INVESTING IN PRIVATE GROWTH COMPANIES

HISTORICAL RETURN ANALYSIS AND ASSET ALLOCATION STRATEGIES

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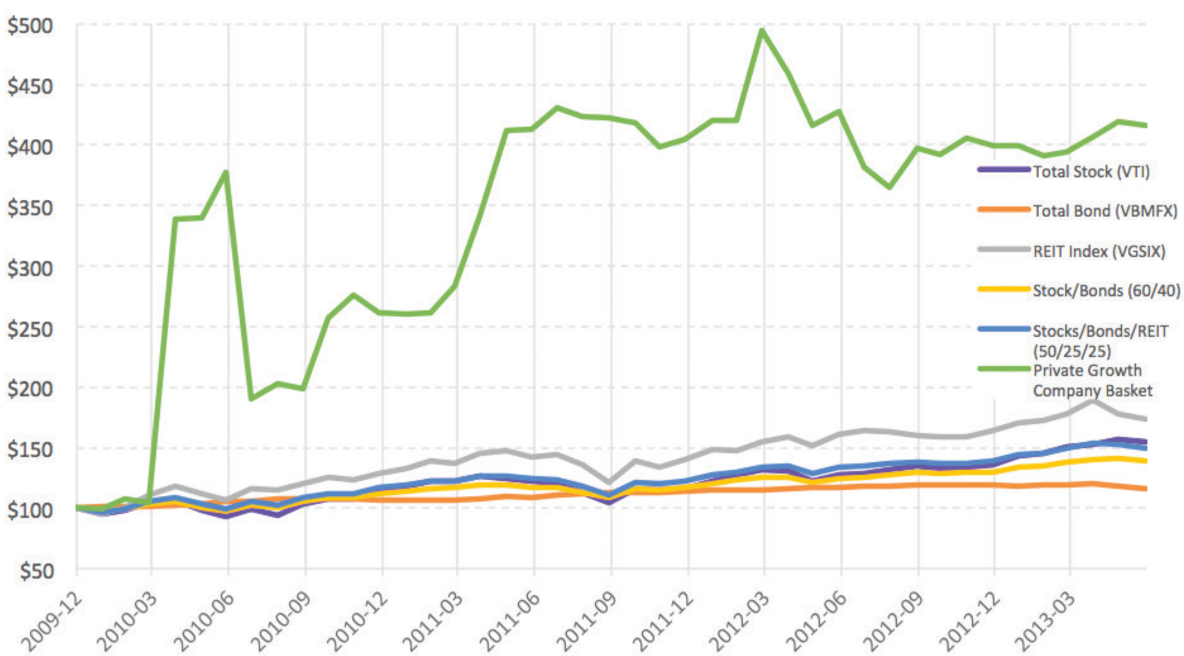
ABSTRACT

Until recently, the opportunity to invest in Venture Capital backed private growth companies (PGC) was only accessible to institutional investors and high net worth individuals with connections to the Venture Capital industry. However, ongoing changes in legislation, the emergence of alternative trading platforms, and new fund structures have brought this alternative asset to within the reach of all investors.

Investors in alternative assets typically seek two key characteristics: the potential for outsized returns and a low correlation to traditional asset classes such as public equity and fixed income. An analysis of private growth company returns over the last 3 1/2 years reveals that this alternative asset class successfully meets both of these criteria.

Further analysis reveals that private growth company shares can provide significant return enhancement and diversification effects to commonly held benchmark portfolios, such as a 60% equity/40% bond portfolio or a 50% equity/25% bond/25% REIT portfolio.

GROWTH IN $100 INVESTED: JANUARY 1, 2010 TO JUNE 30, 2013



Past performance is not necessarily indicative of future results.

Source: Vanguard Group, Inc. and SharesPost Financial Corporation

INTRODUCTION

Although Venture Capital funds have been around since the late 1950's, venture investing has generally been out of reach of the average investor. Venture Capital (VC) firms typically raise funds in private placements from institutional investors like pension and endowment funds as well as family offices. Furthermore, VC returns are highly concentrated in the top decile of VC firms, and access to these select funds is extremely limited.

During the last decade, a few important trends changed the landscape for VC investments. First, the time to exit for VC-backed companies extended, leading to an increase in value and wealth generation before an exit, and increased pressure from employees and early investors to provide liquidity. This fueled the emergence of alternative trading platforms that made secondary transactions in private companies more efficient and scalable. As a result, these developments have opened up new opportunities for investments in late stage VC-backed private companies with significant revenue and growth. With the accessibility of private growth company (PGC) shares through alternative trading platforms, direct investments are now available to accredited investors. In addition, new PGC investment vehicles have emerged that enable all investors to access the potential upside of this alternative asset class.

This research brief will examine PGCs as an alternative asset investment theme, reviewing its risk and return characteristics, and its potential contribution to benchmark core holdings of the average investor. Specifically, based on historic performance, the returns of a hypothetical basket of PGC shares will be reviewed over the last three and a half years.[1]

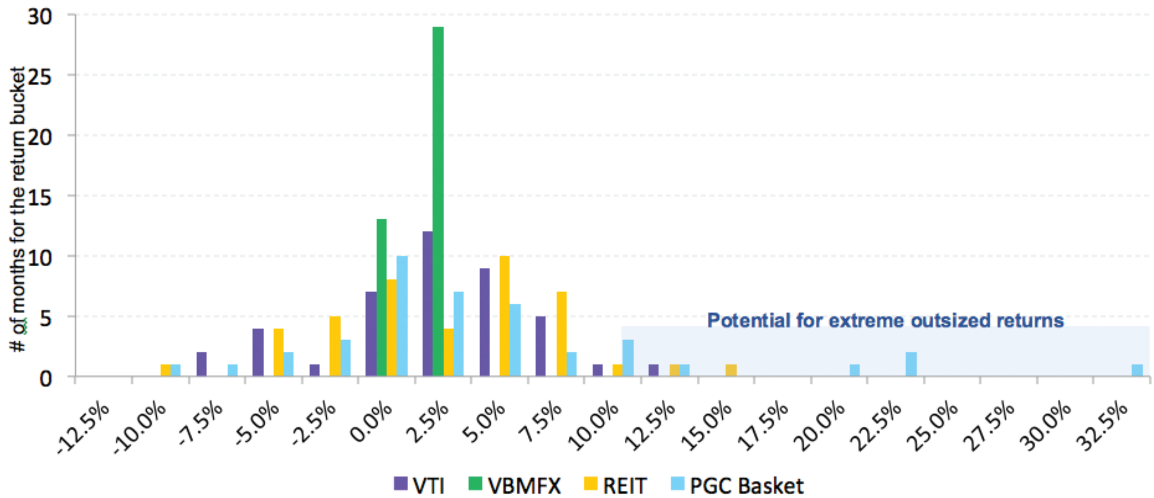
RISK AND RETURN CHARACTERISTICS

A few of the most commonly held passive mutual funds include Vanguard's Total Stock Market Fund (VTI), Vanguard's Total Bond Index Fund (VBMFX) and Vanguard's REIT Index Fund (VGSIX). These index funds have low management fees and are used by many investors, both institutional and individuals, to construct their core investment holdings.

Comparing the distribution of monthly returns of a basket of PGCs as traded on the SharesPost trading system against those of the before mentioned Vanguard funds, we find that a basket of PGCs exhibits a wider dispersion of returns, as expected (Exhibit 1). Note the extreme skew of the PGC returns towards outsized returns. The ability of PGCs to deliver these outsized returns should not come as a surprise since those companies are developing new products, businesses and markets with their attendant high revenue growth.

[1] A description of the construction of the private growth company basket is outlined in Appendix A. The analytical period for all investments covered in this research brief is over the 3 1/2 year period from January 1, 2010 to June 30, 2013.

EXHIBIT 1: MONTHLY RETURNS: PRIVATE GROWTH COMPANY BASKET VERSUS KEY INDICES



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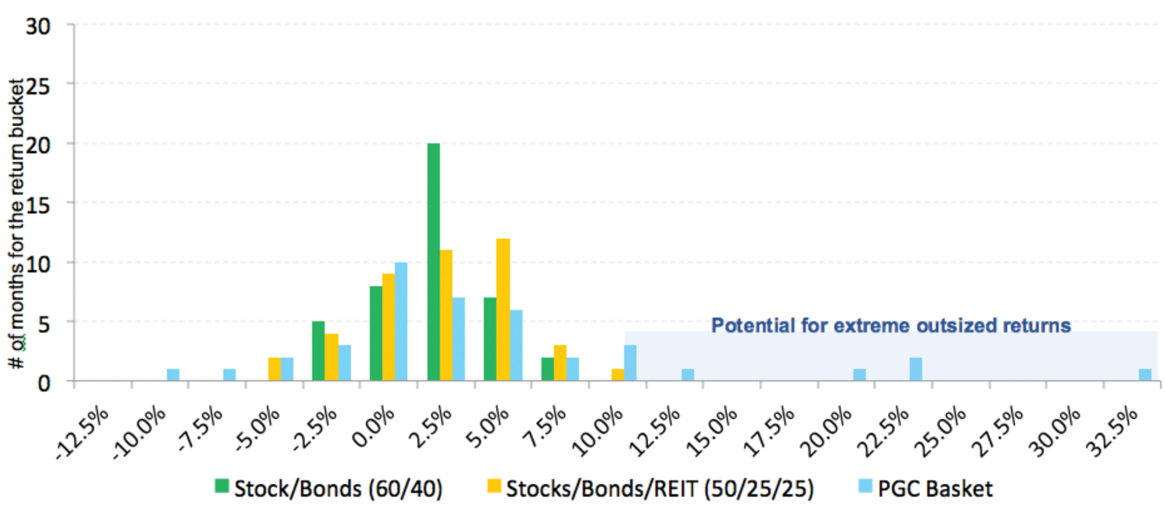
Source: Vanguard Group, Inc., SharesPost Financial Corporation and Pacifica Advisors, LLC.

Some of the more popular investor benchmark holdings include the 60/40 (consisting of 60% equities and 40% bonds) and the 50/25/25 portfolios (consisting of 50% equities, 25% bonds and 25% REIT's). Constructed using the Vanguard index funds, these two portfolios are useful model benchmarks representative of the core holdings of an average investor. Although the PGC basket exhibits a wider return dispersion than the two benchmark portfolios, it benefits from the potential of outsized returns (Exhibit 2).

EXHIBIT 2: MONTHLY RETURNS: PRIVATE GROWTH COMPANY BASKET VERSUS BENCHMARK PORTFOLIOS



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Source: Vanguard Group, Inc., SharesPost Financial Corporation and Pacifica Advisors, LLC.

RISK-ADJUSTED RETURN ANALYSIS

Exhibit 3 summarizes the risk, return, and risk-adjusted return (Sharpe ratio) for the individual funds, the benchmark portfolios and the PGC basket.[2] Over the course of the last 3 1/2 years the PGC basket delivered a 50% return although at the price of an extreme standard deviation of 125%. The resulting low Sharpe ratio for the PGC basket is misleading in two significant ways. First, Sharpe ratios are calculated from the standard deviation of returns, which comprise of both up and down deviation from the mean return. Given the extreme upside return potential of PGCs, this upside potential is discounted as unwanted risk by the Sharpe ratio. Second, the diversification benefits to a core benchmark portfolio of owning PGCs are totally ignored. Before investigating the diversification effects of PGC holdings on a benchmark portfolio, let us first resolve the issue of the asset class's risk-adjusted return.

EXHIBIT 3: GROSS RETURN AND RISK ANALYSIS (1/1/2010 TO 6/30/2013, ANNUALIZED)

	VTI	VBMFX	REIT	Stock & Bonds (60/40)	Stocks, Bonds & REITs (50/25/25)	PGC Basket
Return	13.22%	4.24%	16.97%	9.88%	12.15%	50.33%
Std Dev.	15.25%	2.95%	17.76%	8.70%	11.30%	125.02%
Sharpe Ratio[2]	0.747	0.817	0.852	0.925	0.913	0.388

Source: Vanguard Group, Inc., SharesPost Financial Corporation and Pacifica Strategic Advisors LLC

From the distributional analysis of Exhibits 1 and 2, the return variance of PGCs is substantially skewed to the upside of the mean return of 3.46%. An analysis of its semi-variance (standard deviation due to down moves) in Exhibit 4 reveals that less than one third of its return standard deviation is due to downside risks while two thirds of its standard deviation is due to up moves. This skew towards higher return potential compares favorably to both the 60/40 and 50/25/25 benchmark portfolios, which have more symmetrical return variances.

EXHIBIT 4: RISK ANALYSIS: BREAKDOWN OF STANDARD DEVIATIONS OF DIFFERENT INVESTMENTS

	VTI	VBMFX	REIT	Stock & Bonds (60/40)	Stocks, Bonds & REITs (50/25/25)	PGC Basket
Std Dev.	15.25%	2.95%	17.76%	8.70%	11.30%	125.02%
Semi Variance	8.95%	2.07%	9.09%	4.67%	6.34%	38.29%

Source: Vanguard Group, Inc., SharesPost Financial Corporation and Pacifica Strategic Advisors LLC

[2] Sharpe ratios were calculated using a yield of 1.83% interpolated from U.S. Treasury rates on January 1, 2010 for a bond maturing in 3 1/2 years.

In Exhibit 5, we see that the Sharpe ratio is greatly improved for PGC returns when we replace standard deviation with a purer risk estimate in the form of semi variance. With an adjusted Sharpe of 1.267, a basket of PGC shares provided 1.267% return per 1% of downside risk and is in line with VTI but superior to VBMFX.

As expected, PGC shares are a high return, high volatility asset class. But upon closer examination, we see that a significant percentage of the volatility is due to outsized up moves, which is the key motivation for investing in PGC shares.

EXHIBIT 5: ADJUSTED SHARPE RATIO INCORPORATING ONLY DOWNSIDE RISK

	VTI	VBMFX	REIT	Stock & Bonds (60/40)	Stocks, Bonds & REITs (50/25/25)	PGC Basket
Sharpe-SemiVar	1.272	1.165	1.664	1.725	1.627	1.267

Source: Pacifica Strategic Advisors LLC

SIGNIFICANT DIVERSIFICATION EFFECTS

In general, alternative assets, such as private equity and hedge funds, are never held as standalone investments, but rather, complements to core investments. PGC shares are no different. As seen in Exhibit 6, PGC returns essentially have no correlation with the 60/40 and the 50/25/25 benchmark portfolios. The low correlations suggest that PGC returns provide substantial risk-reducing, diversification effects to the benchmark portfolios of the average investor.

EXHIBIT 6: PGC BASKET MOVES INDEPENDENTLY OF KEY INDEX FUNDS AND BENCHMARK PORTFOLIOS

	VTI	VBMFX	REIT	Stock & Bonds (60/40)	Stocks, Bonds & REITs (50/25/25)
Correlation to PGC Basket	0.03%	10.05%	13.26%	1.44%	5.91%

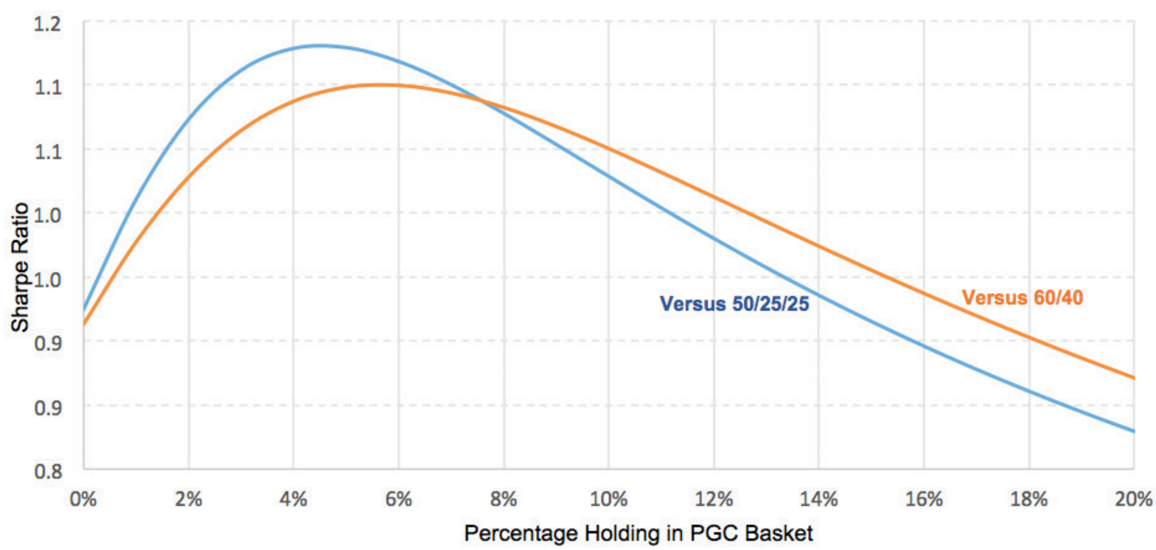
Source: Pacifica Strategic Advisors LLC

In Exhibit 7, portfolios consisting of a basket of PGC and the benchmark portfolios were analyzed. By increasing the amount of the PGC basket (relative to the benchmarks) to an optimal percentage, the Sharpe ratio (risk-adjusted return) for the composite portfolio was materially improved.

Over the last 3 1/2 years, an investor holding a 60/40 portfolio would have experienced a 9.88% return with 8.70% volatility on an annualized basis. However, by adding a basket of PGC shares in an optimal amount equal to 5% of the total holdings, an investor would have improved his/her annual returns to 13.61% with a marginal volatility increase to 10.43%. The overall improvement in risk-adjusted return would be a Sharpe ratio increase from 0.925 to 1.129. See Appendix B for a detailed return analysis of the impact of adding modest amounts of the PGC basket to the benchmark portfolios.

Repeating the same analysis for the 50/25/25 benchmark portfolio, but with an optimal 6% PGC basket composition, annual returns would increase from 12.13% to 16.52% (a 4.39% improvement) with only an annualized volatility slippage from 11.30% to 13.36% (a 2.06% deterioration). Risk-adjusted returns, in the form of the Sharpe ratio, would improve from 0.913 to 1.100. (See Appendix B for a more detailed analysis).

EXHIBIT 7: OPTIMAL PERCENTAGE HOLDING OF PGC BASKET VERSUS BENCHMARK PORTFOLIOS

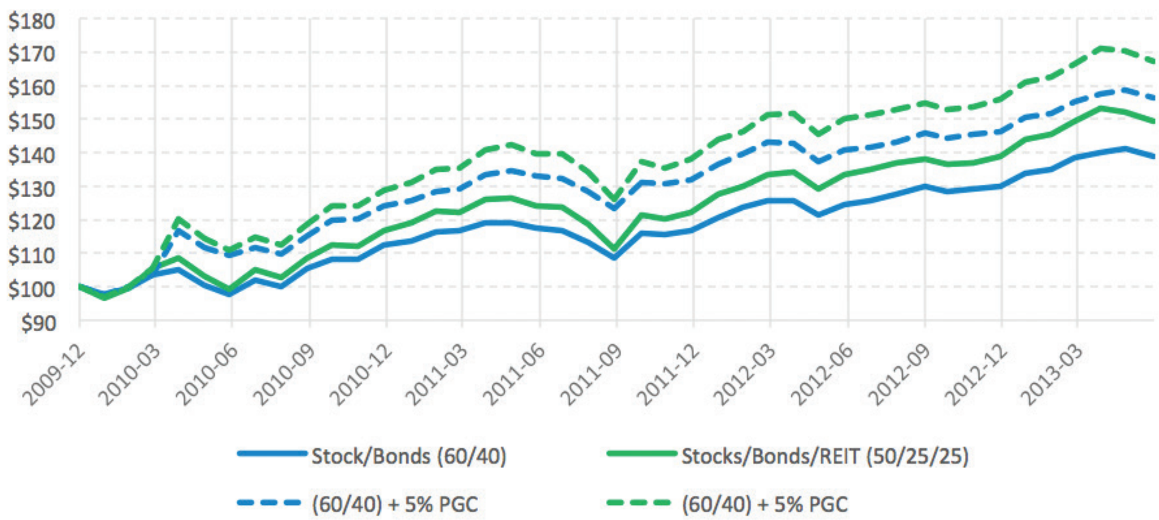


Past performance is not necessarily indicative of future results.

Source: Pacifica Strategic Advisors, LLC.

The benefit from adding PGC shares to an already well diversified portfolio was materially evident over the 3 1/2 year investment period. The low return correlation of a basket of PGC shares to the benchmark portfolios commonly held by investors allowed for material improvements from fairly small percentage additions. In Exhibit 8, an investor who allocated 5% to the PGC basket, and the remainder to the benchmarked portfolios would have experienced 12% higher returns.

EXHIBIT 8: GROWTH IN $100 INVESTED: JANUARY 1, 2013 TO JUNE 30, 2013



Past performance is not necessarily indicative of future results.

Source: Pacifica Strategic Advisors LLC

CONCLUSION

The best alternative assets provide exposure to markets, companies and products not normally accessible by more traditional investments. Such potentially higher, non-correlated returns, when added to commonly held holdings, such as the 60% equity/40% bond portfolio or the 50% equity/25% bond/25% REIT portfolio, have exhibited improvements not only on gross returns, but also on risk-adjusted returns.

Over the analytical 3 1/2 year period, returns from holding PGC shares provide strong evidence of fitting the definition of an "ideal" alternative asset. Its high upside potential relative to its downside risks resulted in high net returns. Its low correlation to commonly held investment portfolios provided excellent risk-adjusted return improvements at low percentage additions.

Although a longer analytical history would improve the statistical relevance of this analysis on PGC risk and returns, the research done to date indicates that this alternative asset is potentially an important addition to the portfolios of most investors.

APPENDIX A: PRIVATE GROWTH COMPANY BASKET CONSTRUCTION

For the purpose of analyzing the returns from investing in private growth company shares, an investment basket of private growth company shares was created and tracked over the 3 1/2 year analytical period. The trading data and share prices for the analysis were provided by SharesPost Financial Corporation and was extracted from their trading database. The framework for the construction of the basket was developed by Pacifica Strategic Advisors using a naive, passive investment approach as outlined in the table below.

Note that a more active investment approach may potentially improve the returns of this private growth company basket.

Data	1. The first trades were from the second half of 2009, when the SharesPost trading platform became active and available for transactions. 2. Only issuers whose shares have traded in at least two separate months were used (i.e. at least two transactions in two separate months).
Basket Construction	1. $100,000 was allocated to the purchase of the shares of each issuer (subject to data availability outlined in the Data section. An assumption was made that $100,000 worth of shares can be purchased at the price that the shares were first available on the SharesPost platform. 3. Shares were held in the basket until the end of the month in which lock-ups expired (for issuers that have IPO'd), or until June 30, 2013, whichever came first. 4. Cash to purchase shares in new issuers was assumed to be available as needed. 5. Cash resulting for the disposition of a position was removed from the portfolio. 6. Shares of issuers IPO'd were marked against the closing price at the end of the month 7. Shares of issuers still private were marked against their last trade. 8. The monthly returns of the basket were calculated from those positions that existed in the month which the return is calculated and its prior month. This resulted in a month over month return series from January 1, 2010 to June 30, 2013.
Basket Return Calculation	1. All return calculations were based off of the month over month calculations in Basket Construction item 8. 2. Aggregate calculations for the basket over the entire period was done by compounding the month over month returns.

APPENDIX B: IMPACT OF OPTIMAL ALLOCATIONS OF PRIVATE GROWTH COMPANY BASKET TO BENCHMARK PORTFOLIOS

An investor who had allocated an optimal percentage (5% to the 60/40 portfolio and 6% to the 50/25/25 portfolio) to the private growth company basket and the remainder to a core benchmark portfolio would have seen return improvements as shown below.[3] Note that a 15% to 20% allocation to alternative assets is not uncommon among institutional accounts, such as university endowments and pension funds.

EXHIBIT 9: RETURN AND RISK ANALYSIS: 1/1/2010 TO 6/30/2013

		Stock & Bonds (60/40)	95% (60/40) 5% PGC	Stocks, Bonds & REITs (50/25/25)	94% (50/25/25) 6% PGC
Annualized	Return	9.88%	13.61%	12.15%	16.52%
	Std Dev.	8.70%	10.43%	11.30%	13.36%
	Sharpe Ratio	0.925	1.129	0.913	1.100
	Total Return	39.05%	56.30%	56.30%	70.76%

Source: Pacifica Strategic Advisors LLC

[3]The determination of the optimal percentages for the 60/40 and 50/25/25 portfolios can be seen on Graph 6, where their Sharpe ratio is maximized.

DEFINITIONS

Annualized Return: Return of an asset expressed as an annual percentage rate, the rate that an investors would receive from the asset is held for a full year, or in the case of a multi-year holding period, the average return from the asset per year.

Optimal percentage: In the context of this research brief, the optimal amount of the PGC basket as a percentage of total holdings that would result in the maximum risk-adjusted return as measured by the Sharpe ratio.

REIT: Real Estate Investment Trust. A portfolio of real estate holdings held in a trust structure with ownership stakes sold in the form of traded shares.

Semi variance: The volatility attributable to downside movements or movements below a certain threshold. In the context of this research brief, semi variance is defined as the standard deviation of returns below a return of 0% (i.e. negative returns).

Sharpe Ratio: the amount of return provided above the risk-free rate per unit of return volatility as estimated by the asset's standard deviation. The equation for the Sharpe Ratio is

[Return(asset) - Return(risk-free rate)]/Standard Deviation(asset)

Sharpe Ratio SemiVar: Sharpe ratio based on the asset's semi variance as opposed to its standard deviation. Since risk as perceived by investors is the possibility of a loss due to downside movements, Sharpe Ratio—SemiVar is viewed by astute investors as a better estimate of risk-adjusted return.

Total return: The cumulative return of an asset over its holding period. Total returns are not annualized, unless the holding period is exactly one year.

RESEARCHERS

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Ning Guan is the chief investment officer of QuantScape Asset Management. A former Morgan Stanley investment banker, she now runs the Equity Index Program, a successful quantitative trading program that captures the mispricing of index futures and options. She is an expert on return attribution of alternative assets.

Pacifica Strategic Advisors, the leader in capital market intelligence, delivers the most advanced models in the marketplace today for inferring unbiased views of the financial markets' return expectations for different assets.