements on timely basis (Q4 2022) ▪ Practice essentialism throughout year (Q4 2022) ▪ Launch Compliance Reporting 2.0 (Q4 2022) ▪ Address ISDA regulatory requirements (Q3 2022) ▪ Achieve 25% reduction in paper processes (Q4 2022) 	<p>Goal: Increase the profile of Legal & Compliance within UTIMCO and beyond.</p> <ul style="list-style-type: none"> ▪ Live the “Learn, Do, Teach” mentality across L&C (Q4 2022) ▪ Create at least one educational opportunity per quarter for UTIMCO and/or L&C (Q4 2022) ▪ Continue cross-training of L&C team (Q4 2022) ▪ Accomplish IDPs (Q4 2022) ▪ Visit BNY Mellon and deepen relationships with compliance-side personnel (Q2 2022) ▪ Attend and participate in industry conferences and Aspen Fellowship (Q4 2022)



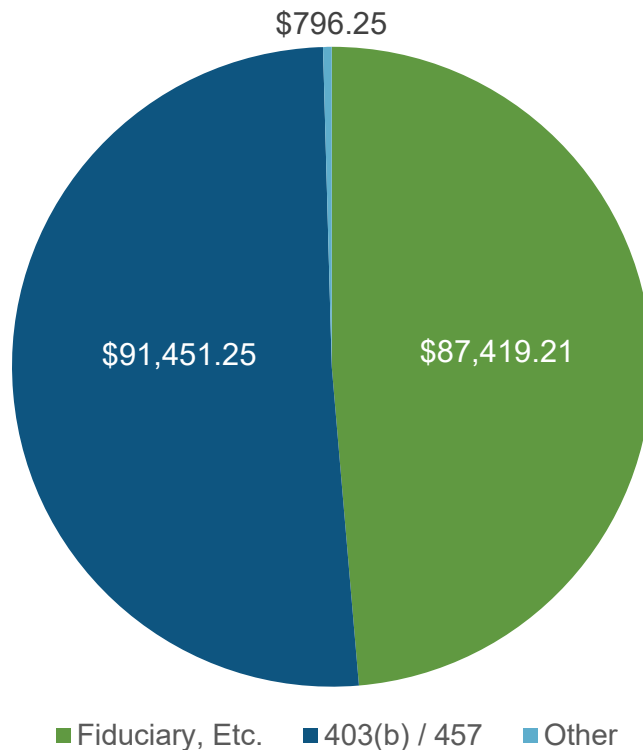
2023 Legal and Compliance Annual Plan

Game Changers	Pareto & Productivity	Achieve Excellence in Daily Work	Create Firm and Industry Impact
<p>Goal: Accomplish game changing, strategic projects that materially mitigate risk across UTIMCO.</p> <ul style="list-style-type: none"> Integrate ERM framework, risk assessments, and reporting into UTIMCO processes (Q4 2023) Support Innovation and Disruption Portfolio (ongoing) Anticipate and address emergent legal and compliance issues that arise throughout the year (ongoing) Finalize compliance support with BNY Mellon (Q1 2023) 	<p>Goal: Identify and implement opportunities to improve existing policies, procedures and practices.</p> <ul style="list-style-type: none"> Review of Compliance Monitoring and Testing processes (ongoing) Revise Financial Disclosure Statements for employees and Director (Q1 2023) Review MNPI Policy (Q2 2023) Review allocation of responsibility between OAR and L&C (Q3 2023) Assist ISS and HR with policy reviews (ongoing) 	<p>Goal: Successfully perform day-to-day work with quality output and relentless client focus.</p> <ul style="list-style-type: none"> Complete investment work on a timely basis (ongoing) Complete vendor contracts on a timely basis (ongoing) Conduct monitoring for fund compliance and external managers (ongoing) Conduct monitoring for ethics compliance (ongoing) Provide Annual and New Employee Training (Q4 2023) Onboard employment counsel (Q1 2023) 	<p>Goal: Increase the profile of Legal & Compliance within UTIMCO and beyond.</p> <ul style="list-style-type: none"> Live the “Learn, Do, Teach” mentality across L&C (ongoing) Create at least one educational opportunity per quarter for UTIMCO and/or L&C (Q4 2023) Accomplish IDPs (Q3 2023) Attend and participate in industry conferences and Aspen Fellowship (Q4 2023) Practice essentialism and servant leadership throughout year (ongoing)



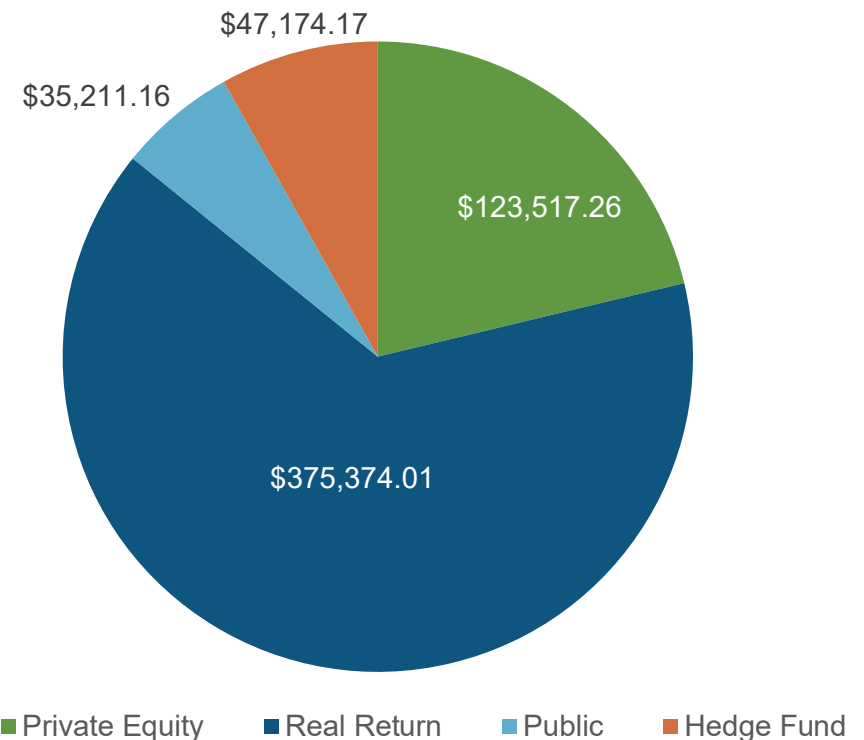
Legal Spend & Budget

FY 22 Corporate Legal Spend



- \$180k Total (vs. \$150k Budget)
- FY23: \$329k
 - Incl. \$60k for Employment and Open Records
 - Incl. \$100k for contingencies

FY22 Investment Legal Spend



- **\$583k Total (vs. \$715k Budget): 18% below**
- FY23: \$876k (incl. \$300k for secondaries)

Agenda Item
UTIMCO Board of Directors Meeting
December 9, 2022

Agenda Item: Report from Audit and Ethics Committee Discussion and Appropriate Action Related to the Deloitte & Touche LLP Financial Statement Audit Results and Communications and the Audited Financial Statements of the Permanent University Fund, General Endowment Fund, Permanent Health Fund, Long Term Fund, Intermediate Term Fund, and the Statement of Investment Performance Statistics for the year ended August 31, 2022

Developed By: Moeller, Hill, de Onís

Presented By: Handley

Type of Item: Action item; Action required by UTIMCO Board related to year end audits; Information item on other items

Description: The Audit and Ethics Committee (the “Committee”) met on December 1, 2022. The Committee’s agenda included the following: (1) discussion and appropriate action related to the minutes of its September 9, 2022 meeting; (2) discussion and appropriate action related to Deloitte & Touche LLP’s Audit Results and Communications; (3) discussion and appropriate action related to audit reports of the Permanent University Fund (“PUF”), The University of Texas General Endowment Fund (“GEF”), the Permanent Health Fund (“PHF”), The University of Texas System Long Term Fund (“LTF”), The University of Texas System Intermediate Term Fund (“ITF”), and the Statement of Investment Performance Statistics for the year ended August 31, 2022; (4) an update on UTIMCO’s compliance, reporting and audit matters; and (5) discussion and appropriate action related to the General Counsel and Chief Compliance Officer’s Performance Award for the Performance Period ended June 30, 2022. The Committee convened in Executive Session for the purpose of deliberating individual personnel evaluation matters and individual compensation matters related to the General Counsel and Chief Compliance Officer.

Discussion: The financial statements were audited by Deloitte & Touche LLP. Robert Cowley, engagement partner, presented to the Committee Deloitte & Touche LLP’s Financial Statement Audit Results and Communications letter (the “Letter”). Included in these Board materials are the Letter and Management’s Representation Letter to Deloitte confirming in writing Management’s responsibilities and representations with regard to these audits. Because of the voluminous nature of the audited financial statements, they are not included in the Board book. However, the complete audited financial statements are available on UTIMCO’s website, www.utimco.org.

The Committee took action related to the performance award for the performance period ended June 30, 2022, for the General Counsel and Chief Compliance Officer. Routine activities of the Committee included a report from Ms. de Onís related to the quarterly compliance report.

Agenda Item
UTIMCO Board of Directors Meeting
December 9, 2022

The Delegation of Authority Policy (“Policy”) delegates to the CEO the authority to execute on the behalf of UTIMCO all contracts, leases, or other commercial arrangements (except investment management agency contracts, partnership agreements, investment consultant agreements and agreements with independent auditor) for a total obligation of \$1 million or less during the contract term. The Policy requires that new contracts, leases, and other arrangements of \$250,000 or more be reported to the UTIMCO Board at its next scheduled meeting, and, annually, all existing contracts, leases, and other arrangements of \$250,000 or more must be reported to the UTIMCO Board. The report is included in this section and Ms. de Onís provided an update of the Contract Report to the Committee.

Recommendation: The Committee will recommend that the UTIMCO Board approve the Deloitte & Touche LLP Financial Statement Audit Results and Communications and the audited financial statements of the PUF, GEF, PHF, LTF, ITF, and the Statement of Investment Performance Statistics for the year ended August 31, 2022

Reference: Deloitte & Touche LLP’s Financial Statement Audit Results and Communications Letter
Contract Report

**RESOLUTIONS RELATED TO AUDITS OF THE INVESTMENT FUNDS
FOR FISCAL YEAR 2022**

RESOLVED, that Deloitte & Touche LLP's Financial Statement Audit Results and Communications Letter on the Investment Funds Under Fiduciary Responsibility of The University of Texas System Board of Regents for the year ended August 31, 2022, be, and is hereby approved in the form as presented to the Board; and

FURTHER RESOLVED, that the separate annual financial statements and audit reports for the Permanent University Fund, the Permanent Health Fund, The University of Texas System Long Term Fund, The University of Texas System General Endowment Fund, and The University of Texas System Intermediate Term Fund each for the fiscal years ended August 31, 2022, and August 31, 2021, and the Statement of Investment Performance Statistics for the year ended August 31, 2022, be, and are hereby approved in the form as presented to the Board.



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October 31, 2022

Mr. Britt Harris
President and CEO
The University of Texas/Texas A&M Investment Management Company

The Audit, Compliance and Risk Management Committee of
the Board of Regents of The University of Texas System

The Audit and Ethics Committee of the Board of Directors of
The University of Texas/Texas A&M Investment Management Company

210 West 7th Street, Suite 1700
Austin, TX 78701

Dear Mr. Harris, Members of the Audit, Compliance and Risk Management Committee of the Board of Regents of The University of Texas System as well as Members of the Audit and Ethics Committee of the Board of Directors of The University of Texas/Texas A&M Investment Management Company (the "Board"):

We have performed audits of the financial statements of the Permanent University Fund, The University of Texas System General Endowment Fund, the Permanent Health Fund, The University of Texas System Long Term Fund, and The University of Texas System Intermediate Term Fund (collectively, the "Funds") as of and for the year ended August 31, 2022 (the "financial statements"), in accordance with auditing standards generally accepted in the United States of America ("generally accepted auditing standards") and have issued our reports thereon dated October 31, 2022.

We have prepared the following comments to assist you in fulfilling your obligation to oversee the financial reporting and disclosure process for which management of the Funds is responsible.

This report is intended solely for the information and use of the Funds' management, as well as the Audit, Compliance and Risk Management Committee of the Board of Regents of The University of Texas System, and the Audit and Ethics Committee of the Board of The University of Texas/Texas A&M Investment Management Company ("UTIMCO"), and others within the organization and is not intended to be and should not be used by anyone other than these specified parties.

Yours truly,

Deloitte & Touche LLP

Our Responsibility under Generally Accepted Auditing Standards

Our responsibility under generally accepted auditing standards has been described in the contract dated August 1, 2022, (Exhibit-A, Section-B). As described in Exhibit-A, Section-B, our responsibilities under generally accepted auditing standards include forming and expressing an opinion about whether the financial statements that have been prepared by management with the oversight of the Board are prepared, in all material respects, in accordance with accounting principles generally accepted in the United States of America ("generally accepted accounting principles"). The audits of the financial statements do not relieve management or the Board of their responsibilities. We considered internal control relevant to the Company's preparation of the financial statements in order to design audit procedures that were appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.

Significant Accounting Policies

The Funds' significant accounting policies are set forth in the notes to the Funds' 2022 financial statements. We are not aware of any significant changes in previously adopted accounting policies or their application during the year ended August 31, 2022.

We have evaluated the significant qualitative aspects of the Funds' accounting practices, including accounting policies, accounting estimates and financial statement disclosures and concluded that the policies are appropriate, adequately disclosed, and consistently applied by management.

Accounting Estimates

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's current judgments. Those judgments are ordinarily based on knowledge and experience about past and current events and on assumptions about future events. Significant accounting estimates reflected in the Funds' 2022 financial statements include valuation of certain investments which are specifically the Funds' investments in hedge funds, private investments, and private placements whose fair values have been estimated by management using the practical expedient or certain valuations obtained from third-party investment managers.

Management's estimates are based on financial information from the underlying funds provided at various interim dates during the year, other information from the underlying funds, as well as information from other relevant sources. This valuation process is reasonable based on the requirements of generally accepted accounting principles when applying the practical expedient for investments in entities that report a net asset value, or its equivalent. We understand that management has provided you with details regarding the process used in formulating these estimates.

Although management believes the accounting estimates reflected in the Funds' 2022 financial statements are reasonable, there can be no assurances that the Funds could ultimately realize these values. The basis for our conclusions as to the reasonableness of these estimates when considered in the context of the financial statements taken as a whole, as expressed in our auditors' reports on the financial statements, is our understanding and testing of management's process to develop estimates, including the information used in forming these estimates.

Uncorrected Misstatements

Our audits of the financial statements were designed to obtain reasonable, rather than absolute, assurance about whether the financial statements are free of material misstatement, whether caused by error or fraud. There were no uncorrected misstatements or disclosure items passed identified during our audits.

Material Corrected Misstatements

Our audits of the financial statements were designed to obtain reasonable, rather than absolute, assurance about whether the financial statements are free of material misstatement, whether caused by error or fraud. There were no material misstatements that were brought to the attention of management as a result of our audit procedures.

Other Information in the Annual Report

The audited financial statements include documents containing the following other information:

- Management's Discussion & Analysis – **All Funds**
- Supplemental Schedules
 - Schedule of Changes in Cost of Investments and Investment Income – **PUF only**
 - Financial Highlights – **GEF, ITF, LTF, and PHF**

When audited financial statements are included in documents containing other information such as described above, we read such other information and consider whether a material inconsistency exists between the other information and the financial statements, or the other information otherwise appears to be materially misstated. We have read the other information described above and have compared selected amounts or other items in the other information with such amounts or other items in the financial statements. While reading the other information, we remained alert for indications that (1) a material inconsistency exists between the other information and our knowledge obtained in the audits and (2) a material misstatement of fact exists or the other information is otherwise misleading. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to communicate the matter to you, request that the correction be made, and, if not corrected, describe it in our report. We did not note any uncorrected material misstatements of the other information.

Disagreements with Management

We have not had any disagreements with management related to matters that are material to the Funds' 2022 financial statements.

Our Views about Significant Matters That Were the Subject of Consultation with Other Accountants

We are not aware of any consultations that management may have had with other accountants about auditing and accounting matters during 2022.

Significant Findings or Issues Arising From the Audits Discussed, or Subject of Correspondence, with Management

Throughout the year, routine discussions were held, or were the subject of correspondence, with management. In our judgment, such discussions or correspondence did not involve significant findings or issues requiring communication to the Board.

Significant Difficulties Encountered in Performing the Audits

In our judgment, we received the full cooperation of the Funds' management and staff and had unrestricted access to the Funds' senior management in the performance of our audits.

Management's Representations

We have made specific inquiries of the Funds' management about the representations embodied in the financial statements. In addition, we have requested that management provide to us the written representations the Funds are required to provide to its independent auditors under generally accepted auditing standards. We have attached to this letter, as Appendix A, a copy of the representation letter we obtained from management.

Emphasis of Matter Paragraphs

We included the following emphasis of matter in our opinion on the financial statements:

1. As discussed in Note 1, the financial statements present only the Funds and do not purport to, and do not, present fairly the financial position of The University of Texas System, as of August 31, 2022 and 2021, the changes in its financial position, or, where applicable, its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America. – **Applicable to all Funds**
2. Also, the financial statements of the PUF include the investment-related assets and liabilities and changes therein which are being managed by The University of Texas/Texas A&M Investment Management Company and do not include the 2.1 million acres of land discussed in Note 1 – **Applicable to PUF only**

Our opinions are not modified with respect to the above matters.

Required Supplementary Information

We included the following required supplementary information in our opinion on the financial statements for all the Funds:

Accounting principles generally accepted in the United States of America, require that the management's discussion and analysis be presented to supplement the financial statements. Such information is the responsibility of management and, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with GAAS, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's response to our inquiries, the financial statements, and other knowledge we obtained during our audits of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

* * * * *

Appendix A – Signed Management Representation Letter



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October 31, 2022

Deloitte & Touche LLP
500 West 2nd Street, Suite 1600
Austin, TX 78701

We are providing this letter in connection with your audits of the financial statements of the entities listed in Appendix A (the "Funds") which comprise the statements of net position as of August 31, 2022 and August 31, 2021, and the related statements of changes in net position for the years then ended, and the related notes, for the purpose of expressing an opinion as to whether the financial statements present fairly, in all material respects, the financial position and the changes in the net position of the Funds in accordance with accounting principles generally accepted in the United States of America (GAAP), as prescribed by the Governmental Accounting Standards Board (GASB).

We are also providing this letter in conjunction with your audits of the detailed schedules of investment securities of the Permanent University Fund (the "PUF") as of August 31, 2022 and the statement of investment performance statistics of the Funds for the year ended August 31, 2022.

We confirm that we are responsible for the following:

- a. The preparation and fair presentation in the financial statements of financial position and changes in net position are in accordance with GAAP
- b. The investment performance statistics of the Funds have been computed net of investment management fees using the Modified Dietz Method. The formula for the Modified Dietz Method is shown in Appendix B
- c. The preparation and fair presentation of the supplemental schedules accompanying the basic financial statements that are presented for the purpose of additional analysis of the basic financial statements

d. The design, implementation, and maintenance of internal control:

- Relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error
- To prevent and detect fraud.

Certain representations in this letter are described as being limited to matters that are material. Items are considered material, regardless of size, if they involve an omission or misstatement of accounting information that, in light of surrounding circumstances, makes it probable that the judgment of a reasonable person relying on the information would be changed or influenced by the omission or misstatement.

We confirm, to the best of our knowledge and belief, the following representations made to you during your audits.

1. The financial statements referred to above are fairly presented in accordance with GAAP.
2. The Funds have made available to you:
 - a. All relevant information and access as agreed in the terms of the contract entered into by The University of Texas System, dated August 1, 2022
 - b. All financial records and related data
 - c. All minutes of the meetings of directors/trustees and committees of directors/trustees, or summaries of actions of recent meetings for which minutes have not yet been prepared
 - d. Information relating to the Funds' compliance with all statutes, laws, or regulations that have a direct effect on our financial statements
 - e. All new or revised governance documents and agreements.
3. There have been no communications with regulatory agencies concerning noncompliance with or deficiencies in financial reporting practices.
4. The Funds have disclosed to you the results of management's risk assessment, including the assessment of the risk that the financial statements may be materially misstated as a result of fraud.
5. We have no knowledge of any fraud or suspected fraud affecting the Funds involving:
 - a. Management
 - b. Employees of The University of Texas/Texas A&M Investment Management Company ("UTIMCO"), the Funds' investment manager, who have significant roles in the Funds' internal control
 - c. Others where the fraud could have a material effect on the financial statements.

6. We have no knowledge of any allegations of fraud or suspected fraud affecting the Funds' financial statements communicated by UTIMCO employees, former UTIMCO employees, analysts, regulators, or others.
7. There are no unasserted claims or assessments that we are aware of or that legal counsel has advised us are probable of assertion and must be disclosed in accordance with GASB Codification of Governmental Accounting and Financial Reporting Standards ("GASB Codification") Section C50, *Claims and Judgments*.
8. All investments during the period were made in accordance with the Funds' respective investment policies.
9. The methods, significant assumptions, and the data used by us in making the accounting estimates and the related disclosures are appropriate to achieve recognition, measurement, or disclosure that is in conformity with GAAP.
10. We have complied with all applicable provisions of the Foreign Corrupt Practices Act.

Except for the statement of investment performance statistics and where otherwise stated below, immaterial matters less than the materiality limits indicated in Appendix A for each Fund collectively are not considered to be exceptions that require disclosure for the purpose of the following representations. These amounts are not necessarily indicative of amounts that would require adjustment to, or disclosure in, the financial statements.

11. There are no transactions that have not been properly recorded and reflected in the financial statements.
12. The Funds have no plans or intentions that may affect the carrying value or classification of assets and liabilities.
13. We have disclosed to you any change in the Funds' internal control over financial reporting that occurred during the Funds' 2022 fiscal year that has materially affected, or is reasonably likely to materially affect, the Funds' internal control over financial reporting.
14. The Funds have identified all derivative instruments as defined by GASB Codification Section D40, *Derivative Instruments*, and appropriately recorded and disclosed such derivatives in accordance with GASB Codification Section D40.
15. With regard to the fair value measurements and disclosures of certain assets and liabilities, we believe that:
 - a. Portfolio securities are stated at fair value as determined in accordance with the valuation method set forth in the Funds' respective investment policies
 - b. The measurement methods, including the related assumptions, used in determining fair value were appropriate, consistent with market participant assumptions where available without undue cost and effort, and were consistently applied in accordance with GAAP
 - c. The completeness and adequacy of the disclosures related to fair values are in accordance with GAAP

- d. No events have occurred subsequent to August 31, 2022 that require adjustment to the fair value measurements and disclosures included in the financial statements.
16. Private investment funds are fair valued by management. The fair values of these investments are estimated by management using the individual private investment fund's capital account balance at the closest available reporting period, as communicated by the investment fund's general partner or investment manager, adjusted for contributions and withdrawals subsequent to the latest available reporting period as well as consideration of any other information which has been provided. In rare cases the private market funds are valued at cost but only when management considers it to be the best approximation of fair value. We have considered any information communicated by an individual investment fund's general partner or investment manager necessary through October 31, 2022, and no adjustments were considered necessary to the valuation reported as of August 31, 2022.
 17. The following, to the extent applicable, have been appropriately identified, properly accounted for, and disclosed in the financial statements:
 - a. Related parties and all the related-party relationships and transactions of which the Funds are aware, including fees, commissions, sales, purchases, loans, transfers, leasing arrangements, side agreements, and guarantees (written or oral)
 - b. Restricted securities that may not be publicly sold without registration under the federal Securities Act of 1933
 - c. Arrangements with financial institutions involving compensating balances or other arrangements involving restrictions on cash balances, line-of-credit, or similar arrangements
 - d. All derivative financial instruments (e.g., futures, options, swaps), including bank loan commitments and other outstanding commitments to purchase or sell securities under forward placement and standby commitments
 - e. Financial instruments with significant individual or group concentration of credit risk, whether from an individual counterparty or group of counterparties
 - f. The amounts receivable from or payable to related parties
 - g. Guarantees, whether written or oral, under which the Funds are contingently liable (e.g., shortfall agreements)
 - h. Financial support that the Funds have provided during the period presented to an investee, whether contractually required to do so or not, as well as financial support that the Funds have not yet provided but is contractually required to provide to an investee.
 18. In preparing the financial statements in accordance with GAAP, management uses estimates. All estimates have been disclosed in the financial statements for which known information available prior to the issuance of the financial statements indicates that both of the following criteria are met:

- a. It is reasonably possible that the estimate of the effect on the financial statements of a condition, situation, or set of circumstances that existed at the date of the financial statements will change in the near term due to one or more future confirming events
 - b. The effect of the change would be material to the financial statements.
19. Risks associated with concentrations, based on information known to management, that meet all of the following criteria have been disclosed in the financial statements:
- a. The concentration exists at the date of the financial statements
 - b. The concentration makes the Funds vulnerable to the risk of a near-term severe impact
 - c. It is at least reasonably possible that the events that could cause the severe impact will occur in the near term.
20. There are no:
- a. Instances of identified or suspected noncompliance with laws or regulations whose effects should be considered when preparing the financial statements
 - b. Known actual or possible litigation and claims whose effects should be considered when preparing the financial statements and that have not been disclosed to you and accounted for and disclosed in accordance with GAAP
 - c. Other liabilities or gain or loss contingencies that are required to be accrued or disclosed under GASB Codification Section C50, *Claims and Judgments*
 - d. Side agreements or other arrangements (either written or oral) that have not been disclosed to you.
21. The Board of Regents, on behalf of the Funds, have satisfactory title to all owned assets, and there are no liens or encumbrances on such assets, nor has any asset been pledged as collateral, except for those disclosed in the financial statements.
22. The Board of Regents, on behalf of the Funds, have complied with all aspects of contractual agreements that may affect the financial statements.
23. Regarding the required supplementary information of the Funds, i.e. the Management's Discussion and Analysis (the "MD&A"):
- a. We confirm that we are responsible for the MD&A
 - b. The MD&A is measured and presented in accordance with GASB
 - c. The methods of presentation of the MD&A have not changed from those used in the prior period.
24. Regarding the required supplemental schedule of the PUF, i.e. the Schedule of Changes in Cost of Investments and Investment Income:

- a. We are responsible for the preparation and fair presentation of the Schedule of Changes in Cost of Investments and Investment Income of the PUF in accordance with Section 66.05 of the Texas Education Code
 - b. We believe the Schedule of Changes in Cost of Investments and Investment Income of the PUF, including its form and content, is fairly presented in accordance with Section 66.05 of the Texas Education Code
 - c. The methods of measurement and presentation of the Schedule of Changes in Cost of Investments and Investment Income of the PUF have not changed from those used in the prior period.
25. Regarding the supplementary information for the Funds, i.e. the Financial Highlights, as applicable:
- a. We are responsible for preparation and fair presentation of the supplementary information
 - b. We believe the supplementary information, including its form and content, is fairly presented
 - c. The methods of measurement and presentation of the Financial Highlights, as applicable, have not changed from those used in the prior period.
26. Regarding the required supplemental schedule of the PUF, i.e. the Detail Schedules of Investment Securities:
- a. We are responsible for the preparation and fair presentation of the Detail Schedules of Investment Securities of the PUF in accordance with Section 66.05 of the Texas Education Code
 - b. We believe the Detail Schedules of Investment Securities of the PUF, including its form and content, is fairly presented in accordance with Section 66.05 of the Texas Education Code
 - c. The Detail Schedules of Investment Securities take into consideration the provisions of Government Code Section 552.143(c) which identifies the names of certain direct investments held by the PUF as confidential
 - d. The methods of measurement and presentation of the Detailed Schedules of Investment Securities of the PUF have not changed from those used in the prior period.
27. UTIMCO as investment manager of the Funds under the control and management of the UT Board, entered into a security purchase agreement with the UT Board. The agreement committed the Funds to purchase UT System notes and bonds outstanding up to \$3,774,660,000. The PUF also has an agreement with the Texas A&M University System Board of Regents which commits the PUF to acquire up to \$125,000,000 of Texas A&M System flexible rate notes in the event of a failed remarketing of such notes. No UT System notes and bonds or Texas A&M System flexible rate notes have been or are expected to be purchased by the Funds under their required purchase commitment.

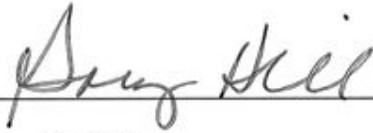
28. None of the entities which have borrowed from the Funds, subject to their securities lending programs, have defaulted during the year ended August 31, 2022.
29. In conjunction with the Funds' investments in the private investment and hedge fund pools, there are no instances where the Funds would be required to assume additional commitment responsibility should other limited partners or shareholders default on their own commitments.
30. As of August 31, 2022, the Funds do not have any deposits or investments that are exposed to custodial credit risk.
31. No events have occurred after August 31, 2022, but before October 31, 2022, the date the financial statements were available to be issued, that require consideration as adjustments to, or disclosures in, the financial statements.



Britt Harris
President and CEO



Joan Moeller
Senior Managing Director and Chief Operating Officer



Gary Hill
Managing Director – Operations, Accounting, and Reporting

APPENDIX A

Entity Name	Materiality Limit
Permanent University Fund ("PUF")	\$ 66,500,000
The University of Texas System General Endowment Fund ("GEF")	44,200,000
The University of Texas System Long Term Fund ("LTF")	41,000,000
Permanent Health Fund ("PHF")	3,900,000
The University of Texas System Intermediate Term Fund ("ITF")	19,300,000

FORMULA FOR MODIFIED DIETZ METHOD

The formula for estimating the time-weighted rate of return using the Modified Dietz Method, $R_{DIETZ (net)}$, is:

$$R_{DIETZ (net)} = \frac{\text{Net of Fees}}{MVB + FW} = \frac{MVE - MVB - F - FEES}{MVB + FW}$$

where MVB is the fair value at the beginning of the period, including accrued income from the previous period;
 MVE is the fair value at the end of the period, including accrued income for the period;
 F is the sum of the cash flows within the period (contributions to the portfolio are positive flows, and withdrawals or distributions are negative flows);
 FW is the sum of each cash flow, F_i , multiplied by its weight, W_i ; and
 $FEES$ is the sum of investment management fees paid during the period.

W_i is the proportion of the total number of days in the period that the cash flow F_i has been in (or out of) the portfolio. The formula for W_i is:

$$W_i = \frac{CD - D_i}{CD}$$

where CD is the total number of days in the period; and
 D_i is the number of days since the beginning of the period in which cash flow F_i occurred.

CONTRACT REPORT

New Contracts, Leases, and Other Commercial Arrangements
 (Total Obligation per Agreement greater than \$250,000)
 August 22, 2022 through November 11, 2022

Agreement	Purpose	Contract Term	Annual Amount
None			

Existing Contracts, Leases and Other Commercial Arrangements
 (Total Obligation per Agreement greater than \$250,000)
 Reported on an annual basis per the Delegation of Authority Policy
 November 11, 2021 through November 11, 2022

Agreement	Purpose	Contract Term	Annual Amount
Dynamo Software	Portfolio and relationship management system with full mobile access for travelers; contract amended to lock in current annual price of \$366,000 for three years instead of annually renewing with an escalation in annual costs. Total three year contract \$1,098,000.	11/15/2020 - 11/14/2023	\$366,000
Factset Research Systems	Analytical tool for performance	Contract terminated January 2022 - replaced with new risk system	\$530,000
International Fund Services	Risk System	Contract terminated September 2022 - replaced with new risk system	\$292,000
Sequel Data Systems	Vmware Enterprise License Agmt/Support (3 yrs) paid monthly	Expired during the reporting period- replaced with lower cost vendor	\$317,875
eFront Financial Solutions (annual renewal)	eFront Financial Solutions is a software provider for the alternative investments and risk management areas of the financial services industry	1/1/2022 - 12/31/2022	\$257,655
PricewaterhouseCoopers LLP (PwC)	Develop a data classification scheme and implement protection requirements.	Completed during the reporting period	\$495,000
MSCI - RiskMetrics	Two separate contracts have been signed with MSCI - RiskMetrics: (1) Provides access to the Risk Metrics Hedge Funds Platform product (for hedge funds). (2) Provides risk analytics and reporting for all other asset classes. The two products are integrated but can be separated.	4/1/22 - 3/31/23	\$361,600
		4/1/22 - 3/31/23	\$364,000

Agenda Item
UTIMCO Board of Directors Meeting
December 9, 2022

Agenda Item:	Report from Investment Risk Committee
Developed By:	Moeller, de Onís
Presented By:	Longoria
Type of Item:	Information item
Description:	The Investment Risk Committee (“Committee”) met on December 1, 2022. The Committee’s agenda included (1) discussion and appropriate action related to the approval of minutes of its September 9, 2022 meeting; (2) review and discussion of compliance reporting; and (3) a market and portfolio risk update.
Discussion	Ms. de Onís reviewed the quarterly compliance reporting with the Committee and Dr. Yoeli presented an update on the market and portfolio risk.
Recommendation:	None
Reference:	None

Agenda Item
UTIMCO Board of Directors Meeting
December 9, 2022

Agenda Item: Report from Cyber Risk Committee

Developed By: Moeller

Presented By: Rothrock

Type of Item: Information Item

Description: The Cyber Risk Committee (the “Committee”) met on December 1, 2022. The Committee’s agenda included discussion and appropriate action related to the approval of minutes of September 9, 2022 meeting. The Committee also met in Executive Session to receive an update on computer security assessments related to information resources technology.

Recommendation: None

Reference: None

Agenda Item
UTIMCO Board of Directors Meeting
December 9, 2022

- Agenda Item:** Report from Compensation Committee: Discussion and Appropriate Action Related to the Performance Awards for UTIMCO Compensation Program Participants for the Performance Period ended June 30, 2022
- Developed By:** Hall, Moeller
- Presented By:** Nixon
- Type of Item:** Action Item; Action required by the UTIMCO Board
- Description:** The Compensation Committee (the “Committee”) met on December 1, 2022 and will meet on December 9, 2022. At its meeting on December 1, 2022, the Committee’s agenda included (1) discussion and appropriate action related to minutes of its September 12, 2022 meeting. The Committee also met in Executive Session for the purpose of deliberating individual personnel compensation and evaluation matters.
- At its December 9th meeting, the Committee will convene in Executive Session for the purpose of deliberating individual personnel compensation and evaluation matters, including Performance Awards for Plan Participants for the Performance Period ended June 30, 2022. The Committee’s agenda will include (1) discussion and appropriate action related to minutes of its December 1, 2022 meeting; and (2) discussion and appropriate action related to Performance Awards for Participants of the UTIMCO Compensation Program (the “Plan”) for the Performance Period ended June 30, 2022.
- Discussion:** The Committee will make its recommendation to the UTIMCO Board related to the Performance Awards for all Plan Participants. Performance Awards for the Performance Period are calculated for each Participant based on the percentage achieved of each Performance Standard, considering the weightings for the Participant’s Quantitative and Qualitative Standards and Performance Award Opportunity. Action is required by the UTIMCO Board related to the Performance Awards.
- Recommendation:** The Committee will recommend the Board approve the Performance Awards for the Participants of the Plan, including the Chief Executive Officer, for the Performance Period ended June 30, 2022.
- Reference:** Materials provided for Executive Session

**RESOLUTION RELATED TO THE CEO'S PERFORMANCE AWARD
FOR THE PERFORMANCE PERIOD ENDED JUNE 30, 2022**

WHEREAS, Section 5.5.(d) of the UTIMCO Compensation Program (the "Plan") provides that, at the end of each Performance Period, the Board will approve the Performance Award of the CEO based upon a determination of the level of achievement of the CEO with respect to his or her Performance Standards for such Performance Period; and

WHEREAS, the Compensation Committee has reviewed and approved the CEO's Performance Award for the Performance Period ended June 30, 2022, and submitted its recommendation to the Board for approval; and

WHEREAS, the Board has reviewed the Compensation Committee's recommendation of the CEO's Performance Award for the Performance Period ended June 30, 2022.

NOW, THEREFORE, be it:

RESOLVED, that the Board approves the CEO's Performance Award for the Performance Period ended June 30, 2022, in the amount of \$_____.

**RESOLUTION RELATED TO PERFORMANCE AWARDS
FOR THE PERFORMANCE PERIOD ENDED JUNE 30, 2022**

WHEREAS, Section 2.0 of the Plan specifies that an objective of the UTIMCO Compensation Program (the “Plan”) is to motivate key investment employees to focus on maximizing real, long-term returns for all funds managed by UTIMCO while assuming appropriate levels of risk; and

WHEREAS, Section 5.8(a)(1)(a)(iv) provides that quantitative performance is measured relative to the appropriate benchmark based on three-year historical performance; Section 5.8(a)(2)(c) provides that peer group performance is measured based on three-year historical performance; and Section 5.8(b)(2) provides that qualitative performance is measured as part of each Participant’s annual performance appraisal; and

WHEREAS, Section 5.5.(d) of the Plan provides that, at the end of each Performance Period, the Compensation Committee will approve, subject to further approval of the UTIMCO Board, the Performance Award of each Participant based upon a determination of the level of achievement of such Participant against his or her Performance Standards; and

WHEREAS, in accordance with Section 5.5.(d) of the Plan, the Compensation Committee has determined the level of achievement by each Participant in the Plan during the Performance Period ended June 30, 2022, of his or her Performance Standards; and

WHEREAS, Sections 5.5.(e) and 5.5.(f) of the Plan provide that, based on the percentage achieved of each Participant’s Performance Standards, a Performance Award will be calculated for such Participant in accordance with the calculation methodology set forth in Appendix A of the Plan; and

WHEREAS, Sections 5.6 and 5.7 of the Plan provide that approved Performance Awards will vest and be paid out to Participants over a period of two years (the “Ordinary Deferrals”) as a talent retention mechanism; and

WHEREAS, Section 5.12 of the Plan provides that, subject to certain limited exceptions, if the net returns during the Performance Period for which the Performance Awards are being determined are negative at the end of the Performance Period, Participants will not become entitled to payment of the Performance Award until the end of the following year’s Performance Period (the “Extraordinary Deferrals”); and

WHEREAS, Section 5.5.(f) of the Plan provides that the Compensation Committee will review all calculations of Performance Awards, make any changes it deems appropriate, and submit its recommendation to the Board for approval; and

WHEREAS, the Compensation Committee has reviewed the Performance Awards for all Participants who have met or exceeded their three-year quantitative Performance Standards and their one-year qualitative Performance Standards for the Performance Period ended June 30, 2022, made changes it deemed appropriate, approved such Performance Awards, and recommended that the Board approve the same.

NOW, THEREFORE, be it:

RESOLVED, that the Board approves the Performance Awards for all Participants (excluding the CEO) for the Performance Period ended June 30, 2022, in the total aggregate amount of \$_____, and be it

FURTHER RESOLVED, that of the Performance Awards for all Participants (excluding the CEO) subject to a Deferred Award for the Performance Period ended June 30, 2022, ___% (_____) will be deferred pursuant to the Plan. The deferred amount includes \$_____ in Ordinary Deferrals, which are applied to each Performance Period as a talent retention mechanism. The remaining deferred amount of \$_____ are Extraordinary Deferrals, which are required by the Plan when three-year performance benchmarks are met or exceeded, but net returns at the end of a Performance Period are negative.