iShares
by BlackRock

CASE STUDY: ADDING TESLA TO THE S&P 500 INDEX

Introduction

In early November 2020, S&P Dow Jones Indices (S&P) announced that Tesla, Inc. (ticker: TSLA) was eligible for inclusion in one of the world's most widely recognized equity indexes—the S&P 500.[1]

The stock was added to the index at market close on December 18, 2020, coinciding with S&P's quarterly December index rebalance.[2] While the addition of a new company to an index is not rare, the inclusion of Tesla in the S&P 500 illustrated the magnitude of scale and complexity that index fund management can entail.

As one of the largest additions by market capitalization to the S&P 500 index since its inception in 1957, Tesla increased the index's overall exposure to the Consumer Discretionary sector from around 11% to nearly 13%, a meaningful transformation of an index that is largely seen as a proxy for the U.S. stock market. Upon inclusion, Tesla became the fifth largest holding in the index by weight, representing over 1.5% of the overall index.[3]

The impact of index changes on index portfolios

Index change events typically don't just impact one security; they can reflect dozens or even hundreds of additions, deletions and share adjustments, so the scale of activities executed at once can be immense for both the index and the funds benchmarked to it.

For example, the S&P 500 is a widely tracked index, with over US$11.2 trillion in assets (roughly US$4.6 trillion of which are in indexed assets) benchmarked to it globally.[4] When index rebalances take place, funds tracking the index must adjust the composition of their portfolios to reflect the changes in order to continue to achieve their investment objectives.

Executing changes at scale is anything but "passive." Because index changes are implemented using market closing prices on the effective date of the rebalance, indexes are not exposed to the same intraday trading dynamics as index-tracking funds. To successfully add Tesla to all BlackRock funds including index funds, & ETFs, tracking the S&P 500, while also executing the rest of the December index rebalance changes, BlackRock Portfolio Engineers (PEs) utilised a multi-faceted index fund management strategy that focused on preserving value, delivering precise performance, and managing against market risks.

Sizing up the Tesla trade

In December 2020, BlackRock traded over US$40 billion across its ETFs to account for the compositional changes that took place during the December 2020 S&P index rebalance event. Tesla stock accounted for around 15% of that, with approximately US$6.6 billion traded.[5]

SIDEBAR

Dynamic trade execution

Index changes (and, as a result, index portfolio adjustments) can take place on a single day or in tranches over several days. BlackRock PEs and traders closely evaluate a number of key variables such as liquidity, price, and price volatility until the effective date of the index rebalance.

These factors are reviewed at the security level and the portfolio level to manage any market impact that could arise from the volume of trades made during index rebalances, potential liquidity challenges of trading some of the impacted securities, and costs associated with trading and turnover. Because a fund's performance is measured by its ability to track its underlying index, maintaining cost parity to the index price during rebalance events is critical. Index prices assume frictionless markets, which means that trading costs aren't considered. BlackRock PEs and traders therefore leverage a range of complementary trading strategies for smooth and efficient execution in line with index prices.

To assess the cost of executing the S&P 500 index rebalance trades in the relevant funds, BlackRock traders estimated the available market-on-close[7] liquidity of the stocks they needed to trade.

In the case of Tesla stock, cross-trading was used to reduce the overall impact of BlackRock's trading activities on the underlying market and to minimize portfolio transaction costs.[8] By enabling a significant amount of potential trading activity to be exchanged in the regulated cross, there was no trade impact in public markets in terms of bid/ask spread. This translated to cost savings for investors in the funds involved.

In addition to intraday monitoring, a limit-on-close strategy allowed PEs to limit the potential costs associated with trading frictions, such as rising stock prices, and achieve pricing in line with the index price by market close.[9]

Data-driven preparation

To maintain fund performance, it is critical for BlackRock PEs to execute trades in a timely fashion (based on the effective date of the index rebalance) and keep fund strategies aligned with their underlying index. Therefore, PEs rely on projections informed by the pro-forma index data from BlackRock's Index Research Group, along with a host of other security- and portfolio-level data points, to model and design different potential portfolio outcomes in preparation for executing portfolio changes.

Because of the size of the December rebalance and the market volatility around the Tesla announcement,[6] BlackRock PEs carefully evaluated a number of key factors including:

- How the equity weight adjustments and new index profile might impact the risk, return, and composition of the portfolios tracking the index
- How Tesla stock had been trading (e.g., price and volume patterns) ahead of the index rebalance effective date
- How much Tesla stock was available to trade and at what price

Reviewing these details helped BlackRock PEs ascertain what other stocks would need to be bought and sold to ultimately arrive at a portfolio composition that aligned with the post-rebalance benchmark. BlackRock PEs coordinated with teams across the firm, including research, trading and risk management, to manage a range of pre-, during, and post-trade activities as they aimed to deliver efficient tracking of the index.

Conclusion

By taking a data-driven, dynamic approach to managing the December S&P 500 index rebalance, BlackRock teams leveraged their deep portfolio expertise and investment skill to achieve fund performance that was aligned with index performance. They also preserved value by delivering precise outcomes for investors.

Case Study Endnotes

1 After a security meets the financial viability requirement (positive current earnings and consistent cumulative positive earnings over the most recent four quarters of the year), the S&P Index Review Committee still has discretion over whether and when a security will be included in the index based on its own analysis of the company. See the S&P 500 Index Brochure, available at: https://www.spglobal.com/spdji/en/documents/additional-material/sp-500-brochure.pdf. Tesla reported five straight quarters of profit through Q3 2020. As of December 31, 2020. Source: Reuters.

2 In addition to the S&P 500, Tesla was added to a number of other S&P global indexes during the December 2020 S&P index rebalance event. Other S&P indexes that added Tesla and are tracked by iShares ETFs include: S&P 100, S&P 500 100% CHF Hedge Index, S&P 500 Capped 35/20 Consumer Discretionary Index NTR, S&P 500 Growth TR Index, S&P 500 Index -100% EUR Hedged (Fixed), S&P 500 Index - 100% GBP Hedged (Fixed), S&P 900 Growth Total Return Index, S&P Global 1200 Consumer Discretionary (Sector) Capped NET Index, S&P Total Market Total Return Index. Source: BlackRock.

3 Upon inclusion, Tesla became the fifth largest company in the S&P 500 (based on combined Alphabet share classes) or the sixth largest if both share classes of Alphabet were counted separately. Prior to the Tesla inclusion event (17/12/20), the index's exposure to the Consumer Discretionary sector was 11.2%. Post inclusion (18/12/20), exposure increased to 12.7%. As of December 31, 2020. Source: Bloomberg, BlackRock.

4 As of March 31, 2021. Source: S&P 500® Factsheet - S&P Dow Jones Indices.

5 The total notional traded amount was US$43.8B across all (US and UK domiciled) iShares exchange traded funds tracking S&P indexes during the December 2020 S&P index rebalance event. This included both trading activity for the S&P indexes that traded Tesla (see Endnote 2 for list of indexes) and for other S&P indexes (tracked by iShares ETFs) that were not impacted by the Tesla addition specifically but were included in the rest of the index rebalance-related trading changes. As of December 18, 2020. Source: BlackRock.

6 For example, on December 18, 2020 (the effective date of Tesla's addition to S&P indexes), Tesla stock dropped to a low of $628.54 per share before closing at a high of $695 per share. The prior day close was $655.90 per share. As of December 18, 2020. Source: Bloomberg.

7 Market-on-close (MOC) orders are trades submitted to execute as close to the closing price as possible.

8 In certain circumstances, BlackRock, on behalf of the iShares ETFs, and BlackRock index funds, may seek to effect purchases and sales between BlackRock clients (including across iShares portfolios), known as "cross-trades," if BlackRock believes such transactions are appropriate based on each party's investment objectives and guidelines, subject to applicable law and regulation. For example, if a stock is being removed from Fund A and added to Fund B, those trades may be offset through a cross trade mechanism, thus reducing overall trade size and resulting impact on the underlying market.

9 A limit-on-close (LOC) order indicates an interest to buy or sell a specific number of shares, but only if the closing price is at or better than an indicated limit price.

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