

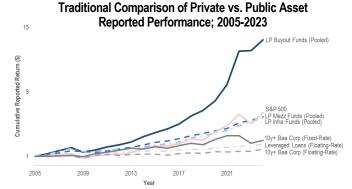
UNCOVERING THE UNOBSERVABLE HAVE PRIVATE ASSETS OUTPERFORMED PUBLIC ASSETS?



CIOs struggle trying to compare the investment performance of liquid public assets vs. illiquid private assets, often a crucial first step in asset allocation decisions. For private assets, while it is known that reported returns are smoothed, many CIOs are unaware that reported performance also fails to incorporate many of the real-world constraints to achieve and maintain a private asset portfolio allocation. Ignoring these constraints makes private asset reported returns even less meaningful when comparing them with public assets.

Reported cumulative returns suggest that private assets - especially buyout funds - have outperformed public assets by a wide margin from 2005 to 2023. However, this traditional comparison is misleading. To accurately measure the performance that a CIO experiences, the CIO must dig a bit deeper to **uncover the unobserved** *real-world* performance of private assets.

CIOs can rely on our Fair Comparison (FC) framework* to uncover the real-world performance of private investment strategies, and then compare private and public investment strategies on a consistent, risk-adjusted basis, enabling betterinformed asset allocation decisions.



Note: Private investment strategy annual returns are 1y IRRs computed by pooling cash flows and NAVs across all funds from all vintages for US buyout funds (minimum \$250m capitalization), US mezzanine funds, and global infrastructure funds, respectively. Cumulative returns are calculated by compounding annual returns over the 2005-2023 horizon, assuming a \$1 initial investment. Source: Bloomberg, Burgiss, S&P and PGIM IAS. Provided for illustrative purposes only

Reported performance for a private asset class assumes an investor's allocation is always fully invested in a highly-diverse pool of private assets (e.g., funds). However, there are many real-world constraints that prevent a CIO from experiencing this reported performance.

In practice, to achieve a portfolio allocation to private assets a CIO must follow an investment strategy. Such a strategy involves investing in only a subset of funds currently available (not the universe of funds); following a particular commitment pacing strategy; and temporarily holding uncalled and uncommitted capital in another asset class (say, a public market index or cash). Fund-selection uncertainty, commitment pacing, and the investment returns on

uncalled and uncommitted capital are crucial contributors to the realworld performance experienced by a CIO which can deviate substantially from reported performance.

Specifically, from 2005 to 2023, the real-world mean and volatility of a buyout investment strategy was 13.4%/y and 17.4%/y, not the reported 15.5%/y and 13.1%/y, respectively. These real-world numbers are closer to public equity performance - intuitively not surprising given their similar underlying economics.

In general, for private assets, reported risk-adjusted returns (*i.e.*, mean/vol ratios) turn out to be overly optimistic and may mislead CIOs into over allocation.

Reported vs. Real-World Performance of Private & Public Investment Strategies; 2005-2023

Investment Strategy	Asset	Reported Performance			Real-World Performance		
		Mean (%/y)	Vol (%/y)	Mean / Vol.	Mean (%/y)	Vol (%/y)	Mean / Vol.
LP Buyout Funds	Private	15.5	13.1	1.19	13.4	17.4	0.77
LP Mezz Funds	Private	9.4	6.5	1.45	8.0	10.7	0.75
LP Infra Funds	Private	9.4	9.6	0.98	9.4	15.7	0.60
S&P 500	Public	11.2	17.5	0.64	11.2	17.5	0.64
Leveraged Loans (Floating-Rate)	Public	5.5	14.2	0.39	5.5	14.2	0.39
10y+ Baa Corp (Floating-Rate)	Public	3.9	14.0	0.28	3.9	14.0	0.28
10y+ Baa Corp (Fixed-Rate)	Public	6.3	13.6	0.46	6.3	13.6	0.46

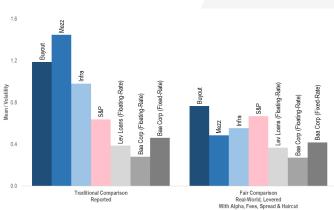
Note: Returns are annualized. Source: Bloomberg, Burgiss, S&P and PGIM IAS. Provided for illustrative purposes only

To take our analysis a step further, the FC framework can compare investment strategies on an equal volatility basis, accounting for financing costs and public asset manager alpha and fees (which are already reflected in private investment strategy returns).

On a fully fair comparison basis, while a buyout investment strategy still outperformed public investment strategies, the margin was much smaller, a fact hidden from CIOs when relying solely on private asset reported returns.

Fair Comparison of Private vs. Public

Investment Strategy Performance; 2005-2023



Note: Returns are annualized. Source: Bloomberg, Burgiss, S&P and PGIM IAS. Provided for illustrative purposes only

For Professional Investors Only.

Past performance is no guarantee or reliable indicator of future results. All investments involve risk, including the possible loss of capital. These materials are for informational or educational purposes only. In providing these materials, PGIM is not acting as your fiduciary.

Alternative investments are speculative, typically highly illiquid and include a high degree of risk. Investors could lose all or a substantial amount of their investment. Alternative investments are suitable only for long-term investors willing to forego liquidity and put capital at risk for an indefinite period of time. Equities may decline in value due to both real and perceived general market, economic and industry conditions. Investing in the bond market is subject to risks, including market, interest rate, issuer, credit, inflation risk and liquidity risk. Commodities contain heightened risk, including market, political, regulatory and natural conditions and may not be suitable for all investors. The use of models to evaluate securities or securities markets based on certain assumptions concerning the interplay of market factors, may not adequately take into account certain factors and may result in a decline in the value of an investment, which could be substantial.

All charts contained herein were created as of the date of this presentation, unless otherwise noted. Performance results for certain charts and graphs may be limited by date ranges, as stated on the charts and graphs. Different time periods may produce different results. Charts and figures are provided for illustrative purposes and are not an indication of past or future performance of any PGIM product.

These materials represent the views, opinions and recommendations of the author(s) regarding the economic conditions, asset dasses, securities, issuers or financial instruments referenced herein, and are subject to change without notice. Certain information contained herein has been obtained from sources that PGIM believes to be reliable; however, PGIM cannot guarantee the accuracy of such information, assure its completeness, or warrant such information will not be changed. The information contained herein is current as of the date of issuance (or such earlier date as referenced herein) and is subject to change without notice. PGIM has no obligation to update any or all of such information; nor do we make any express or implied warranties or representations as to the completeness or accuracy or accept responsibility for errors. Any forecasts, estimates and certain information contained herein are based upon proprietary research and should not be considered as investment advice or a recommendation of any particular security, strategy or investment product. These materials are not intended as an offer or solicitation with respect to the purchase or sale of any security or other financial instrument or any investment management services and should not be used as the basis for any investment decision. No liability whatsoever is accepted for any loss (whether direct, indirect, or consequential) that may arise from any use of the information contained in or derived from this report. PGIM and its affiliates may make investment decisions that are inconsistent with the recommendations or views expressed herein, including for proprietary accounts of PGIM or its affiliates. The opinions and recommendations herein do not take into account individual client circumstances, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies to particular clients or prospects. No determination has been made regarding the suitability of any securities, financial instrument

The information contained herein is provided by PGIM, Inc., the principal asset management business of Prudential Financial, Inc. (PFI), and an investment adviser registered with the US Securities and Exchange Commission. In the United Kingdom and various European Economic Area jurisdictions, information is issued by PGIM Limited with registered office: Grand Buildings, 1-3 Strand, Trafalgar Square, London, WC2N 5HR. PGIM Limited is authorised and regulated by the Financial Conduct Authority of the United Kingdom (registration number 193418) and duly passported in various jurisdictions in the EEA. Prudential Financial, Inc. of the United States is not affiliated with Prudential plc, incorporated in the United Kingdom or with Prudential Assurance Company, a subsidiary of M&G plc, incorporated in the United Kingdom. These materials are issued by PGIM Limited to persons who are professional clients or eligible counterparties as defined in Directive 2014/65/EU (MiFID II), investing for their own account, for fund of funds, or discretionary clients. In certain countries in Asia, information is presented by PGIM (Singapore) Pte. Ltd., a Singapore investment manager registered with and licensed by the Monetary Authority of Singapore. In Japan, information is presented by PGIM Japan Co. Ltd., registered investment adviser with the Japanese Financial Services Agency. In South Korea, information is presented by PGIM, Inc., which is licensed to provide discretionary investment management services directly to South Korean investors. In Hong Kong, information is provided by PGIM (Hong Kong) Limited, a regulated entity with the Securities & Futures Commission in Hong Kong to professional investors as defined in Section 1 of Part 1 of Schedule 1 (paragraph (a) to (i) of the Securities and Futures Ordinance (Cap. 571). In Australia, this information is presented by PGIM (Australia) Pty Ltd. ("PGIM Australia") for the general information of its "wholesale" customers (as defined in the Corporations Act 2001). PGIM Australia is a representative of PGIM Limited, which is exempt from the requirement to hold an Australian Financial Services License under the Australian Corporations Act 2001 in respect of financial services. PGIM Limited is exempt by virtue of its regulation by the Financial Conduct Authority (Reg: 193418) under the laws of the United Kingdom and the application of ASIC Class Order 03/1099. The laws of the United Kingdom differ from Australian laws. Pursuant to the international adviser registration exemption in National Instrument 31-103, PGIM, Inc. is informing you of that: (1) PGIM, Inc. is not registered in Canada and relies upon an exemption from the adviser registration requirement under National Instrument 31-103; (2) PGIM, Inc.'s jurisdiction of residence is New Jersey, U.S.A.; (3) there may be difficulty enforcing legal rights against PGIM, Inc. because it is resident outside of Canada and all or substantially all of its assets may be situated outside of Canada; and (4) the name and address of the agent for service of process of PGIM, Inc. in the applicable Provinces of Canada are as follows: in Québec: Borden Ladner Gervais LLP, 1000 de La Gauchetière Street West, Suite 900 Montréal, QC H3B 5H4; in British Columbia: Borden Ladner Gervais LLP, 1200 Waterfront Centre, 200 Burrard Street, Vancouver, BC V7X 1T2; in Ontario: Borden Ladner Gervais LLP, 22 Adelaide Street West, Suite 3400, Toronto, ON M5H 4E3; in Nova Scotia: Cox & Palmer, Q.C., 1100 Purdy's Wharf Tower One, 1959 Upper Water Street, P.O. Box 2380 - Stn Central RPO, Halifax, NS B3J 3E5; in Alberta: Borden Ladner Gervais LLP, 530 Third Avenue S.W., Calgary, AB T2P R3