FIELD MEASURES

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IN THIS ISSUE:

Insights and Opinions

by Keystone Global

Founders' Welcome

Welcome to the Inaugural Edition of *FIELD MEASURES*, an exclusive digest of insights and observations in the infrastructure, construction, technology and related sectors, as brought to you by Keystone Global.

Over the past 30 months, our nation has endured a devastatingly disruptive global pandemic, has witnessed unprecedented geopolitical strife and has weathered direct and indirect economic impacts of the highest consumer price indices seen in over a generation.

Despite a storm of macroeconomic challenges, unprecedented market indicators and fierce debate over recession mitigation tactics, Keystone is tackling this opportunity head on and is focused on the prospect of an exciting future. We believe there is no better time to grow the Keystone team, increase our scope of client engagements and broaden the capacity for forward-looking solutions across new areas of focus, while bolstering our existing industry expertise.

We hope our inaugural digest provides you with a informative overview on some trending concerns within the markets and a overarching analysis on some of the key issues facing our clients and our industry.

We are eternally grateful to have this opportunity to engage our friends, clients, followers, and the greater Keystone Global community.

Sincerely,

Mara Johnston and Mit Jha

What in the World…?

Oil Production & the Global Supply Chain

*Concerns about the overall global supply chain and petroleum demand, as it continues to shift away from Russia and onto other exporting countries, had buttressed U.S. inflation growth from Q1 through early Q3. However, recent price trends appear to offer some relief at the pump. U.S. gas prices are approaching an average price of **$3.70 a gallon** (as of Sept 13th, 2022), which is a **24% decline** from the previous high of **$5.02 a gallon** set back on June 14th.*

	Country	Population 2022 (Est.)	Annual (Barrels)	% of Global Consumption
1	United States	334,805,269	7,186,850,000	20.50%
2	China	1,448,471,400	4,288,750,000	12.23%
3	India	1,406,631,776	1,638,485,000	4.67%
4	Japan	125,584,838	1,469,490,000	4.19%
5	Russia	145,805,947	1,311,810,000	3.74%
6	Saudi Arabia	35,844,909	1,181,505,000	3.37%
7	Brazil	215,353,593	1,101,570,000	3.14%
8	South Korea	51,329,899	959,950,000	2.74%
9	Germany	83,883,596	879,650,000	2.51%
10	Canada	38,388,419	868,335,000	2.48%

**Source: CIA Factbook*

According to the Wall Street Journal, global demand for oil has fallen in recent weeks as economic growth has slowed around the world, including in China. Demand data and consumer surveys also suggest Americans may be spending less "idle" time in their vehicles.

*Regardless of the recently downward trending fuel price data, the U.S. remains the world's **largest oil consumer** by far, annually consuming nearly **3 billion barrels** more than China despite having less than one-quarter of China's population.[1]*

*Admittedly, there is no population-specific proxy for expected oil consumption due to geographic locations, seasonality and varied industrial and commercial needs in each nation, yet it is striking to recognize the massive amount that the U.S. consumes – **19.7 million barrels per day**, or 7.2 billion per year. That is approximately 21 barrels per capita per year, so there is bound to be an impact on the average American wallet with even the slightest global supply chain disruption.[2]*

Other major supply chain concerns include the following:

- ***Grain decline – closure of Ukraine Ports***
- ***Cancelations & delays of exports to Ukraine***
- ***Rerouting of containerized land freight from China & Russia to Western Europe***
- ***Russian commodity sanctions – oil, gas, coal, wood, grain, aluminum & copper***

Markets attached to the above resources will likely continue to get squeezed, and sanctions placed on Russia will impact prices all the way up and down the related industrial chains.

What in the World…?

U.S. Economy

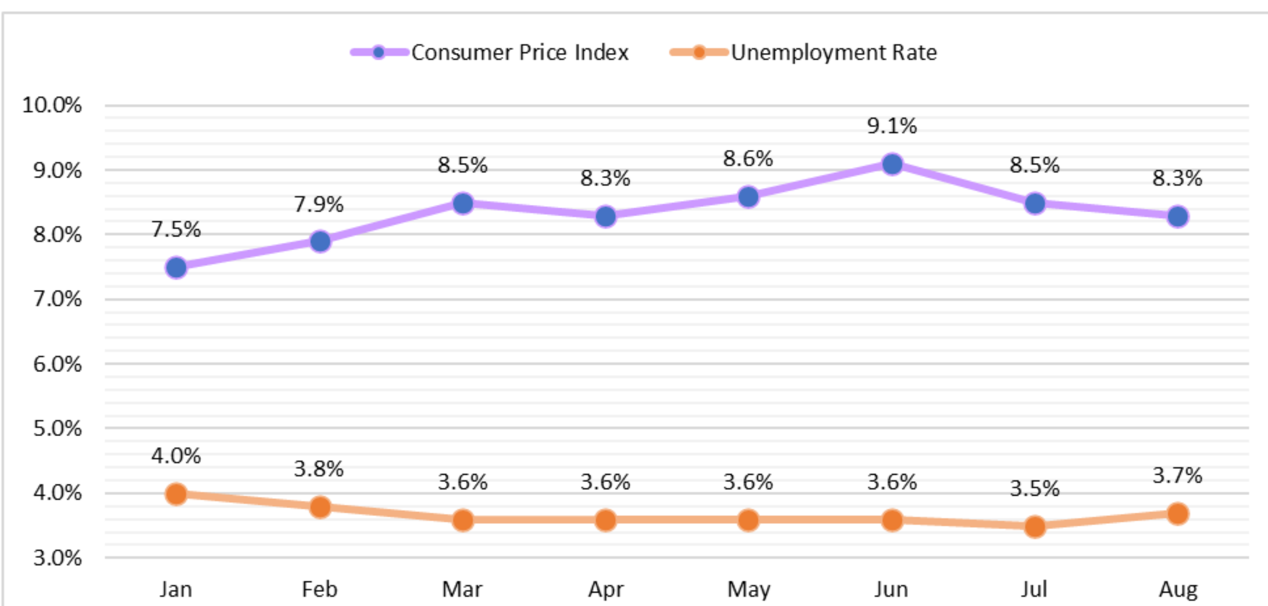
*On July 27th, the U.S. Federal Reserve unanimously agreed to raise interest rates by **0.75 bps for the second consecutive month and the fourth interest rate hike since March**. Prior to last month the Fed had not raised rates by 0.75 bps since 1994; a tactic used to combat the current 40-year high inflation.*

FOMC Meeting Date	Rate Change (BPS)	Federal Funds Target Rate	Effective Fed Funds Rate
July 27, 2022	+75	2.25%-2.50%	2.33%
June 16, 2022	+75	1.50%-1.75%	1.58%
May 5, 2022	+50	0.75%-1.00%	0.83%
March 17, 2022	+25	0.25%-0.50%	0.33%
January 26, 2022	0	0%-0.25%	0.08%

**Source: U.S. Federal Reserve*

*Despite **GDP falling for two straight quarters**, or at a **0.9% annualized rate**, meeting the conditions of a technical recession, the White House and the Fed reaffirmed that they do not think the U.S. is currently in a recession. The National Bureau of Economic Research is responsible for making the official decision of recession status in the U.S. analyzing factors such as output, employment, and household income, yet no decision has been issued thus far.*

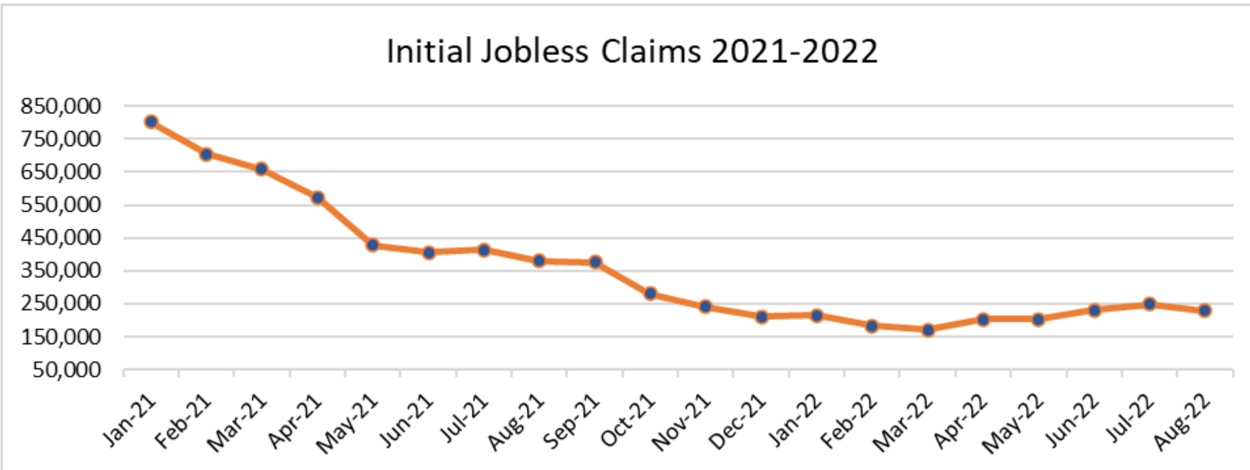
*Current economic factors supporting a looming recession include weakening consumer sentiment, high inflation, and supply-chain volatility. Consumer spending accounts for roughly two-thirds of total economic output driven down by the high-inflationary environment. Rising prices, falling consumer sentiment, and sporadic swings in imports and exports has caused inventory buildups at large retailers such as Walmart & Target. U.S. Inflation slowed less than expected to **8.3% in August down from 8.5% in July**, driven down in part by falling energy prices such as gasoline.[3] The S&P 500 slid 4.32% and the Nasdaq Composite dropped 5.16% on Tuesday, September 13th, following August's inflation report, sending U.S. stocks into a **bear market** for the first time since 2020.*



**Source: U.S. Bureau of Labor Statistics*

What in the World…?

*The good news is the labor market remained strong with initial **jobless claims falling 24,000** to a seasonally adjusted **232,000** for the week of August 27th and the **unemployment rate** has hovered around **3.6%, a 50-year low**, for the past four months. Employers continued their aggressive hiring initiatives throughout June, although this trend appears to be coming to an end with more companies slowing or pausing hiring and trimming staff including Alphabet Inc.'s Google, Facebook's Meta, and Microsoft.*[4]



**Source: U.S. Department of Labor*

Chairman of the Federal Reserve, Jerome Powell, reiterated that he is more concerned about the risks associated with an inability to temper rising inflation over the possibility of pushing the U.S. into a recession from continued rate hikes. Powell decided not to issue any forward guidance and emphasized full data dependency going forward allowing markets to define their own probability distributions across asset classes causing the market to rally following July's FOMC meeting. Powell confirmed that the US central bank will keep raising interest rates, likely leaving them elevated for a prolonged period, to combat inflation at his speech in Jackson Hole, Wyoming on August 26th. The S&P500 declined 3.4% shortly after Powell's remarks.

The Inflation Reduction Act of 2022 was signed into law on August 16th, 2022, by President Biden with the stated goal of reducing the federal deficit to fight inflation. Included in the Act is a 15% minimum tax rate on corporate profits and tax credits for electric vehicles, clean hydrogen, and nuclear energy. Although economists are split on just how much taxing and spending can do to combat inflation.

*Additionally, a U.S. **railroad strike** was narrowly averted on Thursday September 15th, which would have disrupted nearly 30% of the nations freight transportation. A strike was anticipated to come as soon as **Friday, September 16th,** as negotiations between the two of the largest railroad unions and railroad carriers were gridlocked, but the two groups reached a tentative labor agreement just one day prior. The railroad unions demanded basic quality of life improvements such as protected time off, but the rail carriers were reluctant to grant these demands in writing. The commodities that would be impacted the most includes food, energy, metals, chemicals, wood products, and smaller consumer goods.*

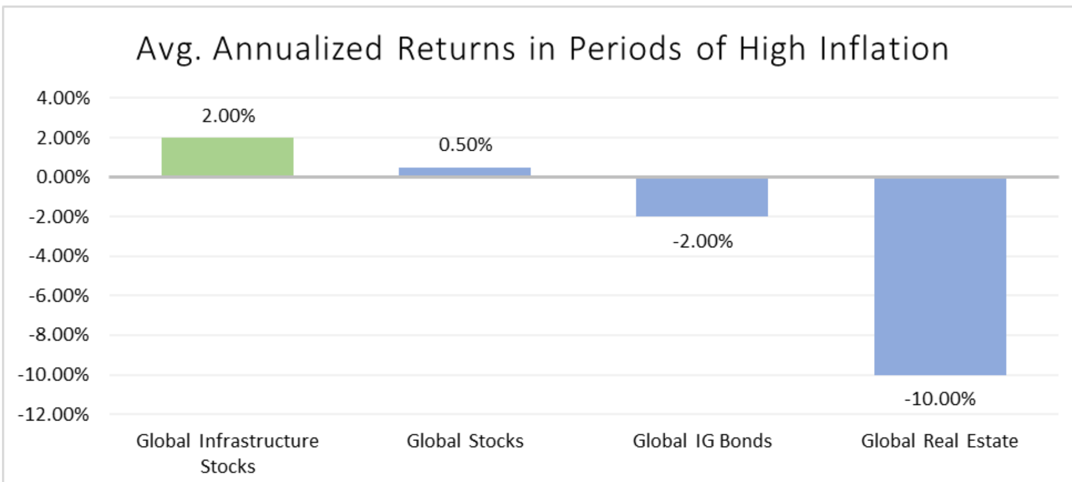
"Around 40% of the nation's long-distance trade is moved by rail, more than any other form of transportation. If the unions strike, more than 7,000 trains would be idled and the rail industry has estimated it would cost the economy up to $2 billion per day."[5]

Construction & Infrastructure Economic Future

The Macro Outlook

Infrastructure investments have historically been more resistant to inflation and interest rate risk through its explicit link to regulation via concession agreements and contracts. Infrastructure investments are highly correlated with interest rates due to their term structure of cash flows, which are discounted using an equivalent term structure of interest rates with a built-in risk premium that reflects the uncertainty of these future payments. This minimizes the interest rate risks involved in infrastructure investments during a period of rising interest rates.

The link between infrastructure assets and inflation exists through regulation. For example, toll road pricing is typically linked to inflation and CPI data through concession agreements. The majority of infrastructure assets have procedures in place to pass the effects of inflation to consumers, protecting shareholders and their bottom line. First Sentier Investors reported, "Global listed infrastructure had delivered returns equivalent to CPI plus 10.1% over 15 years and outperformed global equities by almost 7% per annum when inflation is above 4% per annum."[6]



**Data from 2007-2022, sourced below (reference 7)*

Depending on the frequency and intensity of the forthcoming increases, Chairman Powell could keep pushing further, perhaps breaking through the next psychologically imposing milestone of 3.0%. While tightened policy over a short period of time comes with increased risk, experts argue that those risks are somewhat palatable compared to the alternative of maintaining a looser policy without thoughtful and proactive intervention. Former Treasury Secretary Lawrence Summers noted that, "The Fed needs to take far stronger action than just raising rates" in order to better address the current inflationary concerns.[8]

Consumer price index and core inflation reduction efforts could prove to be accretive for the infrastructure, finance, and technology sectors; however, Fed activity that is improperly timed (misfired frequency) or poorly executed (misfired intensity) could result in what experts call a "hard landing."

In the case of the U.S. economy, ill-timed or ill executed Fed policy implementation could lead to sharp economic contractions. While Chairman Powell's narrative of course reflects an anticipated "soft landing," experts agree that strategic efforts to induce a soft landing will better serve the economy through the gradual reduction of inflation.

Mergers & Acquisitions

Trends and Trades

M&A activity in the AEC sector is expected to remain strong through the end of 2022, and see a slowdown in 2023, returning to pre-pandemic levels after surging to record highs in 2021. This slowdown is contributed to in part by rampant inflation, lingering supply chain issues, and a looming recession. However, the AEC industry outlook is stronger than other industries, particularly driven by a push to phase out fossil-fuel reliance in favor of renewable energy, heightened environmental concerns, aging infrastructure, and increased technological integration.

KBR, Inc.'s Chief Financial Officer Mark Sopp described KBR's M&A outlook as cautious due to the current state of the economy and current global macro conditions. According to Mark Sopp, "I think we would continue to be constructive for modest-sized acquisitions at attractive valuations, but we also have a view there might be better pricing later in the event of a recession. And we'd like to have some dry powder available for that. So, we'll be more cautious than usual on the M&A front."[9]

Recent AEC M&A Deals

KBR, Inc. Acquires Harmonic Ltd.

KBR acquired certain businesses of Harmonic Ltd for $19 million on July 1st, 2021. Harmonic provides transformation and delivery consultancy project services to U.K. businesses. KBR has completed a string of acquisitions over the past 2 years including Frazer-Nash Consultancy, VIMA Group, and Centauri, reflecting KBR's strategic initiatives for bolstering inorganic growth and expanding their market share.

NV5 Global Acquires Fulton Consulting Engineers

NV5 Global completed its acquisition of Fulton Consulting Engineers on March 8th, 2022, for an undisclosed amount. Fulton Consulting provides mechanical, electrical, and plumbing engineering, lighting and fire protection design, and energy efficiency consulting to private and public sector clients. This marks NV5 Global's third acquisition in the last two years including the acquisitions of Henkels & McCoy and Optimal Energy in 2021.

AECOM Acquires SLC Rail Ltd.

AECOM acquired a 30% share of the UK independent rail consultant SLC Rail on February 16th, 2022. SLC Rail helps government bodies and developers form visionary rail strategies, develop successful rail schemes, and manage project delivery.

WSP Global Acquires RPS Group

WSP Global acquired RPS Group for approximately $975 million on August 8th, 2022. The cash transaction is expected to be immediately accretive to WSP's net earnings. RPS Group is a global environmental and professional services consulting firm that offers a wide range of services including planning and design advice to public and private sector clients. This complementary acquisition comes just two months after WSP's June 3rd acquisition of the Environmental and Infrastructure business of the John Wood Group.

Digital Innovation & Technology

Fearlessly Facing Future Frontiers

The construction and infrastructure industries have historically been fearful or resistant to technological innovation due to the combination of external market factors, highly fragmented industry dynamics, and an overall aversion to risk.

Major events resulting in a cultural shift, such as the pandemic, are expected to continue to drive technological disruption, increasing the overall use of technology in the construction industry. Major players have begun to recognize the increased productivity, improved safety and efficiency, and reduced costs stemming from the integration of cutting-edge technological innovations.

Keystone Global has recognized this as an opportunity to explore new and reimagined methods of serving the construction and infrastructure fields by creating new partnerships in the technology and digital sectors.

ConTech	FinTech	InfraTech	PropTech
Construction technology: enhance and support architecture, engineering, design and build needs.	Financial technology: digital platforms and solutions to provide streamlined financial services.	Infrastructure technology: smarter, safer and sustainable innovations in the ways communities connect.	Real Estate Property technology: creating disruption in the way insights and access shape the market.

Areas of Interest	
• Artificial Intelligence (AI) • Automation & Robotics • Blockchain • Building Information Modeling (BIM) • Business Intelligence (BI) • Cloud Computing / Data Centers • Data Analytics & Machine Learning	• ESG/Green/Sustainability Technology • IoT (Internet of Things)/Smart Infrastructure • Project Management • Safety & Security Solutions • Simulation/Digital Twin • Software as a Service (SaaS) • Virtual Reality (VR) & Augmented Reality (AR)

In the Summer of 2022, Keystone has launched a digital innovation and technology initiative, which will provide strategic advisory, access to capital and M&A opportunities, leading to a more efficient and effective AEC industry.

In addition, the team is excited to launch the Keystone Innovation Council (KIC), which will "KIC-off" in Q4-2022.

Keystone Innovation Council (KIC)

Digital innovation and thoughtful application of technological solutions help increase productivity, reduce costs and mitigate risk. By bridging all elements from project preconception to post-construction, digital innovation strategies and solutions can help reduce risk, prevent error, enhance workflows, improve safety and communications, among many other improvements – each ultimately saving its stakeholders time and money.

KIC unites executives in construction, infrastructure, finance and technology to identify, champion and accelerate transformative technology adoption, intrapreneurship and investment within the AEC, Infrastructure and Technology industries. KIC is an action-oriented consortium of mission-aligned executives, investors and enthused delegates, each drawing on their unique resources from technology, finance, engineering and infrastructure backgrounds to guide and support the development of transformative ideas.

Keystone Global Team Update

Keystone Global Adds FOUR New Employees in 2022!

Keystone Global has recently expanded the team with the aim of providing additional service coverage and support to our growing client base, while also widening the scope of consulting solutions, capital advisory and investment banking innovations to the industries we serve.

We are thrilled to announce that Maria Kang, Brahm Pillai, AJ Kuhn and Nik Brancato have joined the Keystone team.

NEW EMPLOYEE HIGHLIGHTS

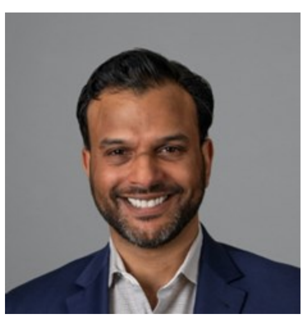
***Maria Kang** – Maria joined the team in June 2022 and is responsible for providing the company's clients with project finance advisory services. Maria has spent the past 15 years focused specifically on the infrastructure sector, providing financial advice for sell-side and buy-side opportunities or acting as a lead arranger lending to projects.*

***Brahm Pillai** – Brahm joined the team in March 2022 and is responsible for launching and running the digital innovation initiative. Brahm brings over 18 years of experience in structured finance, alternative investments and FinTech.*

***AJ Kuhn** – AJ joined the team in March 2022 and focuses on deal support for the project finance and capital advisory teams. AJ has over 5 years of experience across project finance advisory, technology consulting, and project engineering.*

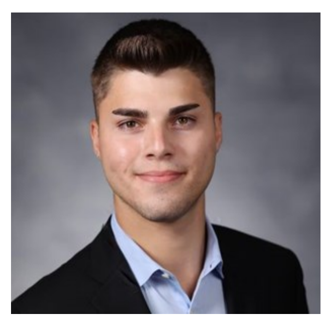
***Nik Brancato** – Nik joined the Keystone team in June 2022, bringing his expertise in developing financial models and conducting valuation analysis through prior experience working on investment research, M&A transactions, and venture portfolio support.*

Maria Kang
Managing Director



Brahm Pillai
Managing Director

AJ Kuhn
Assistant Vice President



Nik Brancato
Financial Analyst

Keyed into the Community

Maria Kang Moderates US P3 Forum Panel ~ P3's and the Macroeconomic Risks

Our Managing Director, Maria Kang, moderated a panel entitled "P3s and the Macroeconomic Risks" which included Pierce Coffee, President, North America at Transurban; Rodney Moss, Senior Vice President at Hunt Development Corporation and Mike Crase, VP of Gilbane Building Company.

The panel, entitled P3's and the Macroeconomic risks, focused on how developers and the public sector are managing macroeconomic risks of P3 projects. The panel was held on Wednesday, September 14th at the 18th annual US P3 Forum hosted by Infralogic.

CFMA National Conference

The Keystone Global team had an incredible time in Atlanta at the CFMA National Conference! From informative sessions on various important topics, to the closing night party at the Georgia Aquarium to catching up with old friends and meeting new ones, the team at CFMA knocked it out of the park as usual with this conference! Keystone Global's Mara Johnston, a board member of CFMA's New York chapter, was in attendance.

Mara Johnston named in Engineering News-Record's National Top 20 under 40

Congratulations to Mara Johnston for being named to Engineering News-Record's 2022 National Top 20 Under 40! When the Top 20 convened earlier this year, Mara shared her perspective on technology adoption and employee voice as critical influencers of future success. We encourage you to learn more about the impressive individuals named to the top 20 under 40 and their thoughts on where the AEC industry is moving on climate, labor, tech, education and more.

Crypto Bahamas Conference | FTX | SALT

It was a privilege and a pleasure for Keystone Global to be a part of the inaugural Crypto Bahamas Conference. Timing for Keystone Global could not have been more perfect, as we recently celebrated the launch of our Digital Strategies initiative—aimed at addressing digital innovation & technology infrastructure demands by providing finance, strategy and advisory services to a broad range of clients, investors, businesses and entrepreneurs. The conference availed unparalleled connectivity for such an initiative. Keystone Global's own Brahm Pillai was in attendance.

Huntington YMCA 5k | Social Outreach

Mara Johnston, Brahm Pillai, and AJ Kuhn from the Keystone Global team ran the Huntington YMCA 5K in Memory of Marcie Mazzola. Proceeds from the race help send children in need to experience the magic of the YMCA Summer Day Camp! Keystone Global proudly supports this cause and hopes this will benefit the children of our community. Thank you to American Global, LLC for joining forces with us and for such a wonderful event.

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7 Asset classes represented by S&P (*Global Infrastructure: S&P Global Infrastructure Total Return Index)*, MSCI *(Global Stocks: MSCI ACWI Net Total Return; Global Real Estate: MSCI World Real Estate Net Total Return Index),* Bloomberg *(Global IG Bonds: Bloomberg Global Aggregate Index)*; Bloomberg data as of 5/31/22 (monthly data since 2/2007).

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