

An Update on Global Listed Infrastructure



INSIGHTS | GLOBAL LISTED INFRASTRUCTURE | NOVEMBER 2023

KEY TAKEAWAYS

- **The MSIM Global Listed Infrastructure Team sees a strong fundamental outlook for Global Listed Infrastructure (GLI) moving forward:** We view the relative recent underperformance of GLI securities to be predominantly driven by non-fundamental factors.
- **GLI companies appear to be better positioned to retain margins:** For many infrastructure companies, interest and other operating costs are typically considered “pass-through.”
- **Current valuations are at odds with the fundamental backdrop and relative to broader equity performance:** Relative to global equities, GLI, as represented by the Dow Jones Brookfield Global Infrastructure (DJBGI) Index, now trades (as of October 2023) below post-pandemic trough levels, despite a materially different fundamental picture.
- **GLI could benefit from a recessionary environment:** GLI has a history of outperforming global equities in challenging economic periods.
- **The long term outlook remains strong:** Low volatility of earnings, stable cash flows and attractive returns remain the key elements of the GLI asset class.

AUTHORS

GLOBAL LISTED
INFRASTRUCTURE TEAM

GLI has had a challenging 2023 (through October), underperforming the broader global equity markets and giving up essentially all of the material relative outperformance witnessed in 2022 (Display 1). Indeed, some of the core sectors of infrastructure have been the worst equity market performers YTD thru October, alongside other “defensive” sectors, such as Consumer Staples and Healthcare (Display 2).

Given this level of relative underperformance, two questions naturally follow: 1) Is the cause of relative underperformance a result of fundamental, operational and/or financial challenges at the industry/company level—or are there other factors at play? And, 2) Where does the MSIM Global Listed Infrastructure Team currently stand from a valuation perspective, both in absolute terms and relative to global equities.

This paper looks to answer these two key questions, as well as to review the potential performance of GLI over the next 12-24 months in the context of either a global recession or a “soft/no” landing scenario, and subsequent economic re-acceleration.

Causes of Underperformance – Are There Fundamental Issues?

In short, we view the relative underperformance of GLI securities in 2023 to be predominantly driven by non-fundamental factors, given the favorable top- and bottom-line trends for most asset/industry types in infrastructure this year. Looking at the four broad industry categories of core listed infrastructure securities strategies—Utilities, Energy Infrastructure, Communications and Transportation—only Communications exhibits a challenging 12-24 months fundamental backdrop, largely concentrated within the U.S. wireless tower subsector, where 2023 cash flow growth is largely nonexistent (Display 3).

DISPLAY 1

Global Listed Infrastructure Is Now Underperforming Global Equities

The Dow Jones Brookfield Global Infrastructure Index vs the MSCI World (Indexed to 100)



Source: MSIM, Bloomberg. As of October 31, 2023. Global Listed Infrastructure is represented by the Dow Jones Brookfield Global Infrastructure Index. Index definitions can be found in the disclosure section. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

DISPLAY 2

GLI and Core Sectors, like Utilities, Have Had a Rough 2023

Performance YTD (through October 31, 2023)

MSCI World	+7.88%
Global Listed Infrastructure (DJBGIT Index)	-7.39%
MSCI World Utilities	-14.11%
Other “Defensive” Sectors:	
MSCI World Cons Staples	-6.12%
MSCI World Health Care	-7.51%

Source: MSIM, Bloomberg. Index definitions can be found in the disclosure section. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

DISPLAY 3

Core Fundamental Infrastructure Factors Are Strong

Average Fundamental Growth Trends in Infrastructure, 2003-24

	REVENUE	EPS/EBITDA/CF
Utilities	+3-8%	+5-10%
Energy Infrastructure	+3-5%	+4-6%
Communications - U.S.	+1-3%	+3-6%
Communications - Europe	+5-8%	+7-10%
Transportation	+3-8%	+8-10%

Source: MSIM. As of October 31, 2023. Forecasts and/or estimates are subject to change and may not actually come to pass.

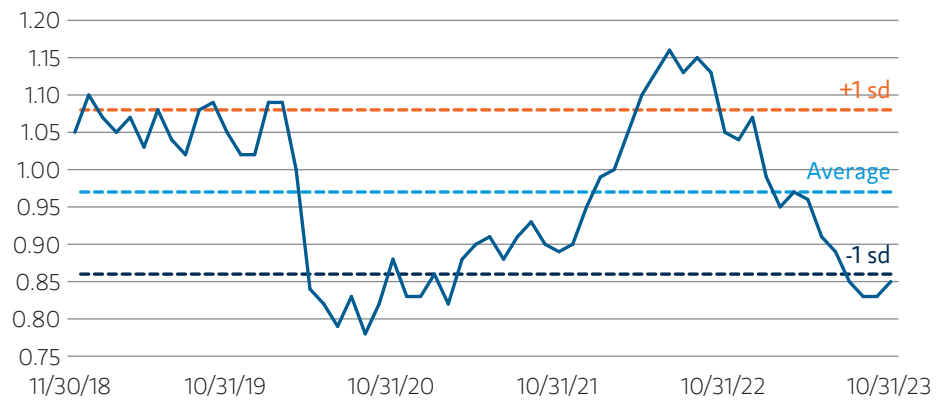
By contrast, European tower operators and global data center companies are currently enjoying robust fundamental trends. In other sectors we see solid, mid- to high-single digit revenue and cash flow/earnings growth, with some subsectors exhibiting even stronger fundamental trends. In the context of a decelerating global economy (in most regions), we certainly view these stable operating trends as quite favorable.

What About the Influence of Interest Rates and Inflation on Valuation and Operating Margins?

As a starting point, it should be noted that despite all the angst related to interest rates and global central bank policy, long-term interest rates, while higher, have not grown as fast as short-term interest rates (e.g., the U.S. 10-year Treasury was 3.87% on 12/31/2022 compared to 4.88% on 10/31/2023). Short-term interest rates are another matter entirely. That said, it is natural to assume that interest rate pressure may provide some short-term headwinds to equity valuations, in particular for those companies that (1) have greater debt leverage in their capital structure and (2) are thought of as an alternative to other non-equity “income” investments. Within the GLI universe, this predominantly relates to the Utilities and Communications sectors, where companies are prized for their steady, stable dividend streams. As seen in *Display 4* and *5*, both sectors are trading at attractive valuations relative to the broader equity markets.

DISPLAY 4 Utilities Sector Valuations Look Attractive

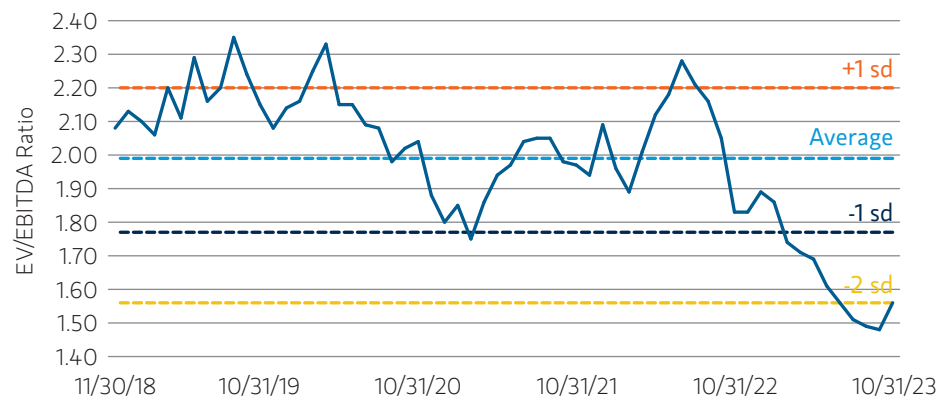
MSCI World Utilities P/E Relative to the MSCI World Index



Source: MSIM, Bloomberg. As of October 31, 2023. Index definitions can be found in the disclosure section. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

DISPLAY 5 Communications Sector Valuations Look Attractive as Well

Infrastructure Communications EV/EBITDA Relative to the MSCI World Index



Source: MSIM, Bloomberg. As of October 31, 2023. The EV/EBITDA ratio is reflective of the Enterprise Value of a company compared to its Earnings Before Interest, Taxes, Depreciation, and Amortization. See disclosure page for definitions.

Furthermore, it is important to keep in mind that higher interest costs are often offset through regulation and/or company contract structure over the short- to medium-term. These costs are typically “pass through,” with no impact on margins for Utilities, and can be offset by rent escalators/inflationary top-line growth for tower companies in Communications. More broadly as

it relates to inflation, infrastructure companies are better positioned to retain margins compared to most general market equities, given that not only interest costs, but also other operating cost items, can be considered “pass-through” within a regulatory construct.

In fairness, there are some headwinds to these defensive sectors in the

short-run (e.g., wireless carrier churn for towers and customer bill pressure in conjunction with rate cases for utilities). However, we do not believe this justifies the magnitude of relative underperformance, particularly in the context of where these assets trade in the private markets (i.e., in an absolute sense).

DISPLAY 6 Summary Inflation Protection for Certain Infrastructure Companies

SECTOR	TYPE OF INFLATION PROTECTION	METHOD OF ENFORCEMENT	COMMENTS
N American Utilities	“Loosely” direct	Regulatory Compact	Cost items are pass-through/ROEs adjustment as interest rates move
Global Utilities (ex N America)	Often direct	Regulatory Compact	Allowed a “real” return on capital with annual adjustments for inflation
Energy Infrastructure	Occasionally direct	Counterparty contracts	Contracts with annual escalators
Towers (Communications)	Direct	Contract terms with carriers	Standard escalators in the U.S. at 3% per annum ex U.S., escalators tied to local inflation
Satellites (Communications)	None	N/A	Pricing is contract based, with no regulatory backstop
Toll Roads (Transportation)	Direct	Concession contract	Tolls annually adjusted by inflation or a percentage of inflation
Airports (Transportation)	Direct for aeronautical	Regulation/concession contract	Legally allowed a “real” return plus inflation for the aeronautical business
Ports (Transportation)	None	N/A	Market-driven, with ability to receive inflation-related pricing a function of the barrier to entry/scarcity value of the facility
Freight Rail (Transportation)	Indirect and direct	For direct piece, regulation	Annual haulage charges are typically market-based N American freight rail is typically able to price above inflation, with ability to increase prices compliant with “revenue adequacy” regulatory cap. inflation adjusted basis over time)

Source: MSIM.

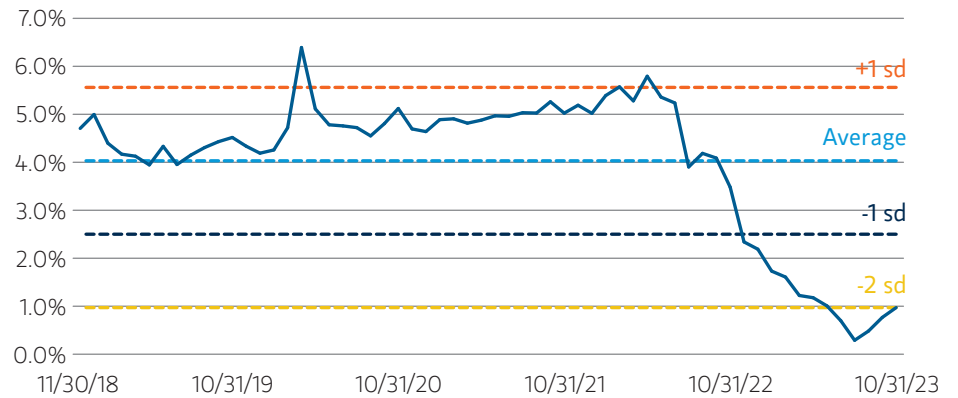
Perhaps the more pertinent question is one of generalist equity portfolios more broadly in the context of “risk-free” investments and other fixed income alternatives. While the MSIM Global Listed Infrastructure Team is not a generalist equity investor, simple comparisons of the equity market’s earnings yield vs. alternatives highlight that equities may be at more expensive levels, implying that while GLI has been penalized for its lack of income relative to fixed income and money-market alternatives, other parts of the equity markets have not (see *Displays 7-9*).

Where Does the Current Relative Underperformance Leave Us From a Valuation Perspective?

In our view, current share price levels for GLI paint a materially positive view, relative to both the global equity markets and precedent private-market infrastructure transactions, given the lackluster YTD performance. As can be seen in *Display 10* (see page 6), GLI now trades at levels below the post-pandemic trough vs. global equities, despite a materially different fundamental picture. As a reminder, during the COVID/pandemic period, the transportation and energy infrastructure sectors were negatively impacted directly by lockdowns and lower demand, in contrast to the current setup today. Also note that the period of relative underperformance for GLI was followed by a period of strong relative outperformance, as witnessed in 2022.

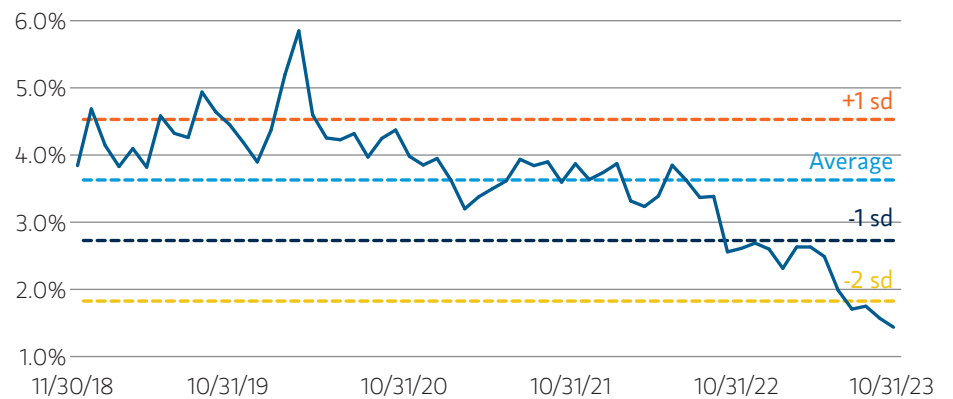
DISPLAY 7 Are Global Equities Expensive?

Global Equity Earnings Yield Spread vs U.S. Target Fed Funds Rate (Midpoint)



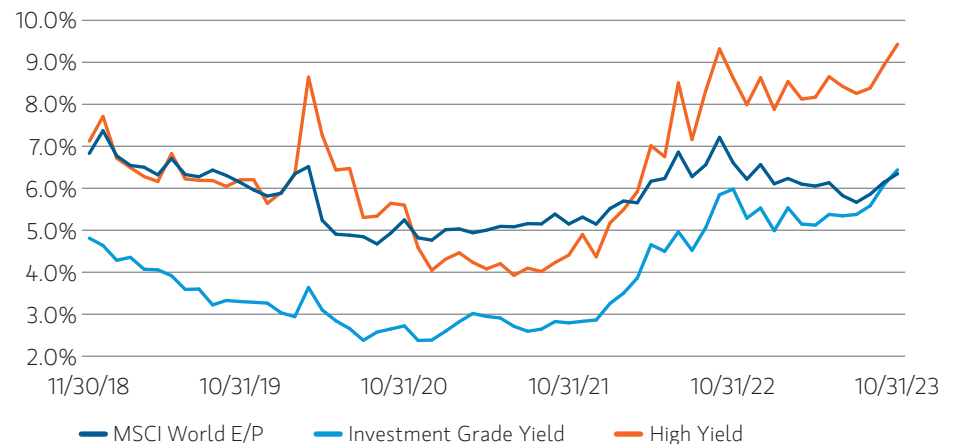
Source: MSIM, Bloomberg. As of October 31, 2023. Index definitions can be found in the disclosure section. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

DISPLAY 8 Global Equity Earnings Yield Spread vs U.S. 10-year Government Bond



Source: MSIM, Bloomberg. As of October 31, 2023. Index definitions can be found in the disclosure section. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

DISPLAY 9 High Yield and Investment Grade Yields vs. Global Equities Earnings Yield



Source: MSIM, Bloomberg. As of October 31, 2023. Index definitions can be found in the disclosure section. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

Switching to listed vs. private market valuations, the discussion is more challenging given the differences in single asset transaction underwriting within the private markets. However, using recent private market transactions across sectors, we would note a broadly favorable comparison in favor of GLI, with the communications sector comparison particularly notable (*Display 11*).

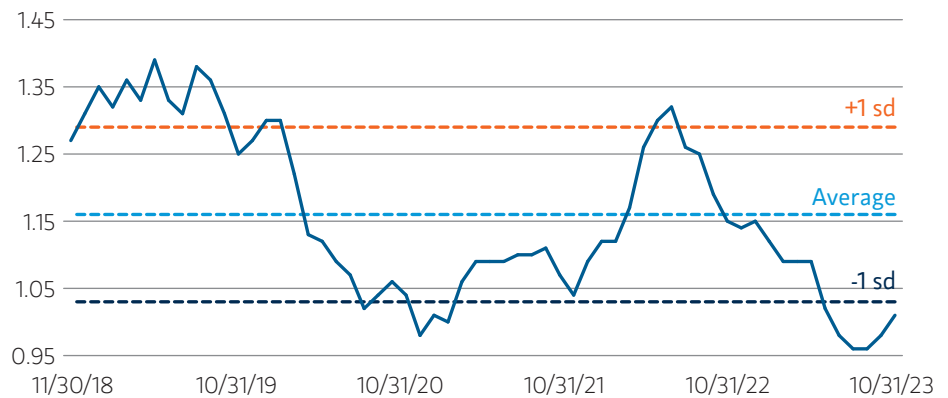
Finally, in terms of absolute valuation vs. trading history, the picture for GLI is favorable, where transportation and communications stand out (*Display 12*).

What Happens to GLI in a Recessionary Environment? In a Soft/No Landing Scenario? Do We See a Re-Acceleration of the Global Economy in 2024?

While listed infrastructure has not performed well year-to-date despite lingering doubts about the near-term trajectory of the global economy, the longer-term track record for infrastructure in equity drawdown periods and recessionary environments on a relative basis is strong. We assume this time should be no different and would note the underperformance in 2020 shown in *Display 13* (see page 7) can be explained by the pandemic, not a general economic downturn (the

DISPLAY 10 Is Global Listed Infrastructure Ready for a Rebound?

Infrastructure Equity P/E Relative to Global Equities



Source: MSIM, Bloomberg. As of October 31, 2023. Index definitions can be found in the disclosure section. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

specifics of COVID directly impacted certain infrastructure subsectors in contrast to most economic downturns). In most instances, GLI is a material outperformer to global equities in challenging economic and market periods.

Alternatively, should we succeed in avoiding a modest economic downturn (or one entirely) in 2023 and return to global growth in 2024, we believe global listed infrastructure could perform well for the following reasons:

1. Areas in transportation such as freight rail could enjoy a modest recovery, as the freight market more

broadly (including trucking) returns to a more positive pricing and volume environment.

2. Energy infrastructure share price performance could recover. Despite solid demand dynamics in 2023, share price performance has been lackluster on the back of concerns over a global slowdown, combined with a pullback in upstream commodity prices, namely crude oil and natural gas.
3. Longer-term secular growth areas for infrastructure, such as the energy transition and deployment of renewables, have not been rewarded

DISPLAY 11 Recent Select Private Tower Transactions

	EV/EBITDA
U.S. listed towers	15.5 - 18.5x
Select private tower transactions	
PLDT/EdgePoint Infrastructure (Philippines)	20.0x
Axicom/Australia Tower Network (Australia)	24.5x
Telenet/Digital Bridge (Belgium)	25.1x
Telia Towers/Brookfield Infrastructure (Sweden)	28.2x
Singtel/Australian Super	24.5x

Source: MSIM. As of October 31, 2023.

DISPLAY 12 Transportation and Communications Infrastructure Stand Out

	CURRENT P/E	5Y AVG	PREMIUM/(DISCOUNT) TO 5Y AVG
Transportation	24.8x	57.0x	-56.5%
Utilities	15.4x	17.5x	-12.5%
	CURRENT EV/EBITDA	5Y AVG	PREMIUM/(DISCOUNT) TO 5Y AVG
Energy	9.9x	11.1x	-10.4%
Communications	16.7x	22.7x	-26.2%

Source: MSIM, Bloomberg. As of October 31, 2023.

DISPLAY 13

Infrastructure Historically Holds Up Well in Equity Market Drawdowns and Recessional Environments

#	START	END	DAYS	MSCI WORLD RETURN	DJBGI RETURN	GLI REL OUTPERF (BPS)	EX-POST BETA	MSCI WORLD VOLATILITY	DJBGI VOLATILITY	GLI VOLATILITY LOWER?	CORRELATION
1	12/02/2020	23/03/2020	40	-34.0%	-37.3%	-330	1.09	58.3%	66.6%	No	0.95
2	26/01/2018	24/12/2018	332	-18.4%	-11.2%	718	0.60	12.6%	11.1%	Yes	0.68
3	21/05/2015	11/02/2016	266	-18.0%	-20.8%	-288	0.90	15.1%	16.2%	No	0.85
4	19/03/2012	04/06/2012	77	-12.5%	-3.7%	874	0.75	13.7%	10.9%	Yes	0.93
5	02/05/2011	04/10/2011	155	-22.0%	-9.4%	1261	0.77	24.1%	19.2%	Yes	0.96
6	15/04/2010	01/07/2010	77	-16.0%	-10.8%	521	0.94	23.9%	23.3%	Yes	0.97
7	31/10/2007	26/03/2009	512	-48.3%	-42.3%	608	0.84	31.0%	27.8%	Yes	0.94
8	19/07/2007	17/08/2007	29	-9.3%	-9.9%	-59	0.90	19.0%	20.3%	No	0.85
9	09/05/2006	13/06/2006	35	-11.3%	-4.7%	657	0.86	14.4%	13.6%	Yes	0.91

Source: MSIM, Bloomberg. Index definitions can be found in the disclosure section. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

in 2023. A more stable economic and financing environment should help to underscore the opportunities in these areas, with a potentially resultant re-rating of companies exposed to such themes.

- 4. As stated above, valuations for “defensive” areas of utilities and communications are attractive, providing the potential for mean reversion over the medium-term.

The Longer-Term Case for GLI

As a reminder, the longer-term case for GLI appears to be strong. Since the inception of the DJBGI Index, GLI has provided superior returns to global equities at lower volatility, as the Dow Jones Brookfield Global Infrastructure Index overperformed the MSCI World Net Index by 2% over the past 20

years. Furthermore, in an absolute sense, we view the 9.01% annualized return as solid in the context of an asset class with lower dispersion of earnings variability (*Display 14*).

Summary of the MSIM Global Listed Infrastructure Team Investment Proposition:

- **STRONG FUNDAMENTAL OUTLOOK:** In most cases we see solid, mid- to high-single digit revenue and cash flow/earnings growth, with some subsectors exhibiting even stronger fundamental trends. We view the relative underperformance of listed infrastructure securities in 2023 to be predominantly driven by non-fundamental factors.
- **INTEREST RATES AND INFLATION AS “PASS-THROUGH”:** Infrastructure

companies are better positioned to retain margins compared with most general market equities given that the cost of interest and other certain operating costs can be considered “pass-through” within a regulatory construct.

- **THE CURRENT RELATIVE UNDERPERFORMANCE IS NOT JUSTIFIED FROM A VALUATION PERSPECTIVE:** GLI now trades at levels below the post-pandemic trough compared to global equities, despite a materially different fundamental picture. As a reminder, during the pandemic the transportation and energy infrastructure sectors were directly negatively impacted by lockdowns and lower demand, in contrast to today.
- **SHORT TERM OUTLOOK COULD BE POSITIVE IN DIFFERENT SCENARIOS:**
 - **THE CASE FOR A RECESSION COULD BE FAVOURABLE FOR GLI:** The longer-term track record for infrastructure in recessionary environments on a relative basis is strong. In most instances, GLI has been a material outperformer to global equities in challenging economic and market periods.

DISPLAY 14

GLI Has Returned 9.0% on an Annualized Basis

BENCHMARK NAME	20Y ANNUALISED RETURN
Dow Jones Brookfield Global Infrastructure (USD)	9.01%
MSCI World Index Net Index (USD)	7.45%

Source: MSIM, Bloomberg. As of October 31, 2023. Index definitions can be found in the disclosure section. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

— **IN THE CASE OF A MODEST ECONOMIC DOWNTURN WE SEE IT AS:** Positive for freight rail recovery; energy infrastructure could see a pullback in upstream commodity prices (i.e., crude oil and natural gas); a potential rerating of energy

transition and renewables (not rewarded in 2023), also thanks to a more stable financing environment; “defensive” areas of utilities and communications could see a mean reversion over the medium-term.

■ **THE LONG TERM OUTLOOK REMAINS STRONG:** Low volatility of earnings, stable cash flows, higher relative income component to global equities, and attractive returns remains the key elements of the asset class.

Risk Considerations

The value of investments may increase or decrease in response to economic, and financial events (whether real, expected, or perceived) in the U.S. and global markets. The value of **equity securities** is sensitive to stock market volatility. **Diversification** does not eliminate the risk of loss. **Active management** attempts to outperform a passive benchmark through proactive security selection and assumes considerable risk should managers incorrectly anticipate changing conditions. Companies within the **infrastructure industry** are subject to a variety of factors that may adversely affect their business or operations, including high interest, leverage and regulatory costs, difficulty raising capital, the effect of an economic slowdown or recession and surplus capacity, and increased competition. Other risks include technological innovation, significant changes in the number of end-users, an increasing deregulatory environment, natural and environmental risks, and terrorist attacks.

DEFINITIONS

Enterprise Value measures the market value of a company. It is calculated as market cap plus debt, minority interest and preferred shares, minus total cash and cash equivalents.

Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) is essentially net income with interest, taxes, depreciation, and amortization added back to it, and can be used to analyze and compare profitability between companies and industries because it eliminates the effects of financing and accounting decisions.

EV/EBITDA compares the value of a company—debt included—to the company’s cash earnings less non-cash expenses.

Standard deviation shows how much variation or dispersion from the average exists. In finance, standard deviation is applied to the annual rate of return of an investment to measure the investment’s volatility. Standard deviation is also known as historical volatility and is used by investors as a gauge for the amount of expected volatility.

INDEX DEFINITIONS

Dow Jones Brookfield Global Infrastructure Index is a float-adjusted market capitalization weighted index that measures the stock performance of companies that exhibit strong infrastructure characteristics. The Index intends to measure all sectors of the infrastructure market.

MSCI World Index is a free float adjusted market capitalization weighted index that is designed to measure the global equity market performance of developed markets. The term “free float” represents the portion of shares outstanding that are deemed to be available for purchase in the public equity markets by investors. The performance of the Index is listed in U.S. dollars and assumes reinvestment of net dividends.

MSCI World Utilities Index is designed to capture the large and mid-cap segments across 23 Developed Markets (DM) countries around the world. All securities in the indices are classified in the Utilities sectors, respectively, as per the Global Industry Classification Standard (GICS®).

MSCI World Consumer Staples Index is designed to capture the large and mid-cap segments across 23 Developed Markets (DM) countries around the world. All securities in the indices are classified in the Consumer Staples sectors, respectively, as per the Global Industry Classification Standard (GICS®).

MSCI World Health Care Index is designed to capture the large and mid-cap segments across 23 Developed Markets (DM) countries around the world. All securities in the indices are classified in the Health Care sectors, respectively, as per the Global Industry Classification Standard (GICS®).

IMPORTANT DISCLOSURES:

Past performance is no guarantee of future results. The returns referred to herein are those of representative indices and are not meant to depict the performance of a specific investment.

There is no guarantee that any investment strategy will work under all market conditions, and each investor should evaluate their ability to invest for the long-term, especially during periods of downturn in the market.

A separately managed account may not be appropriate for all investors. Separate accounts managed according to the particular Strategy may include securities that may not necessarily track the performance of a particular index. Please consider the investment objectives, risks and fees of the Strategy carefully before investing. A minimum asset level is required.

For important information about the investment managers, please refer to Form ADV Part 2.

The views and opinions and/or analysis expressed are those of the author or the investment team as of the date of preparation of this material and are subject to change at any time without notice due to market or economic conditions and may not necessarily come to pass. Furthermore, the views will not be updated or otherwise revised to reflect information that subsequently becomes available or circumstances existing, or changes occurring, after the date of publication. The views expressed do not reflect the opinions of all investment personnel at Morgan Stanley Investment Management (MSIM) and its subsidiaries and affiliates (collectively “the Firm”), and may not be reflected in all the strategies and products that the Firm offers.

Forecasts and/or estimates provided herein are subject to change and may not actually come to pass. Information regarding expected market returns and market outlooks is based on the research, analysis and opinions of the authors or the investment team. These conclusions are speculative in nature, may not come to pass and are not intended to predict the future performance of any specific strategy or product the Firm offers. Future results may differ significantly depending on factors such as changes in securities or financial markets or general economic conditions.

This material has been prepared on the basis of publicly available information, internally developed data and other third-party sources believed to be reliable. However, no assurances are provided regarding the reliability of such information and the Firm has not sought to independently verify information taken from public and third-party sources.

This material is a general communication, which is not impartial and all information provided has been prepared solely for informational and educational purposes and does not constitute an offer or a recommendation to buy or sell any particular security or to adopt any specific investment strategy. The information herein has not been based on a consideration of any individual investor circumstances and is not investment advice, nor should it be construed in any way as tax, accounting, legal or regulatory advice. To that end, investors should seek independent legal and financial advice, including advice as to tax consequences, before making any investment decision.

The indexes are unmanaged and do not include any expenses, fees or sales charges. It is not possible to invest directly in an index. Any index referred to herein is the intellectual property (including registered trademarks) of the

applicable licensor. Any product based on an index is in no way sponsored, endorsed, sold or promoted by the applicable licensor and it shall not have any liability with respect thereto.

This material is not a product of Morgan Stanley's Research Department and should not be regarded as a research material or a recommendation.

The Firm has not authorised financial intermediaries to use and to distribute this material, unless such use and distribution is made in accordance with applicable law and regulation. Additionally, financial intermediaries are required to satisfy themselves that the information in this material is appropriate for any person to whom they provide this material in view of that person's circumstances and purpose. The Firm shall not be liable for, and accepts no liability for, the use or misuse of this material by any such financial intermediary.

This material may be translated into other languages. Where such a translation is made this English version remains definitive. If there are any discrepancies between the English version and any version of this material in another language, the English version shall prevail.

The whole or any part of this material may not be directly or indirectly reproduced, copied, modified, used to create a derivative work, performed, displayed, published, posted, licensed, framed, distributed or transmitted or any of its contents disclosed to third parties without the Firm's express written consent. This material may not be linked to unless such hyperlink is for personal and non-commercial use. All information contained herein is proprietary and is protected under copyright and other applicable law.

Eaton Vance is part of Morgan Stanley Investment Management. Morgan Stanley Investment Management is the asset management division of Morgan Stanley.

DISTRIBUTION

This material is only intended for and will only be distributed to persons resident in jurisdictions where such distribution or availability would not be contrary to local laws or regulations.

MSIM, the asset management division of Morgan Stanley (NYSE: MS), and its affiliates have arrangements in place to market each other's products and services. Each MSIM affiliate is regulated as appropriate in the jurisdiction it operates. MSIM's affiliates are: Eaton Vance Management (International) Limited, Eaton Vance Advisers International Ltd, Calvert Research and Management, Eaton Vance Management, Parametric Portfolio Associates LLC and Atlanta Capital Management LLC.

This material has been issued by any one or more of the following entities: EMEA:

This material is for Professional Clients/Accredited Investors only.

In the EU, MSIM and Eaton Vance materials are issued by MSIM Fund Management (Ireland) Limited ("FMIL"). FMIL is regulated by the Central Bank of Ireland and is incorporated in Ireland as a private company limited by shares with company registration number 616661 and has its registered address at 24-26 City Quay, Dublin 2, DO2 NY19, Ireland.

Outside the EU, MSIM materials are issued by Morgan Stanley Investment Management Limited (MSIM Ltd) is authorised and regulated by the Financial Conduct Authority. Registered in England. Registered No. 1981121. Registered Office: 25 Cabot Square, Canary Wharf, London E14 4QA.

In Switzerland, MSIM materials are issued by Morgan Stanley & Co. International plc, London (Zurich Branch) Authorised and regulated by the Eidgenössische Finanzmarktaufsicht ("FINMA"). Registered Office: Beethovenstrasse 33, 8002 Zurich, Switzerland.

Outside the US and EU, Eaton Vance materials are issued by Eaton Vance Management (International) Limited ("EVM") 125 Old Broad Street, London, EC2N 1AR, UK, which is authorised and regulated in the United Kingdom by the Financial Conduct Authority.

Italy: MSIM FMIL (Milan Branch), (Sede Secondaria di Milano) Palazzo Serbelloni Corso Venezia, 16 20121 Milano, Italy. **The Netherlands:** MSIM FMIL (Amsterdam Branch), Rembrandt Tower, 11th Floor Amstelplein 1 1096HA, Netherlands. **France:** MSIM FMIL (Paris Branch), 61 rue de Monceau 75008 Paris, France. **Spain:** MSIM FMIL (Madrid Branch), Calle Serrano 55, 28006, Madrid, Spain. **Germany:** MSIM FMIL, Frankfurt Branch, Grosse Gallusstrasse 18, 60312 Frankfurt am Main, Germany (Gattung: Zweigniederlassung (FDI) gem. § 53b KWG). **Denmark:** MSIM FMIL (Copenhagen Branch), Gørrissen Federspiel, Axel Towers, Axeltorv2, 1609 Copenhagen V, Denmark.

MIDDLE EAST:

Dubai: MSIM Ltd (Representative Office, Unit Precinct 3-7th Floor-Unit 701 and 702, Level 7, Gate Precinct Building 3, Dubai International Financial Centre, Dubai, 506501, United Arab Emirates. Telephone: +97 (0)14 709 7158).

This document is distributed in the Dubai International Financial Centre by Morgan Stanley Investment Management Limited (Representative Office), an entity regulated by the Dubai Financial Services Authority (DFSA). It is intended for use by professional clients and market counterparties only. This

document is not intended for distribution to retail clients, and retail clients should not act upon the information contained in this document.

This document relates to a financial product which is not subject to any form of regulation or approval by the DFSA. The DFSA has no responsibility for reviewing or verifying any documents in connection with this financial product. Accordingly, the DFSA has not approved this document or any other associated documents nor taken any steps to verify the information set out in this document, and has no responsibility for it. The financial product to which this document relates may be illiquid and/or subject to restrictions on its resale or transfer. Prospective purchasers should conduct their own due diligence on the financial product. If you do not understand the contents of this document, you should consult an authorised financial adviser.

U.S.: NOT FDIC INSURED | OFFER NO BANK GUARANTEE | MAY LOSE VALUE | NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY | NOT A DEPOSIT

Latin America (Brazil, Chile Colombia, Mexico, Peru, and Uruguay)

This material is for use with an institutional investor or a qualified investor only. All information contained herein is confidential and is for the exclusive use and review of the intended addressee, and may not be passed on to any third party. This material is provided for informational purposes only and does not constitute a public offering, solicitation or recommendation to buy or sell for any product, service, security and/or strategy. A decision to invest should only be made after reading the strategy documentation and conducting in-depth and independent due diligence.

ASIA PACIFIC

Hong Kong: This material is disseminated by Morgan Stanley Asia Limited for use in Hong Kong and shall only be made available to "professional investors" as defined under the Securities and Futures Ordinance of Hong Kong (Cap 571). The contents of this material have not been reviewed nor approved by any regulatory authority including the Securities and Futures Commission in Hong Kong. Accordingly, save where an exemption is available under the relevant law, this material shall not be issued, circulated, distributed, directed at, or made available to, the public in Hong Kong. **Singapore:** This material is disseminated by Morgan Stanley Investment Management Company and should not be considered to be the subject of an invitation for subscription or purchase, whether directly or indirectly, to the public or any member of the public in Singapore other than (i) to an institutional investor under section 304 of the Securities and Futures Act, Chapter 289 of Singapore ("SFA"); (ii) to a "relevant person" (which includes an accredited investor) pursuant to section 305 of the SFA, and such distribution is in accordance with the conditions specified in section 305 of the SFA; or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA. This publication has not been reviewed by the Monetary Authority of Singapore. **Australia:** This material is provided by Morgan Stanley Investment Management (Australia) Pty Ltd ABN 22122040037, AFSL No. 314182 and its affiliates and does not constitute an offer of interests. Morgan Stanley Investment Management (Australia) Pty Limited arranges for MSIM affiliates to provide financial services to Australian wholesale clients. Interests will only be offered in circumstances under which no disclosure is required under the Corporations Act 2001 (Cth) (the "Corporations Act"). Any offer of interests will not purport to be an offer of interests in circumstances under which disclosure is required under the Corporations Act and will only be made to persons who qualify as a "wholesale client" (as defined in the Corporations Act). This material will not be lodged with the Australian Securities and Investments Commission.

Japan: For professional investors, this material is circulated or distributed for informational purposes only. For those who are not professional investors, this material is provided in relation to Morgan Stanley Investment Management (Japan) Co., Ltd. ("MSIMJ")'s business with respect to discretionary investment management agreements ("IMA") and investment advisory agreements ("IAA"). This is not for the purpose of a recommendation or solicitation of transactions or offers any particular financial instruments. Under an IMA, with respect to management of assets of a client, the client prescribes basic management policies in advance and commissions MSIMJ to make all investment decisions based on an analysis of the value, etc. of the securities, and MSIMJ accepts such commission. The client shall delegate to MSIMJ the authorities necessary for making investment. MSIMJ exercises the delegated authorities based on investment decisions of MSIMJ, and the client shall not make individual instructions. All investment profits and losses belong to the clients; principal is not guaranteed. Please consider the investment objectives and nature of risks before investing. As an investment advisory fee for an IAA or an IMA, the amount of assets subject to the contract multiplied by a certain rate (the upper limit is 2.20% per annum (including tax)) shall be incurred in proportion to the contract period. For some strategies, a contingency fee may be incurred in addition to the fee mentioned above. Indirect charges also may be incurred, such as brokerage commissions for incorporated securities. Since these charges and expenses are different depending on a contract and

other factors, MSIMJ cannot present the rates, upper limits, etc. in advance. All clients should read the Documents Provided Prior to the Conclusion of a Contract carefully before executing an agreement. This material is disseminated in Japan by MSIMJ, Registered No. 410 (Director of Kanto Local Finance Bureau (Financial Instruments Firms)), Membership: the Japan Securities Dealers Association, The Investment Trusts Association, Japan, the Japan Investment Advisers Association and the Type II Financial Instruments Firms Association.