

Using Active Fundamental Equity Strategies in Core-Satellite Portfolio Construction

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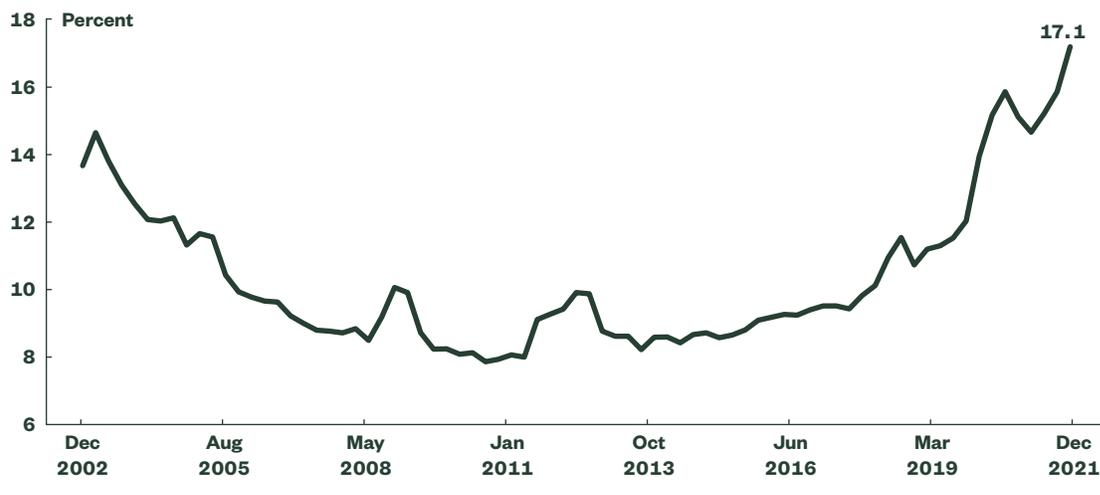
Portfolio Strategist

Active fundamental strategies are well suited for use as high-conviction satellite equity allocations, i.e., fulfilling the need for complementary alpha to add diversification and boost return potential beyond benchmark performance. Three illustrative core-satellite portfolios demonstrate their effectiveness.

Institutional investors are rarely “all active” or “all indexed” in their equity allocation. This is because investment solutions that incorporate both active and indexed strategies — i.e., both alpha and beta building blocks — typically create more efficient equity portfolios and help to achieve a more optimal risk-return mix.

Combining index and active equities through core-satellite portfolio construction makes more sense today than ever, given the historically high levels of concentration risk that major indexes are experiencing. For example, the top ten names in the MSCI ACWI¹ make up over 17% of the market cap of this index, surpassing the elevated level seen during the tech bubble of the early 2000s (see Figure 1).

Figure 1
Market Cap of the Top 10 Names in the MSCI ACWI, as a Percentage of the Total MSCI ACWI Market Cap
 December 2002 through December 2021



Source: FactSet, MSCI, State Street Global Advisors Calculations, Quarterly Data. As of December 31, 2021.

Diversifying away from such a high concentration risk can be readily achieved through core-satellite portfolio construction, where the core component is a low-cost, broad equity market cap index and the satellite component is a high-conviction, concentrated stock-picking strategy that is designed to beat the benchmark. This paper illustrates some of the complementary positive effects of combining alpha- and beta-based strategies in this manner; in doing so it also highlights the value that State Street’s dedicated active fundamental investment teams can bring to meeting our clients’ investment challenges.

High-Conviction Fundamental Approach

State Street Global Advisors’ active fundamental strategies are well suited for use as high-conviction satellite equity allocations. They fulfil the need for complementary alpha to add diversification and boost return potential beyond benchmark performance. These “best ideas” strategies are driven primarily by stock-selection, rather than by indexed or factor exposures. Portfolio concentration, and therefore portfolio performance, are driven by the characteristics and performance of the individual companies selected for the portfolio by experienced portfolio managers. Stock-specific risk, and stock-specific alpha, are idiosyncratic. High-conviction strategies can’t be replicated systematically with an indexed or factor approach, making them highly complementary and diversifying to beta-driven exposures.

Though our global brand identity is often associated with our industry-leading indexing capabilities, State Street’s active fundamental investment teams have decades of success in finding alpha to meet client investment goals. We have two independent and highly specialized fundamental equity teams — one organized around value and the other organized around quality growth at a reasonable price (QGARP) — comprising seasoned portfolio managers and career industry analysts,² who get to know the companies they are interested in well and seek to hold those that they invest in for the long term. Each team manages concentrated, high-conviction strategies powered by deep bottom-up research and stock-picking expertise. Much of the analysis and insight is qualitative and cannot be duplicated by backward-looking quantitative metrics. Both teams also incorporate essential ESG considerations into their investment process (see Appendix A).

To be successful finding alpha in the marketplace takes a special combination of skills, rigor, and discipline. It takes deep, forward-looking fundamental research resources to uncover opportunities that others overlook. It takes analysts who are experts in their respective sectors, who get to know their companies, competitors, suppliers, and industry-shaping trends, inside and out. Our fundamental equity teams invest like owners, not traders, with an objective of identifying the best ideas across market cycles.

Equity Building Blocks

To illustrate the complementary and diversifying role that concentrated fundamental strategies play in an equity allocation, Figure 2 provides a summary-level description of State Street's primary equity building blocks and their key differentiating attributes.

Figure 2
Equity Building Blocks

	BETA → ALPHA			
	Equity Index Funds	Smart Beta/ Factor-Based	Active Quantitative Equity	High-Conviction Fundamental Equity
Description	A systematic, low-cost option to anchor your asset allocation that offers broad asset class coverage Market beta is the primary driver of performance	A systematic option that tilts security weightings away from the cap-weighted benchmark and toward a desired factor exposure (e.g., quality, value, low/managed volatility)	An active systematic option with an explicit risk budget and alpha target Stocks are systematically selected based on their expected return and risk characteristics	High-conviction portfolios based on in-depth fundamental research and demonstrated stock-picking skills Company-specific risk drives performance, rather than market beta
Attributes				
Return-Driver	Market Cap Beta	Factor Beta	Alpha	Alpha
Risk-Driver	A source of systematic risk, driven by market forces	A source of systematic risk, driven by market forces	A source of idiosyncratic as well as systematic risk	A source of idiosyncratic risk, with returns driven by the 30–40 companies selected for the portfolio
Tracking Error (ex-ante)	Small, typically zero	The level of TE varies with the investment and is usually defined in advance by the portfolio manager	Enhanced strategies, up to 2% Active Quant strategies, 2–5% range Defensive Quant strategies, 4–10% range	These strategies work on a “best ideas” approach and run concentrated portfolios with a 4–10% TE range
Decision-making	Quantitative/ rules-based	Quantitative/ rules-based	Quantitative/ rules-based	Qualitative, based on the judgment of career industry analysts and PMs
Approach	Top-down	Top-down	Bottom-up	Bottom-up
Holdings	Broadly diversified	Broadly diversified	Broadly diversified	Concentrated
Orientation	Based on historical market data	Based on historical market data	Forward-looking ideas, back-tested using historical data	Forward-looking
ESG Impact	ESG-agnostic	ESG can be implemented alongside traditional factors	ESG is recognized as an alpha attribute	ESG is fully integrated into the stock-picking process

Source: State Street Global Advisors.

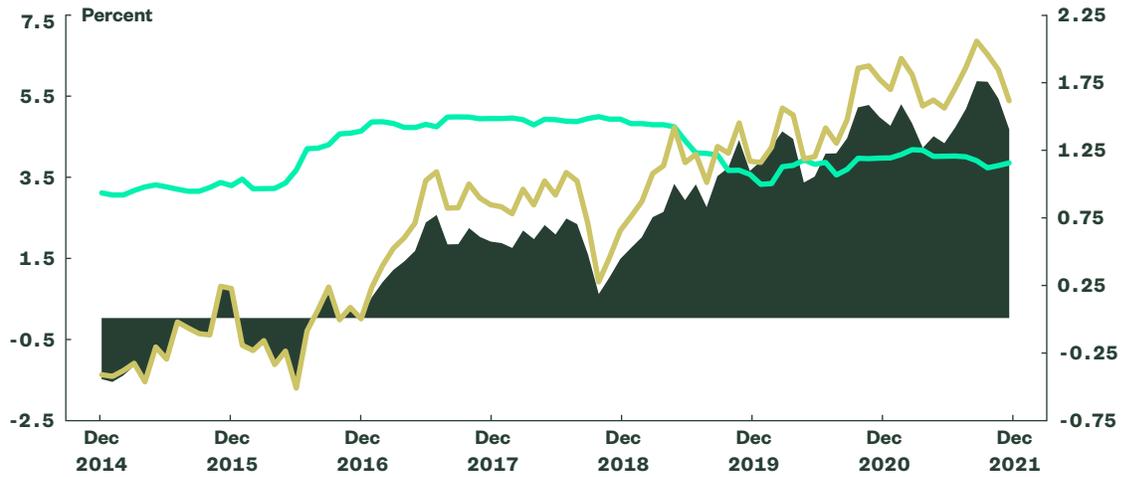
Global Equity Select

Global Equity Select (GES) is the flagship concentrated global equity strategy run by State Street's Fundamental Growth & Core Equity (FGC) team. Benchmarked to the MSCI ACWI, GES has a long and solid track record over the past 10 years. The realized 3-year excess return and information ratio (IR) have been positive since 2016. The realized 3-year tracking error (TE) has ranged between 3% and 5%, averaging 4.1%. (See Figure 3; see the full GIPS report for GES in Appendix B).

Figure 3
Global Equity Select Strategy Performance vs. MSCI ACWI Benchmark

Realized Annualized 3-Year IR, TE, and Excess Return

■ 3y IR
 ■ 3y TE
 ■ 3y Excess Return



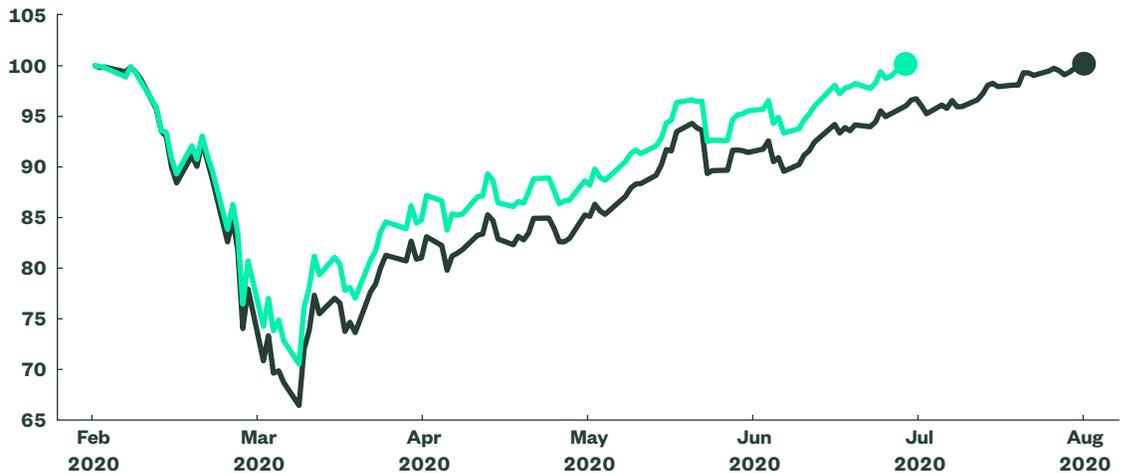
Source: MSCI and State Street Global Advisors; net performance data between 31 December 2011 and 31 December 2021. **Past performance is not a reliable indicator of future performance.** Index returns are unmanaged and assume a 5 bps fee. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

It is interesting to note the GES strategy’s strong relative performance during the market meltdown in March 2020 and the subsequent recovery (see Figure 4). During the meltdown the ACWI dropped 34% from its year-to-date high, while the GES dropped less than 30% from its year-to-date high. Post-meltdown, the ACWI took 5 months to recover to pre-meltdown levels; it took the GES only 4 months to do so. This data suggests that an active strategy can reap opportunities during dislocated market moves.

Figure 4
2020 Crisis and Recovery: Global Equity Select vs. MSCI ACWI

GES Recovered to YTD High on 20 July; MSCI ACWI Recovered to YTD High on 24 August

■ MSCI ACWI Daily
 ■ Global Equity Select Daily

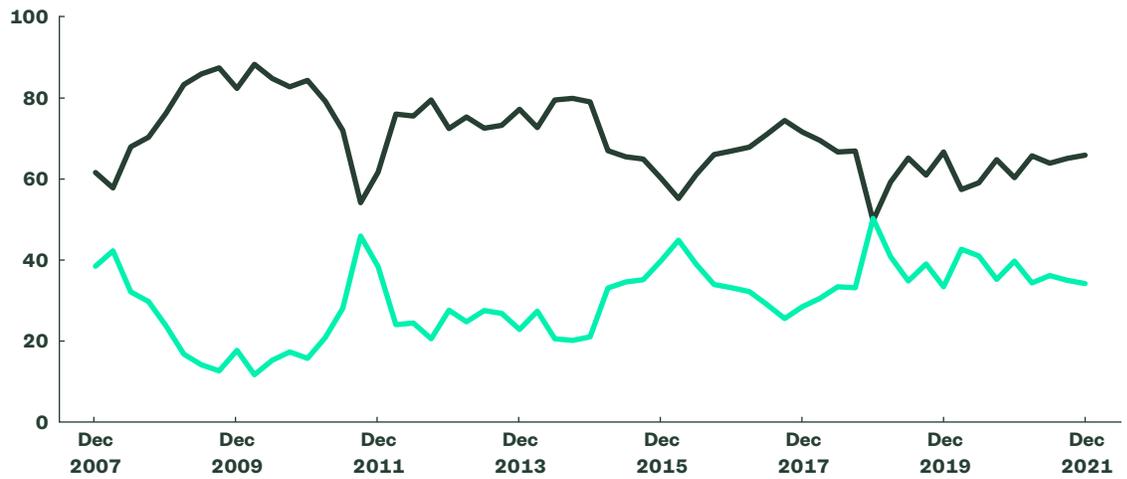


Performance indexed to 12 February 2020. Source: MSCI, State Street Global Advisors; net daily performance data. **Past performance is not a reliable indicator of future performance.** Index returns are unmanaged and assume a 5 bps fee. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

A deeper look into the active risk for the GES strategy reveals that, on average, 70% of the strategy’s risk contribution comes from asset-specific risk (see Figure 5). This highlights the critical nature of the strategy’s bottom-up stock-selection approach. On average, only 30% of the GES strategy’s risk contribution comes from factor risk. This demonstrates that such a strategy cannot simply be replicated using backward-looking factors, underscoring the complementary role played by this strategy in investor portfolios.

Figure 5
GES Active Risk Exposure: Factor vs. Asset-Specific (%)
 31 December 2007 through 31 December 2021

■ % Asset-Specific Risk
 ■ % Factor Risk



Source: FactSet, MSCI, State Street Global Advisors data and calculations.

Core-Satellite Portfolios

For equity portfolios, we favor a core-satellite construction approach due to its flexibility and fee efficiency. At the core should be a significant allocation to index and/or enhanced⁹ equities, as they both offer diversified market access and ample liquidity at a lower fee. This core can then be strengthened with the addition of high-conviction satellite portfolios. Core-satellite construction allows investors to control tracking error by adjusting the weight of the satellite portfolio relative to the core beta exposure — many institutional investors cluster between 1% and 2% of active risk.

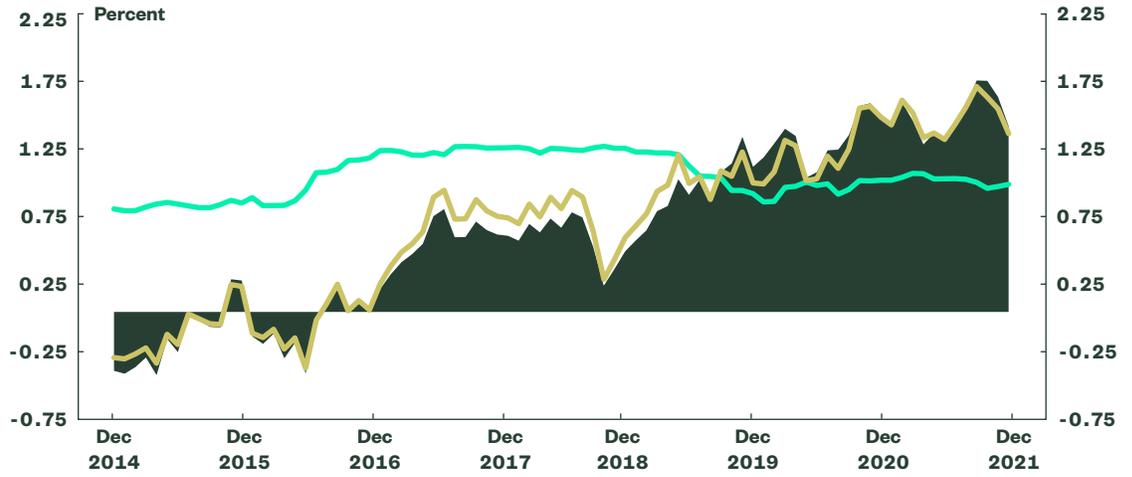
Keeping this in mind, we created three illustrative examples of blended portfolios that use a core-satellite approach, utilize GES as the satellite, and are constrained by a realized 3-year TE budget of around 1% with respect to the MSCI ACWI.

Portfolio 1. ACWI Core, GES Satellite (Base Case)

Our base case has MSCI ACWI as the core and GES as the satellite. GES has a 3-year realized TE of 4%. This means that, for a TE budget of around 1%, the satellite portfolio can make up 25% of the total portfolio. The 3-year realized TE, excess return, and IR of this base case portfolio over the past 10 years are shown in Figure 6. Adding GES clearly improved the return profile of the portfolio over the core benchmark: For a TE budget of about 1%, the base case portfolio generated an average annualized 3-year excess return of 0.66% for a 0.63 IR.

Figure 6
**Realized Annualized
 3-Year Excess
 Return, IR, and TE
 for the Base Case
 Portfolio (75% ACWI,
 25% GES)**
 Versus the MSCI ACWI

■ 3y IR
 ■ 3y TE
 ■ 3y Excess Return



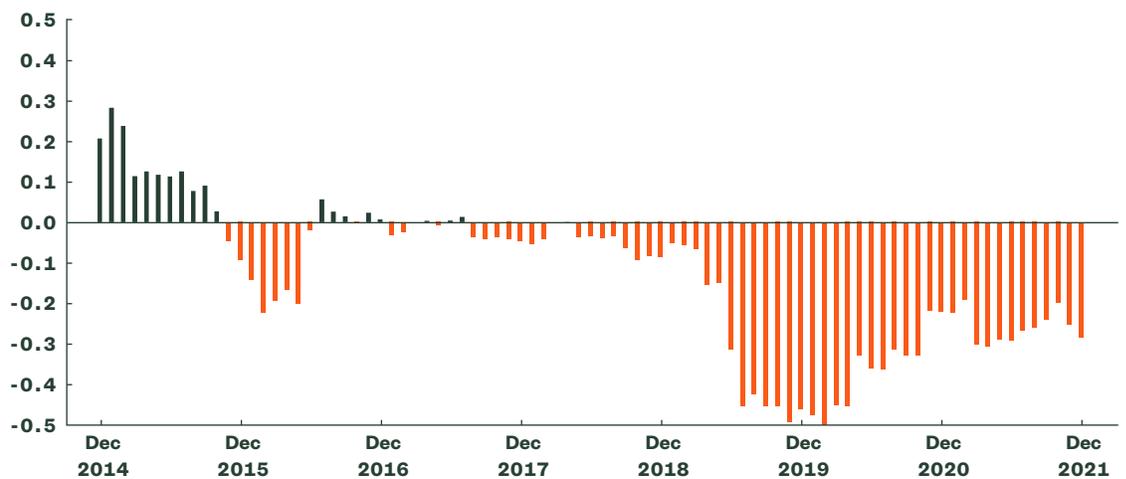
Source: State Street Global Advisors net performance data between 31 December 2011 and 31 December 2021. Portfolios rebalanced monthly. Returns do not represent those of a fund but were achieved by mathematically combining the actual performance data of MSCI ACWI and GES. The performance assumes no transaction and rebalancing costs, so actual results will differ. **Past performance is not a reliable indicator of future performance.** Index returns are unmanaged and assume a 5 bps fee. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

Portfolio 2. ACWI Core,
 GES Enhanced Satellite

Fundamental high-conviction alpha strategies can efficiently be combined with active quantitative equity strategies — such a combination is intuitive given their differing approaches for generating alpha (summarized in Figure 2). We combined the GES strategy with a static blend of State Street Global Advisors strategies, called “Enhanced” in this article, which has a tight TE of around 1% with respect to MSCI ACWI. Enhanced is a blend of 90% of our Active Quantitative Equity (AQE) team’s World Enhanced strategy (benchmark MSCI World) and 10% of our AQE team’s Emerging Markets Enhanced strategy (benchmark MSCI EM). See the full GIPS reports for World Enhanced and EM Enhanced in Appendix B.

Figure 7 shows the realized 3-year correlation of excess returns of GES and Enhanced over the last 10 years. On average, the correlation is -10% and historically in the range of -50% to +30%. We attribute this low-to-negative correlation to the low correlation between stock-specific exposure and the complementary nature of factor tilts between the two strategies.

Figure 7
**Correlation of 3-Year
 Excess Returns
 of GES/Enhanced
 (Blend of 90%
 World Enhanced,
 10% EM Enhanced)**



Source: State Street Global Advisors net performance data between 31 December 2011 and 31 December 2021. Portfolios rebalanced monthly. Returns do not represent those of a fund but were achieved by mathematically combining the actual performance data of GES, World Enhanced, and Emerging Markets Enhanced. The performance assumes no transaction and rebalancing costs, so actual results will differ. **Past performance is not a reliable indicator of future performance.**

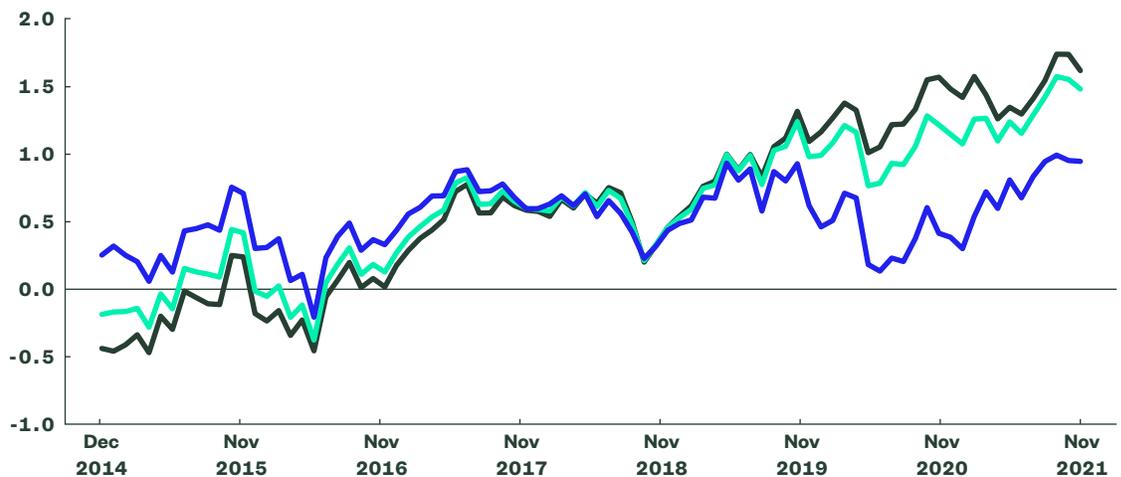
Interestingly, due to the diversifying benefits between GES and Enhanced, we also found that a portfolio with 50% MSCI ACWI in the core, 25% GES in the first satellite, and 25% Enhanced in the second satellite had just a 1% TE at the total portfolio level.

Portfolio 3. Enhanced Core, GES Satellite

Given its 1% tracking error to the ACWI benchmark, it is also possible to use Enhanced in the core. Dubbed a “CorePlus-Satellite” approach when Enhanced fully replaces an indexed strategy, we evaluated a portfolio with 75% Enhanced and 25% GES. The diversifying properties between GES and Enhanced are fully exploited as the realized tracking error remains around 1% on average relative to the MSCI ACWI benchmark. Also the diversified sources of alpha have the effect of generating more consistent performance over the full 10-year period, as shown in Figure 8. While the average 3-year IR for the three portfolios are roughly equivalent, the CorePlus-Satellite portfolio (75% Enhanced, 25% GES) shows the most consistently positive IR.

Figure 8
Realized Annualized 3-Year IRs for Base Case, GES/Enhanced Satellite, and CorePlus-Satellite Portfolios

- 75% ACWI, 25% GES
- 50% ACWI, 25% Enhanced, 25% GES
- 75% Enhanced, 25% GES



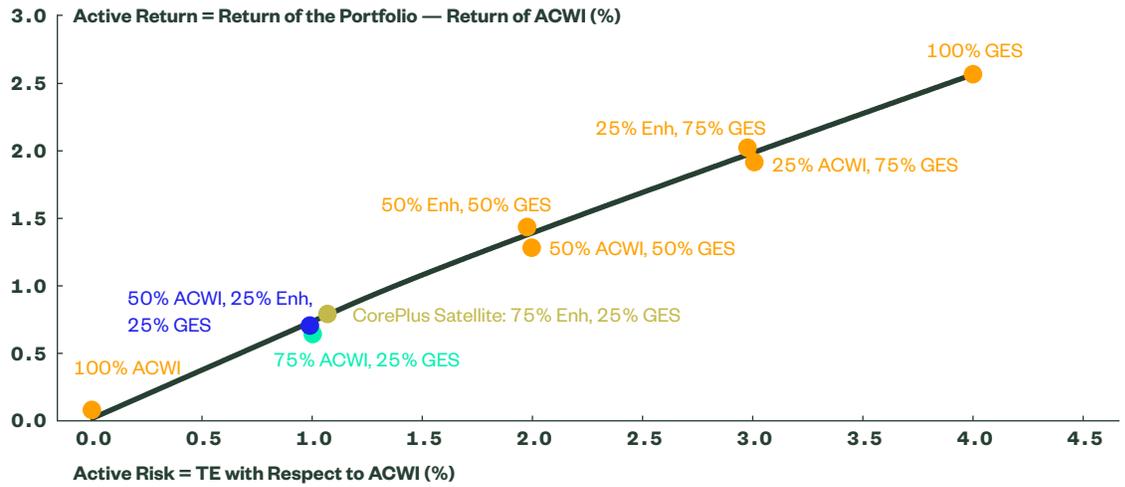
Source: State Street Global Advisors net performance data between 31 December 2011 and 31 December 2021. Portfolios rebalanced monthly. The results shown do not represent those of a fund but were achieved by mathematically combining the actual performance data of MSCI ACWI, GES, World Enhanced, and Emerging Markets Enhanced. The performance assumes no transaction and rebalancing costs, so actual results will differ. **Past performance is not a reliable indicator of future performance.** Index returns are unmanaged and assume a 5 bps fee. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

Efficient Frontier

Comparing the three illustrative portfolios in one snapshot is perhaps most easily done using an efficient frontier.⁴ In Figure 9 we plot the average realized excess return against the realized excess TE over the full 10-year period. The three portfolios are aligned around the 1% TE, with all lying on or close to the efficient frontier.

We have so far only discussed examples where the portfolio TE is constrained to 1%, but other TE budgets might reasonably be considered as well. For example, with a TE of 2%, the core can be MSCI ACWI or Enhanced, and the allocation to GES could be increased from 25% to 50%.

Figure 9
Efficient Frontier
Showing the Three
Illustrative Portfolios
(with 1% TE), as Well
as Other Possible
Portfolios with
Higher TE
 Based on 10-Year
 Historical Period



Source: State Street Global Advisors net performance data between 31 December 2011 and 31 December 2021. Portfolios rebalanced monthly. Returns do not represent those of a fund but were achieved by mathematically combining the actual performance data of MSCI ACWI, GES, World Enhanced, and Emerging Markets Enhanced. The performance assumes no transaction and rebalancing costs, so actual results will differ. **Past performance is not a reliable indicator of future performance.** Index returns are unmanaged and assume a 5 bps fee. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

Performance Summary

We were able to validate our hypothesis that investment solutions which incorporate both active and indexed strategies typically create more efficient equity portfolios and help to achieve a more optimal risk-return mix. Figure 10 shows that the three illustrative combination portfolios generated higher information ratios, along with reduced tracking error, and also resulted in improved market capture in up as well as down markets.

Figure 10
Historical Performance
Comparison of
Illustrative Portfolios

	MSCI ACWI (%)	GES (%)	Enhanced* (%)	Portfolio 1 (%)	Portfolio 2 (%)	Portfolio 3 (%)
Return	11.8	14.4	12.0	12.4	12.5	12.6
Tracking Error	—	4.0	0.8	1.0	1.0	1.1
Excess Return	—	2.6	0.2	0.7	0.7	0.8
Information Ratio	—	0.64	0.22	0.65	0.71	0.73
Standard Deviation	13.2	13.1	13.1	13.2	13.1	13.1
Max Drawdown (monthly returns)	-21.4	-17.0	-22.0	-20.3	-20.5	-20.8
Up Market Capture	82 months	115.9	100.8	103.3	103.7	104.5
Down Market Capture	38 months	96.2	99.9	99.2	99.1	99.0
	—	—	Weight ACWI	75	50	0
	—	—	Weight Enhanced	0	25	75
	—	—	Weight GES	25	25	25

* Enhanced is a blend of 90% World Enhanced strategy (benchmark MSCI World) and 10% Emerging Markets Enhanced strategy (benchmark MSCI EM).

Source: State Street Global Advisors net performance data between 31 December 2011 and 31 December 2021. Portfolios rebalanced monthly. Returns do not represent those of a fund but were achieved by mathematically combining the actual performance data of MSCI ACWI, GES, World Enhanced, and Emerging Markets Enhanced. The performance assumes no transaction and rebalancing costs, so actual results will differ. **Past performance is not a reliable indicator of future performance.** Index returns are unmanaged and assume a 5 bps fee. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable.

The Bottom Line

State Street's active fundamental strategies are well suited for use as high-conviction satellite equity allocations. They fulfill the need for complementary alpha to add diversification and boost return potential beyond benchmark performance. They also remove some of the concentration risk that accompanies indexing strategies.

In particular, State Street's GES strategy delivers consistent excess returns relative to the MSCI ACWI within a stable tracking error range. As such, it can be an excellent fit in the satellite portion of a core-satellite portfolio. An Enhanced strategy has additional diversifying properties and delivers against excess return and information ratio targets as well. Depending on investor preferences, Enhanced can be used in either the core or satellite portion of a portfolio. EU investors for whom ESG considerations are essential concerns should also note that our AQE strategies are aligned with SFDR⁵ Article 8, making them particularly suitable to reside in core portfolios.

In conclusion, State Street's high-conviction active equity strategies, led by our flagship Global Equity Select strategy, are a reliable component of institutional investor equity portfolio allocations, including those that have defined risk and return requirements. Our fundamental equity teams have the skills, rigor, and discipline required to uncover opportunities that others overlook. They get to know their companies very well, investing like owners, not traders, with an objective of identifying the best ideas across market cycles.

Appendix A: ESG Considerations

The Fundamental Growth & Core Equity team views ESG considerations as key to the fundamental analysis of companies. All of its strategies, including GES, incorporate a number of ESG factors into the quality assessment of companies using a proprietary metric called the Confidence Quotient (CQ).⁶ The underlying belief here is that companies that are strong in ESG are more likely to deliver sustainable growth, a necessary condition to generate outperformance in the medium to long term. ESG considerations are therefore integral to the alpha thesis and are not merely an overlay in the process. Fundamental strategies employ a forward-looking approach and seek to anticipate improvement or deterioration in a company's prospects using analysts' original and independent research to determine the appropriate CQ assessment of a company's quality, including the ESG evaluation.

The Active Quantitative Equity team's approach to ESG integration is based on the belief that taking a nuanced view of companies' treatment of their key material ESG risks and opportunities provides insight into management and company quality, and can be a driver of relative stock returns over a medium- to long-term investment horizon.⁷ The approach to the integration of ESG considerations relies on the concept of financial materiality as a driver of returns. Depending on a company's industry and business lines, various environmental, social and governance issues take on different levels of relevance in determining long-term returns and risks. This approach further looks to add unstructured data by employing textual analysis of company-specific ESG reports and investor communications to supplement the traditional datapoints.

Appendix B: GIPS Reporting for State Street's Global Equity Select, World Enhanced, and Emerging Markets Enhanced Strategies

Figure 11

GIPS® Report: Global Equity Select Composite

As of December 31, 2020

Gross Returns

Period	Quarter	YTD	1 Year (%)	3 Years (%)	5 Years (%)	10 Years (%)	Inception Mar 2008
Global Equity Select Composite	17.13	25.37	25.37	16.68	16.84	11.86	N/A
MSCI ACWI Index	14.68	16.25	16.25	10.06	12.26	9.13	N/A

Year	Global Equity Select Composite	MSCI ACWI Index
2020	25.37	16.25
2019	35.48	26.60
2018	-6.48	-9.42
2017	29.04	23.97
2016	6.21	7.86
2015	5.23	-2.36
2014	0.01	4.16
2013	23.98	22.81
2012	19.04	16.13
2011	-9.28	-7.35

Year	No. of Portfolios at Period End	Composite Dispersion	3 Year Annualized Standard Deviation		Total Assets at End of Period (USD)	% of Firm's Assets	Total Firm Assets (USD Mil)
			Composite	Benchmark			
2020	*	N/A	17.24	18.13	1,445,563,755	0.04	3,410,883
2019	*	N/A	12.73	11.22	1,130,460,307	0.04	3,052,585
2018	*	N/A	12.80	10.48	835,058,051	0.03	2,457,404
2017	*	N/A	12.45	10.36	999,518,729	0.04	2,714,705
2016	*	N/A	12.73	11.06	774,553,106	0.03	2,291,833
2015	*	N/A	11.17	10.79	861,256,985	0.04	2,188,091
2014	*	N/A	10.85	10.50	972,919,616	0.04	2,383,493
2013	*	N/A	15.54	13.94	1,434,816,842	0.06	2,279,237
2012	*	N/A	18.44	17.13	1,182,999,558	0.06	2,023,842
2011	*	N/A	20.54	20.59	604,651,190	0.03	1,768,142

gGEAM-AGLS

* 5 portfolios or less.

** Less than 3 years.

Quarterly and YTD returns are not annualized.

Footnotes

Firm Definition For the purpose of complying with the Global Investment Performance Standards (GIPS®), the firm ("SSGA-Global") is defined as all portfolios managed across the global offices of State Street Global Advisors (SSGA) and SSGA Funds Management, Inc., with the exception of Charitable Asset Management which is held out to the marketplace as a distinct business entity. Prior to January 2011, SSGA-Global excluded its wrap fee business and assets accounted for on a book value basis (global cash and stable value assets). Prior to July 2017, SSGA-Global excluded Fiduciary Advisory Solutions. In January 2011, SSGA acquired the Bank of Ireland Asset Management Limited (now known as SSGA Ireland Limited), a GIPS Compliant firm. On January 01, 2012 SSGA Ireland Limited assets were merged into SSGA-Global. In July 2016, SSGA acquired the asset management and advisory services business conducted by GE Asset Management ("GEAM"), a GIPS Compliant firm. On July 01, 2017 GEAM assets were merged into SSGA-Global.

Composite Description The Composite includes all discretionary accounts using a global select investment style and investing primarily in both foreign and U.S. equity securities.

Compliance Statement SSGA-Global claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with GIPS. SSGA-Global claims compliance with the GIPS standards from January 01, 2000. The period prior to January 01, 2000 (where shown) is not in compliance, as not all actual fee-paying portfolios are in a composite. SSGA-Global has been independently verified for the periods January 01, 2000 through December 31, 2019. GE Asset Management (GEAM) was not independently verified for the calendar year 2016 while transitioning into the firm. The verification report is available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite report.

List Available A list of composite descriptions, a list of limited distribution pooled fund descriptions, and a list of broad distribution pooled funds are available upon request.

Creation Date The composite was created on March 01, 2008.

Benchmark Description The benchmark for the composite is the MSCI ACWI Index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses but include all items of income, gain, and loss.

Currency Performance is presented in USD.

Use of Subadvisors None.

Fees Returns are expressed gross of management fees. The results do not reflect the deduction of investment management fees. Some members of this composite may accrue administration fees. The client's return will be reduced by the management fee. For example, if an annualized gross return of 10% was achieved over a 5-year period and a management fee of 1% per year was charged and deducted annually, then the resulting total return would be reduced from 61% to 54%.

Fee Schedule Management fees are 0.700% of the first \$50,000,000; 0.650% of the next \$50,000,000; and 0.550% thereafter. The minimum annual management fee for separately managed accounts is \$175,000. Management fees may be adjusted based upon specific client requirements.

Derivatives Use SSGA may use futures and other derivatives from time to time in the management of the Strategy generally as a temporary substitute for cash investments or for hedging purposes and not with the purpose of creating investment leverage.

Calculation Methodology Additional information is available upon request regarding the firm's policies and procedures for calculating and reporting performance results as well as valuation procedures.

Annualized Returns All returns for periods greater than one year have been annualized.

Withholding Taxes Differences None.

Exchange Rates Differences Between Composite & Benchmark None.

Minimum Asset Level for Inclusion None.

Dispersion Asset-Weighted standard deviation is calculated using the annual returns of the accounts that were included in the composite for all periods of the year and is not presented for periods with 5 or fewer accounts in the composite for the full year.

Significant Events In December 2020, it was announced that Rick Lacaille, Global Chief Investment Officer, will transition to a new role at State Street Corporation as Senior Investment Advisor, effective March 31, 2021, and will lead ESG efforts across the firm. Lori Heinel, Deputy Global Chief Investment Officer, will become SSGA's Global Chief Investment Officer.

Past and Future Performance Historic performance is not necessarily indicative of actual future investment performance, which could differ substantially.

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Portability GE Asset Management (GEAM) integrated into SSGA-Global as of June 30, 2017 in accordance with the Guidance Statement on Performance Record Portability.

Figure 12

GIPS® Report: World**Enhanced Composite**

As of December 31, 2020

Gross Returns

Period	Quarter	YTD	1 Year (%)	3 Years (%)	5 Years (%)	10 Years (%)	Inception Feb 2002
World Enhanced Composite	13.53	13.62	13.62	9.32	11.65	10.04	N/A
MSCI World Index	13.96	15.90	15.90	10.54	12.19	9.87	N/A

Year	World Enhanced Composite	MSCI World Index
2020	13.62	15.90
2019	25.79	27.67
2018	-8.58	-8.71
2017	22.82	22.40
2016	8.12	7.51
2015	-0.39	-0.87
2014	6.23	4.94
2013	27.60	26.68
2012	16.66	15.83
2011	-4.73	-5.54

Year	No. of Portfolios at Period End	Composite Dispersion	3 Year Annualized Standard Deviation		Total Assets at End of Period (USD)	% of Firm's Assets	Total Firm Assets (USD Mil)
			Composite	Benchmark			
2020	*	N/A	18.17	18.27	462,746,468	0.01	3,410,883
2019	*	N/A	11.03	11.14	973,594,076	0.03	3,052,585
2018	*	N/A	10.27	10.38	971,492,900	0.04	2,457,404
2017	*	N/A	10.06	10.23	1,200,240,965	0.04	2,714,705
2016	*	N/A	10.76	10.92	661,771,898	0.03	2,291,833
2015	*	N/A	10.61	10.80	694,259,384	0.03	2,188,091
2014	*	N/A	10.16	10.23	550,657,766	0.02	2,383,493
2013	*	N/A	13.62	13.54	600,037,262	0.03	2,279,237
2012	*	N/A	16.92	16.74	409,008,259	0.02	2,023,842
2011	*	N/A	20.13	20.15	486,641,044	0.03	1,768,142

gWORLDIP

* 5 portfolios or less.

** Less than 3 years.

Quarterly and YTD returns are not annualized.

Investment Objective: The Strategy seeks to provide a total investment return in excess of the performance of its benchmark index (the "Index") over the long term.

Investment Strategy: State Street Global Advisors uses in-depth investment analysis to construct a portfolio with the potential to outperform the Index. In performing this analysis, State Street Global Advisors considers factors such as relative valuations, the quality of a company's earnings, the company's balance sheet and cash flows, and investor sentiment. We also incorporate in our model an evaluation of the macroeconomic environment, to take into account prevailing market conditions. This process seeks to maintain a disciplined approach that is adaptive to the macroeconomic environment and responsive to changing conditions. State Street Global Advisors seeks to outperform the Index by 75 to 100 basis points (on an annualized basis) over the long term, with a projected active risk of approximately 25 to 125 basis points. There can of course be no assurance that any Portfolio will achieve that level of performance or will maintain that level of active risk. Some portfolios may screen out securities based on an assessment of their adherence to ESG criteria.

Footnotes

Firm Definition For the purpose of complying with the Global Investment Performance Standards (GIPS®), the firm ("SSGA-Global") is defined as all portfolios managed across the global offices of State Street Global Advisors (SSGA) and SSGA Funds Management, Inc., with the exception of Charitable Asset Management which is held out to the marketplace as a distinct business entity. Prior to January 2011, SSGA-Global excluded its wrap fee business and assets accounted for on a book value basis (global cash and stable value assets). Prior to July 2017, SSGA-Global excluded Fiduciary Advisory Solutions. In January 2011, SSGA acquired the Bank of Ireland Asset Management Limited (now known as SSGA Ireland Limited), a GIPS Compliant firm. On January 01, 2012 SSGA Ireland Limited assets were merged into SSGA-Global. In July 2016, SSGA acquired the asset management and advisory services business conducted by GE Asset Management ("GEAM"), a GIPS Compliant firm. On July 01, 2017 GEAM assets were merged into SSGA-Global.

Composite Description The Composite seeks to achieve the Investment Objective described below using the Investment Strategy described below.

Compliance Statement SSGA-Global claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with GIPS. SSGA-Global claims compliance with the GIPS standards from January 01, 2000. The period prior to January 01, 2000 (where shown) is not in compliance, as not all actual fee-paying portfolios are in a composite. SSGA-Global has been independently verified for the periods January 01, 2000 through December 31, 2019. GE Asset Management (GEAM) was not independently verified for the calendar year 2016 while transitioning into the firm. The verification report is available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite report.

List Available A list of composite descriptions, a list of limited distribution pooled fund descriptions, and a list of broad distribution pooled funds are available upon request.

Creation Date The composite was created on January 01, 2009.

Benchmark Description The benchmark for the composite is the MSCI World Index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses but include all items of income, gain, and loss.

Currency Performance is presented in USD.

Use of Subadvisors None.

Fees Returns are expressed gross of management fees. The results do not reflect the deduction of investment management fees. Some members of this composite may accrue administration fees. The client's return will be reduced by the management fee. For example, if an annualized gross return of 10% was achieved over a 5-year period and a management fee of 1% per year was charged and deducted annually, then the resulting total return would be reduced from 61% to 54%.

Fee Schedule Management fees are 0.250% of the first \$50,000,000; 0.200% of the next \$50,000,000; and 0.150% thereafter, or a performance based fee option of 0.100% base fee plus 20% of outperformance. The minimum annual management fee for separately managed accounts is \$175,000. Management fees may be adjusted based upon specific client requirements.

Derivatives Use SSGA may use futures and other derivatives from time to time in the management of the Strategy generally as a temporary substitute for cash investments or for hedging purposes and not with the purpose of creating investment leverage.

Calculation Methodology Additional information is available upon request regarding the firm's policies and procedures for calculating and reporting performance results as well as valuation procedures.

Annualized Returns All returns for periods greater than one year have been annualized.

Withholding Taxes Differences None.

Exchange Rates Differences Between Composite & Benchmark None.

Minimum Asset Level for Inclusion None.

Dispersion Asset-Weighted standard deviation is calculated using the annual returns of the accounts that were included in the composite for all periods of the year and is not presented for periods with 5 or fewer accounts in the composite for the full year.

Significant Events In December 2020, it was announced that Rick Lacaille, Global Chief Investment Officer, will transition to a new role at State Street Corporation as Senior Investment Advisor, effective March 31, 2021, and will lead ESG efforts across the firm. Lori Heinel, Deputy Global Chief Investment Officer, will become SSGA's Global Chief Investment Officer.

Past and Future Performance Historic performance is not necessarily indicative of actual future investment performance, which could differ substantially.

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Figure 13

GIPS® Report: Emerging Markets Enhanced Composite

As of December 31, 2020

Gross Returns

Period	Quarter	YTD	1 Year (%)	3 Years (%)	5 Years (%)	10 Years (%)	Inception Jul 2007
Emerging Markets Enhanced Composite	18.21	15.80	15.80	5.61	12.94	4.17	N/A
MSCI Emerging Markets Index	19.70	18.31	18.31	6.17	12.81	3.63	N/A

Year	Emerging Markets Enhanced Composite	MSCI Emerging Markets Index
2020	15.80	18.31
2019	17.58	18.42
2018	-13.48	-14.57
2017	38.51	37.28
2016	12.61	11.19
2015	-14.03	-14.92
2014	0.13	-2.19
2013	-3.73	-2.60
2012	20.34	18.22
2011	-17.93	-18.42

Year	No. of Portfolios at Period End	Composite Dispersion	3 Year Annualized Standard Deviation		Total Assets at End of Period (USD)	% of Firm's Assets	Total Firm Assets (USD Mil)
			Composite	Benchmark			
2020	*	N/A	19.16	19.60	3,066,150,150	0.09	3,410,883
2019	*	N/A	14.03	14.17	3,395,742,919	0.11	3,052,585
2018	*	N/A	14.37	14.60	2,450,043,411	0.10	2,457,404
2017	*	N/A	15.12	15.35	3,003,472,335	0.11	2,714,705
2016	*	N/A	15.90	16.07	1,972,362,255	0.09	2,291,833
2015	*	N/A	14.09	14.06	1,675,128,690	0.08	2,188,091
2014	*	N/A	15.04	15.00	2,199,514,482	0.09	2,383,493
2013	*	N/A	19.16	19.04	2,762,675,533	0.12	2,279,237
2012	*	N/A	21.59	21.50	2,641,841,547	0.13	2,023,842
2011	*	N/A	25.84	25.76	1,518,492,121	0.09	1,768,142

gEMIP

* 5 portfolios or less.

** Less than 3 years. Quarterly and YTD returns are not annualized.

Investment Objective: The Strategy seeks to provide a total investment return in excess of the performance of its benchmark index (the "Index") over the long term.

Investment Strategy: State Street Global Advisors uses in-depth investment analysis to construct a portfolio with the potential to outperform the Index. In performing this analysis, State Street Global Advisors considers factors such as relative valuations, the quality of a company's earnings, the company's balance sheet and cash flows, and investor sentiment. We also incorporate in our model an evaluation of the macroeconomic environment, to take into account prevailing market conditions. This process seeks to maintain a disciplined approach that is adaptive to the macroeconomic environment and responsive to changing conditions. The Portfolio aims to have a minimum of 90% of its weight in stocks in the benchmark index, and may invest in smaller capitalization companies within the investable universe. A Portfolio may also invest in the securities of Chinese companies, normally restricted to residents of the People's Republic of China (commonly known as "A Shares" or "China A Shares"), through the Stock Connect program or other channels. State Street Global Advisors seeks to outperform the Index by 75 to 100 basis points (on an annualized basis) over the long term, with a projected active risk of approximately 25 to 175 basis points. There can of course be no assurance that any Portfolio will achieve that level of performance or will maintain that level of active risk. Some portfolios may screen out securities based on an assessment of their adherence to ESG criteria.

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Currency Performance is presented in USD.

Use of Subadvisors None.

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Fee Schedule Management fees are 0.450% of the first \$50,000,000; 0.400% of the next \$50,000,000; and 0.350% thereafter, or a performance based fee option of 0.200% base fee plus 20% of outperformance. The minimum annual management fee for separately managed accounts is \$250,000. Management fees may be adjusted based upon specific client requirements.

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Past and Future Performance Historic performance is not necessarily indicative of actual future investment performance, which could differ substantially.

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Endnotes

- 1 With 2966 names as of December 31, 2021, this implies an average security weight for MSCI AC World Index of 0.03%.
- 2 For example, on the Fundamental Growth & Core Equity team, which manages the firm's Global Equity Select strategy, portfolio managers have an average tenure of 19 years, and research analysts have an average of 20 years of experience.
- 3 "Enhanced" strategies seek to outperform their cap-weighted benchmarks but take relatively low active risk — risk that is similar to that of the median index manager. Enhanced strategies' tracking error is designed to offer the opportunity to outperform the index, and enhanced managers use active positions in stocks, sectors, and countries to "tilt" a portfolio to maximize alpha exposure while expending an active risk budget in an informed way. This approach offers a level of active market participation in an IR- and fee-efficient manner.
- 4 The efficient frontier graphically represents portfolios that maximize returns for the risk assumed.
- 5 Sustainable Finance Disclosure Regulation.
- 6 https://ssga.com/au/en_gb/institutional/ic/insights/integration-of-esg-into-the-active-quantitative-equity-investment-process.
- 7 https://ssga.com/au/en_gb/institutional/ic/insights/an-integrated-approach-to-esg-and-quality.

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For four decades, State Street Global Advisors has served the world's governments, institutions and financial advisors. With a rigorous, risk-aware approach built on research, analysis and market-tested experience, we build from a breadth of active and index strategies to create cost-effective solutions. As stewards, we help portfolio companies see that what is fair for people and sustainable for the planet can deliver long-term performance. And, as pioneers in index, ETF, and ESG investing, we are always inventing new ways to invest. As a result, we have become the world's fourth-largest asset manager* with US \$4.14 trillion[†] under our care.

* Pensions & Investments Research Center, as of December 31, 2020.

[†] This figure is presented as of December 31, 2021 and includes approximately \$61.43 billion of assets with respect to SPDR products for which State Street Global Advisors Funds Distributors, LLC (SSGA FD) acts solely as the marketing agent. SSGA FD and State Street Global Advisors are affiliated.

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Important Risk Information

This document provides summary information regarding the Strategy. This document should be read in conjunction with the Strategy's Disclosure Document, which is available from SSGA. The Strategy Disclosure Document contains important information about the Strategy, including a description of a number of risks.

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Equity securities may fluctuate in value and can decline significantly in response to the activities of individual companies and general market and economic conditions.

The returns on a portfolio of securities which exclude companies that do not meet the portfolio's specified ESG criteria may trail the returns on a portfolio of securities which include such companies. A portfolio's ESG criteria may result in the portfolio investing in industry sectors or securities which underperform the market as a whole.

Some of the Portfolio Characteristics shown in Figures 1, 3, 4, 6, 8, 9, and 10 are based on the characteristics of the underlying market indices. Neither index characteristics nor sample portfolio characteristics is intended to represent the characteristics of any particular mutual fund, exchange-traded fund, or product offered by SSGA. Actual characteristics may differ substantially from the characteristics presented. Past performance is not a guarantee of future results. Index returns shown in Figures 3, 4, 6, 8, 9, and 10 are unmanaged and assume a 5 bps fee. An investor cannot invest in an index.

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