

# SPDR® S&P 500® ETF

## Capital Markets Perspective

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# SPY

As the first exchange traded fund (ETF), the SPDR S&P 500 ETF (SPY) seeks to offer investors liquid,<sup>1</sup> inexpensive and transparent access to the S&P 500 in a single security that trades on an exchange. Twenty three years later, SPY's leadership position remains intact. With more than \$199 billion in assets and an average of over \$23 billion traded daily over the past 12 months, SPY is the largest and most heavily traded ETF.<sup>2</sup>

### Liquidity

One key factor to consider for investors is the size of the market in which the security is traded because volume is a key determinant of cost. SPY is the most heavily traded ETF, with a 12-month average daily notional trading volume 26 times higher than IVV iShares Core S&P 500 ETF and 52 times higher than VOO Vanguard S&P 500 ETF.<sup>3</sup>

Liquidity can be a source of cost advantage for investors because higher liquidity means tighter bid/ask spreads, which translates into lower trading costs for investors. Whether opening or closing a position, rebalancing, or tactically over/under weighting, trading SPY may be a leading choice.

Another element of liquidity for investors to consider is the volume on the bid and the ask for a security. With a 12-month average size on the bid and the ask 2 times higher than IVV and 2 times higher than VOO, SPY typically allows investors the ability to trade more shares at the quoted price on any given day.

### 12-Month Average Daily Notional Trading Volume

<b>SPY</b> \$23,294,489,342	<b>IVV</b> \$884,481,979	<b>VOO</b> \$449,204,177
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Source: Bloomberg, State Street Global Advisors (SSGA), as of 8/31/2016.

### Bid/Ask Spread Comparison

	SPY	IVV	VOO
Share Price	\$217.38	\$218.65	\$199.52
Bid/Ask Spread (\$)	0.01	0.02	0.02
Bid/Ask Spread (bps)	0.46	0.75	0.92

Source: Bloomberg, SSGA, as of 8/31/2016.

Bid/ask spreads are the average of the month of August 2016.

### 12-Month Average Bid/Ask Volume Comparison

	SPY	IVV	VOO
Bid Size	11,114	7,853	10,406
Ask Size	12,045	8,275	10,062

Source: ArcaVision, SSGA, as of 8/31/2016.

### Options Liquidity

Trading SPY options is typically less expensive for the same reasons as trading SPY shares. SPY's options market is currently 3,410 times larger than IVV and 5,787 times larger than VOO, which typically means tighter spreads and lower trading costs on SPY options.

### Notional Options Open Interest

<b>SPY</b> \$519,697,365,636	<b>IVV</b> \$152,420,915	<b>VOO</b> \$89,803,952
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Source: Bloomberg, SSGA, as of 8/31/2016

### Securities Lending Revenue

Securities lending revenue can potentially offset costs for investors. The average amount on loan of SPY shares from 6/30/2015 through 6/30/2016 was \$10 billion, compared to \$629 million for IVV and \$293 million for VOO.<sup>4</sup> The securities lending revenue comes from lending shares of SPY, not the lending of the underlying securities in the trust itself.

### Securities Lending Revenue Comparison

	SPY	IVV	VOO
Average Total Balance (\$M)	10,329.20	629.22	293.77
Average Utilization Rate* (%)	56.22	9.93	12.79

Source: Markit, SSGA, as of 6/30/2016.

\* Average Utilization Rate is the group average utilization of all lenders who report their loans to our third party pricing vendor Markit.

<sup>1</sup> The degree to which an asset or security can be bought or sold in the market without affecting the asset's price. Liquidity is characterized by a high level of trading activity, typically measured by share volume traded or dollar volume traded.

<sup>2</sup> Bloomberg as of 7/31/2016.

<sup>3</sup> Bloomberg, SSGA, as of 7/31/2016.

<sup>4</sup> Markit, SSGA as of 7/31/2016.

## Product Structure Comparison

	Investment Objective	Sec Registration	Portfolio Management	Dividend Reinvestment	Securities Lending Permitted	Use of Options/ Swaps/Futures	Investment Advisor/ Trustee	Net Expense Ratio (%)	Gross Expense Ratio (%)
<b>SPY Unit Investment Trust</b>	SPY seeks to provide investment results that, before expenses, correspond generally to the price and yield performance of the S&P 500 Index	Investment Company Act of 1940	Full Replication	Cannot Reinvest	No	No	Trustee	0.0945 <sup>^</sup>	0.11
<b>IVV Open End Fund</b>	IVV seeks investment results that correspond generally to the price and yield performance, before fees and expenses, of the S&P 500 Index	Investment Company Act of 1940	May sample/ Optimize	May Reinvest	Yes	Yes	Investment Advisor	0.07	0.07
<b>VOO Open End Fund</b>	VOO invests in stocks in the S&P 500 Index with the goal to closely track the index's return, which is considered a gauge of overall US stock returns	Investment Company Act of 1940	Full Replication	May Reinvest	Yes	May use derivatives	Investment Advisor	0.05	0.05

Source: SSGA, as of 7/31/2016.

<sup>^</sup>The Trustee has agreed to waive a portion of its fee until February 1, 2017, but may thereafter discontinue this voluntary waiver policy.

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

Companies with large market capitalizations go in and out of favor based on market and economic conditions. Larger companies tend to be less volatile than companies with smaller market capitalizations. In exchange for this potentially lower risk, the value of the security may not rise as much as companies with smaller market capitalizations.

There can be no assurance that a liquid market will be maintained for ETF shares.

While the shares of ETFs are tradable on secondary markets, they may not readily trade in all market conditions and may trade at significant discounts in periods of market stress.

The funds presented herein have different investment objectives, costs and expenses. Each fund is managed by a different investment firm, and the performance of each fund will necessarily depend on the ability of their respective managers to select portfolio investments. These differences, among others, may result in significant disparity in the funds' portfolio assets and performance. For further information on the funds, please review their respective prospectuses.

Securities lending programs and the subsequent reinvestment of the posted collateral are subject to a number of risks, including the risk that the value of the investments held in the collateral may decline in value and may at any point be worth less than the original cost of that investment.

ETFs trade like stocks, are subject to investment risk, fluctuate in market value and may trade at prices above or below the ETFs' net asset value. Brokerage commissions and ETF expenses will reduce returns.

In general ETFs can be expected to move up or down in value with the value of the applicable index. Although ETF shares may be bought and sold on the exchange through any brokerage account, ETF shares are not individually redeemable from the

Fund. Investors may acquire ETFs and tender them for redemption through the Fund in Creation Unit Aggregations only. Please see the prospectus for more details.

Frequent trading of ETFs could significantly increase commissions and other costs such that they may offset any savings from low fees or costs.

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