

Index Investing Supports Vibrant Capital Markets



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Index investing has profoundly changed the way investors seek returns, manage risk, and build portfolios. For nearly 50 years, index investment vehicles have lowered costs and simplified access to diversified investments for all investors, from sophisticated institutions to individuals. Technology and data have also transformed the range of investments that can be tracked by an index. Choice now extends beyond traditional equity indexes, which include stocks in proportion to their market-capitalization, to a whole array of more dynamic indexes compiled according to other methodologies.¹ These can be used to create investment products that serve a wide variety of needs – for example, products that track indexes with exposure to specific investment styles such as value or quality stocks.

Change is often disruptive to established norms, however, and there has been a cadence of commentary citing concern about the growth of index investing. Some of the headlines have been arresting,² but many of the underlying arguments either are not supported in the data or would benefit from greater clarity and a common language around key concepts, such as asset ownership versus asset management; the size of assets managed by external managers relative to the total market value of investable assets; and shareholder activism versus activist investors. Although the benefits of index investing are widely recognized, these concerns have focused on its market impact. We see two themes emerging.

First, some commentators have sought to examine the role that index investing plays in capital markets. In particular, they ask whether index funds, by which we refer in this paper to index mutual funds and exchange traded funds (ETFs), have the potential to distort investment flows, create stock price bubbles, or conversely, exacerbate a decline in market prices.³

Second, other commentators have explored index investing, stock ownership, and competition, attributing higher consumer prices, escalating executive compensation, and even aspects of wealth inequality to index investment products.⁴ This academic discourse is often referred to as the literature on ‘common ownership’ – a shorthand term for the ownership by a single entity of shares of multiple companies in an industry.

In this *ViewPoint*, we outline some of the key elements of the debate around index investing, with the objective of differentiating core concepts and providing a practical perspective. We focus here on index investing in relation to company stocks and the equity markets.⁵ We begin by defining the spectrum of investment styles at the center of this debate, from the more active to the more index driven, and put the relative adoption of each style in perspective. We then draw out some of the distinct concepts at play, and address the impact of index investing on the equity markets. Finally, we examine the theories around common ownership, building on our *ViewPoint* entitled “Index Investing and Common Ownership Theories.”⁶

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Key Observations

1. Index investing has profoundly changed the way investors seek returns, manage risk, and build portfolios.

- Index investing has been transformational in providing low cost access to diversified investments for all investors, from institutions to individuals.
- Technology has extended the range of investments that can be indexed, providing choices beyond the traditional market-capitalization weighted indexes to more dynamic indexes, such as those tracking investment styles and value or quality stocks.
- Global trends driving the adoption of index investing strategies, include:
 - i. Growing awareness of the value proposition they offer, in seeking to track, rather than beat, a benchmark index;
 - ii. increased focus on fees and transparency by regulators and investors; and
 - iii. shift in brokerage and advice models that has seen investment advisers increasingly act less as stock or fund selectors, and focus more on building diversified portfolios, often delivered through index funds.

2. Despite its popularity, the relative scale of index investing is still small. Index investing overall represents less than 20% of global equities. Index funds and ETFs together represent just over 12% of the US equity universe, and 7% of the global equity universe.⁷

- While index investing is currently growing at a faster rate than active strategies, the balance of active and index management is self-regulating.
 - Underperformance by many active strategies has helped increase the appeal of index strategies. If index investing were to grow large enough to affect price discovery, any short term price fluctuations of individual stocks would be used by active managers to improve their performance.
 - Improved active performance would attract flows back into active strategies. Intuitively, the market will continuously adjust to an equilibrium.
- Further, while differentiating between active and index strategies is often a useful shorthand, in practice the investment landscape is not a binary choice between two styles, but rather a continuum of investment strategies that range from the more active to the more index driven. As a manager of both active and index based investment solutions, we see important and complementary roles for both.

3. The evolution of investment norms is generating an important debate regarding the impact of index investing on investment flows, stock prices, and the efficiency of capital markets.

- Greater clarity and a common language around core concepts would facilitate a more constructive discussion, including:
 - The difference between asset owners and asset managers;
 - Distinguishing the various forms of index investment products;
 - Threshold reporting and what it can tell us; and
 - The difference between an “active investment manager” and an “activist investor.”

Key Observations (cont'd)

4. Investment flows into different asset classes and sectors are driven by overall asset allocation decisions made by asset owners, not by the appeal of certain products or investment styles.

- Some commentators are concerned that index funds may drive investment flows into the asset class, sector or region of the moment, only to see a rapid decline when sentiment reverses.⁸
- In practice, investment products are tools for implementing the individual asset allocation decisions that are made by asset owners. In the absence of index funds, these asset allocation decisions would be executed via an alternative means, such as individual stocks or active funds.
 - Drivers for asset allocation decisions include macroeconomic developments and interest rate policy, not the choice of product.
- The vast diversity of index benchmarks, strategies, and products means that index assets are not limited to flowing into (or out of) a small set of static strategies, but rather are dispersed widely throughout the investable universe. Moreover, indexes themselves are not static. The stocks included are rebalanced periodically, reflecting the dynamics of the competitive landscapes that they track.

5. Pricing efficiency has benefited from leaps in technology, which continues to bring increasing information and transparency to stock markets. While index investing does play a role, the price discovery process is still dominated by active stock selectors.

- Price discovery, the process by which new information is incorporated into a stock's price, is driven by trading activity among buyers and sellers. This takes place at great speed and continues to get faster.
- Due to its relatively low turnover and small size compared to active strategies, trading driven by index investing plays a small role in the price discovery process for individual stocks.
 - For every \$1 of US equity trades driven by index strategies, managers seeking active returns (in excess of benchmark) trade approximately \$22.⁹
- The trading of ETF shares on exchanges in the secondary market does not directly drive buying and selling of the underlying stocks. Purchases and sales of stocks driven by the ETF creation and redemption process account for only 5% of all US stock market trading.¹⁰
- However, ETFs contribute to price discovery in two important ways:
 - For example, trading in the US of ETFs invested in international stocks aids price discovery when the domestic markets are closed.
 - Trading of ETFs is a way to express views and contribute to the valuation of sectors, regions or asset classes.

6. Academics continue to argue each side of the debate around index investing and common ownership. Given the early stage of research in this area, policy proposals are premature.

- Some recent academic literature on common ownership has sought to link asset managers and index investing with negative outcomes for consumers, including higher prices for goods and services. Some authors have gone further in proposing policy measures. However, we believe that these theories rest on some fundamental misconceptions, and do not provide a plausible causal explanation.
- A growing number of more recent academic papers challenge the assumptions, methodology, and conclusions of the original academic work on this topic, as part of a robust academic dialogue.
- As with all academic theories, it takes time to test hypotheses and arrive at a conclusion. Given the preliminary stage of this work and the conflicting conclusions, premature policy measures could do more harm than good.

The active-index investment continuum: Not a binary choice

Differentiating between active and index strategies is often a useful shorthand, and indeed, we use this broad distinction throughout this paper. However, whereas much of the current dialogue pitches active and index investment strategies against each other as opposites, the investment landscape is in practice more nuanced. This is important to establish at the outset, as the role of any of these investment styles will consequently also be nuanced. As illustrated in Exhibit 1, the investment landscape is better understood as a continuum of investment styles, each driven by a greater or lesser degree of active or index management, and a greater or lesser relationship to a benchmark index.¹¹ These styles are then delivered through a variety of investment products, which can be used to invest in various asset classes, regions and sectors. Asset owners can also implement many of these strategies directly.

For simplicity, we identify four common investment styles that encompass most equity assets managed by asset managers:

Active – absolute return

The aim of an absolute return strategy is to achieve a positive investment return, no matter the overall performance of the asset class. This category primarily comprises hedge funds, which are typically structured as private investment companies. They employ investment techniques that generally are not available in traditional asset management products, such as short selling, use of borrowed funds, more sophisticated financial contracts, or physical positions in commodities. Increasingly, many of these techniques are being replicated in certain types of regulated structures, such as Undertakings for Collective Investment in Transferable Securities (UCITS), and are often referred to as liquid alternatives. These strategies tend to charge the highest

fees to account for their investment research and analysis of individual stocks and other assets, and other structural features of the funds.

Active – relative return

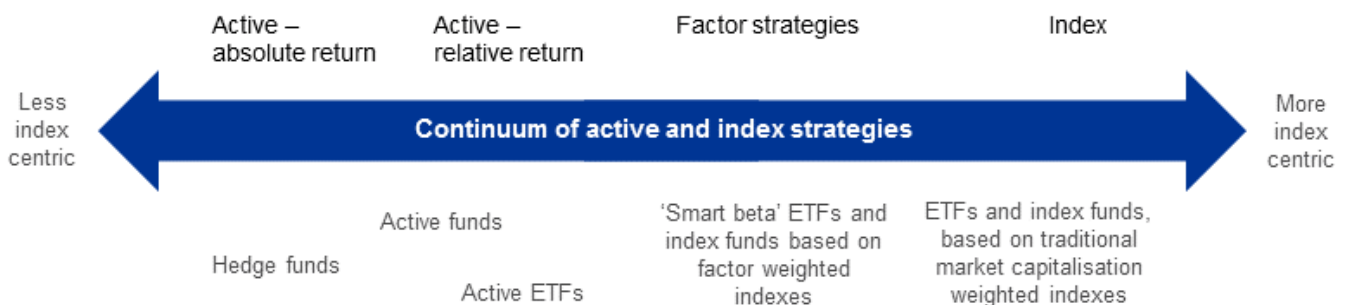
The aim of a relative return strategy is to outperform a particular benchmark index. This category includes both concentrated portfolios with fewer stocks than the benchmark, and higher tracking error (positive or negative returns relative to the benchmark), as well as more diversified portfolios that deliver returns more closely aligned to their benchmark. A host of other portfolios fall in between these two extremes. The overall costs of active investment strategies are generally higher than those for strategies that are intended to track the benchmark more closely, in part due to the cost of investment research and analysis of individual stocks.

Active and index – factor strategies

Size and style factors – such as small-cap stocks and value stocks – have long been used by investors, based on research going back to the 1930s by economists Benjamin Graham and David Dodd.¹² Nonetheless, indexes designed to track size, style, and other factors are relatively new entrants.¹³ Factor strategies can be applied to active or index portfolios. In the context of index investing, they are often referred to as “smart beta.”

Index investment products that incorporate factors are essentially designed to weight specific factors, such as value, volatility, momentum, dividend yield, and/or size. In this way, smart beta incorporates elements of both active and index: the benchmark is the result of an active process and the resulting portfolio replicates or tracks the benchmark. Factor strategies have generated increased interest as investors try to implement investment exposures that target risk and return profiles that differ from traditional market capitalization indexes.

Exhibit 1: Continuum of investment styles



Source: BlackRock. For illustrative purposes only.

Index strategies

This category is sometimes referred to as “index investing”; however, this label may give the false impression of a fully automated approach to investment management. These strategies do seek to track the composition and performance of an index closely, but require specialist portfolio management expertise to do so.

Index strategies are offered in various product structures, including index funds,¹⁴ collective investment funds (CIFs) and separate accounts. Index providers and sponsors of index funds generally look to construct and track benchmarks that are (i) transparent, (ii) investable and (iii) strictly rules-based.

- Transparent means that the rules of the index, its risk-return profile, and the constituents are disclosed.
- Investable means that a material amount of capital can be invested in the index constituents and the index’s published return can be tracked.
- Strictly rules-based means that no portfolio manager intervenes in determining the investment universe and holdings of the fund (away from managing the minimization of tracking error, transaction costs or other restrictions). The portfolio management process for index investments does not rely on fundamental analysis of individual stocks and maintains economies of scale that tend to facilitate lower expense ratios.

Having defined the continuum of investment styles that form the foundation of this debate, we next examine each in context, including their relative size and adoption.

Investment styles in perspective: How big is index investing?

Investment styles can be expressed through a variety of vehicles, including hedge funds, active and index funds, separate accounts, and CIFs. When considering the popularity of one style over another, we must first address the practical reality that, while some types of asset management data are relatively easy to obtain and verify, data for which there is no definitive public source can only be estimated. Sizing different investment styles serves as an example of this challenge.

Commentators often use data on index funds to draw conclusions about the equity market as a whole. However, this extrapolation is incomplete as index funds represent only a subset of possible ways to invest in equity markets. Commentators also tend to focus on assets under management (AUM) – that is, the amount of capital managed according to one style or another – as a way to measure index investing relative to other investment styles. The AUM of one investment style over another provides some insights regarding investor style preferences, but it does not tell us about the amount of stock trading it drives, or how much of the total stock market is owned or transacted by a given investment style. Moreover, discussion of active and index AUM often overlooks the fact that the majority of global equity assets are owned and managed by individual owners directly (institutions or individual investors), rather than managed on their behalf by external asset managers. Instead, to understand the true footprint of market participation, we analyze the percentage and dollar value of total equity market capitalization owned and traded by a given investment style by product type or ownership structure.

A look at the development of indexes and index investments

Financial indexes have become indispensable parts of the capital markets and investment process. They are used for myriad purposes: tracking the performance of markets or sectors; measuring portfolio manager skill versus a benchmark; as building blocks for portfolios; and, as key inputs to stock price discovery in global markets.

In the 1970s, asset managers created investment products that tracked the stocks and performance of financial indexes in the form of separately managed accounts and index funds. This development was based on concepts rooted in the Efficient Market Hypothesis developed by economists including William Sharpe, John Lintner, Eugene Fama, and Paul Samuelson,¹⁵ and transformed financial indexes from information to investments.

In the 1980’s, stock exchanges and broker-dealers introduced stock index futures – capital markets contracts that provide investment exposure to an index of stocks. At that time, some commentators contended that stock index futures would dominate capital markets, impairing rather than improving them.

Today, the growth of index investing, chiefly via ETFs, is not only significant, but has also increased in 2016 and 2017.¹⁶ This has catalysed new questions about index investing and the ownership of company stock, and renewed those questions posed in the early years of index markets regarding the impact of index investing on efficient price formation for stocks.

In Exhibit 2, we estimate the ownership levels of stock market capitalization by investment style and vehicles.

Exhibit 2: Putting investment styles and vehicles in context: Ownership of global equity stocks, by indexing, active, and non-asset managed

	\$ trillions of market cap owned	Percentage of total market cap owned
Index	11.9	17.5%
Mutual funds	2.3	3.4%
ETFs ¹⁷	2.7	4.0%
Institutional indexing*	5.4	7.9%
Internal indexing*	1.4	2.1%
Active	17.4	25.6%
Mutual funds	8.0	11.8%
Institutional	7.5	11.0%
Hedge funds*	1.9	2.8%
Assets not managed by an external manager (excl. internal index investing)	38.7	57.0%
Corporate (financial and non-financial)**	25.2	37.0%
Insurance and pensions (defined benefit and defined contribution)*	8.5	12.5%
Official institutions*	5.0	7.4%
Total	67.9	100%

Source: BlackRock. Primary sources: World Federation of Exchange Database (WFED), Securities Industry and Financial Markets Association (SIFMA), European Central Bank (ECB), Bank for International Settlements (BIS), Hedge Fund Research (HFR), Cerulli, Simfund (data as of Dec. 2016), iShares Government Bond Index (GBI) (data as of Dec. 2016), and McKinsey data. "Non-managed assets" are assets not managed by an external asset manager (excluding internal index investing). Non-managed stocks (e.g. in individual brokerage accounts) are held by financial and non-financial corporations.

*Estimated

**Note: Includes individual stocks held by individual investors in brokerage accounts

The global investable universe for equities – the value of all publicly traded company stocks – is an estimated \$68 trillion (totalled in Exhibit 2) in market capitalization. As shown in Exhibit 2, traditional open-end¹⁸ mutual funds (both index and active combined) hold approximately \$10.3 trillion of that, and equity ETFs hold \$2.7 trillion, which represents 15.2% and 4%, respectively, of the investable equity universe. We can further break down the open-end mutual funds and find that \$2.3 trillion represent index strategies. In aggregate, these index mutual funds and ETFs represent \$5 trillion, or 7.4% of the equity universe. All of the other numbers in Exhibit 2 require assumptions to make reasonable estimates. If we include our estimates of institutional index investing and internal index investing strategies, the total market capitalization of all index strategies is \$11.9 trillion, or 17.5%

of the total equity universe. Given the global nature of this discussion, it is helpful to note that the relative proportion of investment via index funds is significantly lower in Europe, the Middle East, and Africa (EMEA) than it is in the US as shown in Exhibit 3.

Exhibit 3: Percentage of US and EMEA equity market held by mutual funds and ETFs

	US	EMEA
Total equity market value (USD)	27.3 trillion	12.0 trillion
Percentage of equity market value held by:		
Active Mutual Funds	16.8%	14.4%
Index Mutual Funds	6.3%	2.5%
ETFs	6.1%	4.0%

Source: BlackRock

Primary sources: (WFED), (SIFMA), (ECB), (BIS), (HFR), Cerulli, Simfund (data as of Dec. 2016), iShares GBI (data as of Dec. 2016), and McKinsey data.

These figures indicate that not only is equity investment via index funds small compared to that of active mutual funds, but that traditional active mutual funds themselves represent just a small percentage of the overall equity market – at 16.8% in the US, 14.4% in EMEA, and 11.8% globally.¹⁹

In addition, futures²⁰ and other instruments are critical pieces of the global equity markets, with futures trading in far greater volumes than ETFs (as shown in Exhibit 10). US futures contracts trade nearly \$250 billion per day, far in excess of ETFs.²¹ Trading of stock market futures contracts often vastly exceeds trading in their reference cash stock markets.²² Equity futures markets have proven to be an integral tool for hedging and risk-taking by active managers and promote efficient price discovery.²³

Flow trends in asset management

Having outlined the current scale of index and active investment, we next examine investment flows into both styles – and how these trends have changed over time.

Forty years ago, balanced funds containing both stocks and bonds were popular, run in the US by bank trust departments and in Europe by pension funds, banks and insurers. A number of investment professionals then left to create their own firms, mostly to focus on equity funds.²⁴ Broad equity portfolios were then segmented further, such as by company size, industry, or region.

Over the past few decades, individual investors have moved from owning individual stocks to investing in the equity market via mutual funds. Most recently, there has been a shift from traditional active strategies towards index.

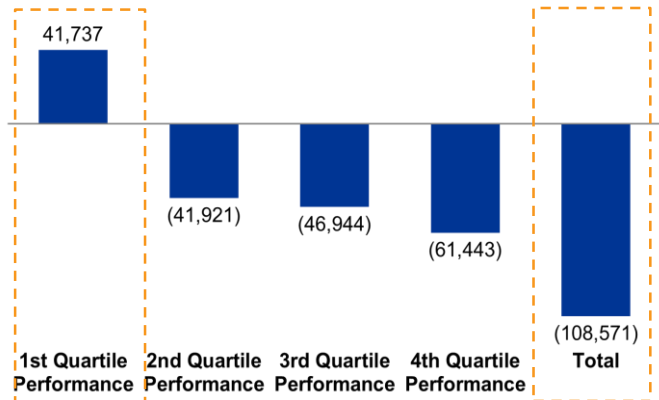
However, this is only part of the story, as index strategies are often used as low cost building blocks in actively managed portfolio asset allocation strategies – which again suggests that active or index are not clear distinctions.²⁵ Moreover, active funds that have exhibited strong performance net of fees have still been able to generate significant inflows (for more, see Exhibit 4) – indicating that this shift is about performance and fees rather than the style itself.

Although assets may be shifting from traditional active to index strategies, the net effect of flows is less a market-wide driver of stock-prices than a change in how assets are held. As noted by Fraser-Jenkins, investment flows into index strategies are primarily “from active funds that are often themselves benchmarked to a passive index into the index itself. It is perfectly possible for that flow to take place in a way that makes zero net change in the demand for given stocks.”²⁶ It is also worth noting that flows into equity funds as a category have been positive, reflecting asset owner asset allocation decisions. Exhibit 5 shows the net flows in and out of these investment styles during the past few years.

Key drivers of the trend towards index investment

Understanding the key drivers of the shift toward index investing is essential. Three of the most important considerations are: (i) the growing awareness of the value proposition that index investment strategies offer in seeking to track, rather than beat, a benchmark index; (ii) increased focus on fees by regulators and investors, and (iii) the shift in brokerage models towards advisers as portfolio managers.

Exhibit 4: Active equity funds with strong performance experienced net inflows in 2017 YTD – even as active generally is in outflow (USD millions)



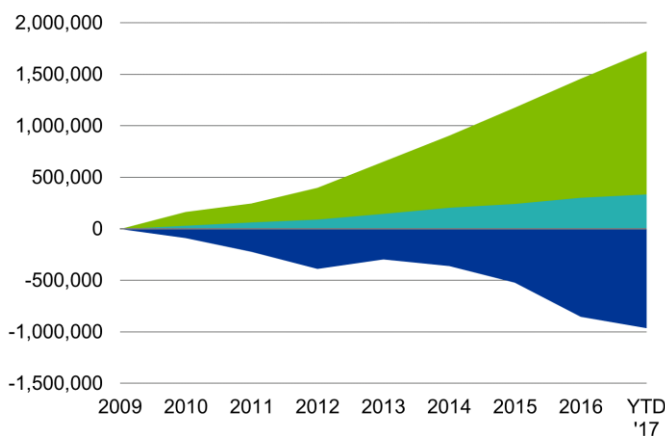
Source: Simfund MF. Active Equity Funds only - Excludes Closed-End Funds, Fund of Funds and Money-Market Funds. Data as of 7.31.17. * Data excludes mutual funds with less than a 3-year track record, which are unrated. Performance quartile based on respective Morningstar categories, and represents 3-year performance..

Value proposition of index investment strategies

Numerous studies have examined the performance of various active strategies. While different mutual funds and different sectors of the market have each had different experiences, quite a few active investment products have failed to beat their benchmarks, especially when fees are taken into consideration. In recent years, many hedge funds have similarly disappointed their investors. Not surprisingly,

Exhibit 5: Cumulative equity mutual fund and ETF flows by investment style, 2009-2017 year to date

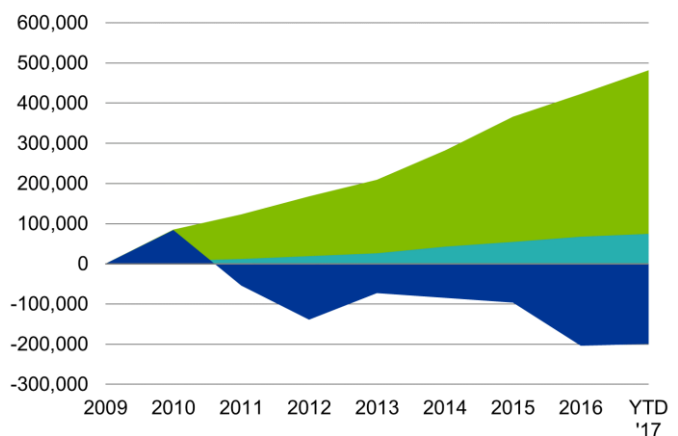
US domiciled cumulative equity mutual fund and ETF flows in USD millions



Index (Mutual Funds + ETFs) Factors/ Smart Beta (Mutual Fund + ETFs) Active Mutual Funds

Source: Simfund for mutual funds; iShares Global Business Intelligence for ETFs. Equity Funds only - Excludes Closed-End Funds, Fund of Funds and Money-Market Funds. US mutual funds and ETF Data as of 7.31.17

Non-US domiciled cumulative equity mutual fund and ETF flows in USD millions



Source: BroadRidge and Simfund Global for mutual funds; iShares Global Business Intelligence for ETFs. Equity Funds only - Excludes Closed-End Funds, Fund of Funds and Money-Market Funds. Non-US mutual fund Retail data includes Canada, EMEA ex Iberia, LatAm Iberia, APAC and total cross border ETF data as of 7.31.2017; Non-US mutual fundData as 6.30.17

investors have shifted their money away from underperforming products. On the other hand, many of these investors have moved money into index funds and to active funds that have outperformed.

Increased focus on fees by regulators and investors

An increased focus on fees has also been fueled by global regulatory initiatives.

In 2013 the UK introduced its Retail Distribution Review (RDR), which effectively eliminated the payment of retrocessions to independent financial advisers, while in the EU, the Markets in Financial Instruments Directive II (MiFID II), effective from January 2018, significantly restricts the circumstances in which retrocessions may be paid.

In the US, The Department of Labor (DoL) mandated increased transparency on fees for 401k plans²⁷ and then forged ahead with its Fiduciary Rule.²⁸ Each of the regulatory initiatives above has implications on the cost of the individual products as well as the potential outcomes of the overall investment program. Many intermediaries and others involved in offering products to individual investors have interpreted these regulatory actions to mean that low-cost products are a “safe harbor”; by choosing low fee products, they are in essence fulfilling their responsibility towards their clients. This regulatory pressure has also helped fuel a shift in adviser business models from commission-based payments – in which the adviser earns a commission based on products sold – to advisory-based payments in which the adviser earns an annual fee that is a percentage of total client assets.

A shift in brokerage models towards advisers as portfolio managers

This shift in the brokerage and advice industry from focusing on “products” to focusing on “portfolios” had already begun before recent regulatory moves, as many financial advisers had changed their business model from being a “stock broker” who recommends specific stocks or funds – and receives a commission on those sales – to instead acting as an adviser for their clients’ overall portfolio, with a focus on asset allocation using in house or third party model portfolios. In these fee-based, more advisory models, advisers increasingly provide value through making portfolio allocation rather than product decisions. Given that these advisers are charging an advisory fee on the overall portfolio, they often select low fee building blocks that enable them to gain exposure to specific sectors or asset classes based on the macroeconomic view of the adviser at a low cost to the client.

The flows in Exhibit 5 reflect the disruptive change that is occurring in the industry. Changes in business models, changes in regulation, and changes in customer preferences

all contribute to this outcome. That said, many market participants are working through the challenges of transitioning to new norms and business practices, and articulating changing value propositions to their clients. Policy makers are similarly examining these developments in order to better understand the dynamics underlying the flows, and the implications for equity markets looking forward.

Core concepts

One of the challenges in discussing asset management is that core concepts are sometimes conflated, causing confusion. In the dialogue around active and index management, greater clarity and a common language around core concepts would facilitate a more constructive discussion, including around the following topics:

- i. The difference between asset owners and asset managers
- ii. Asset allocation decisions, not products, drive investment flows
- iii. Threshold reporting, and what it can tell us
- iv. The difference between being “active as a manager” and being an “activist investor”

The difference between asset owners and asset managers

The difference between asset owners and asset managers is fundamental for understanding who makes investment decisions and who benefits from them. In May 2014, we addressed this point in the *ViewPoint* “Who Owns the Assets?”²⁹ As we highlighted then:

- **Asset owners** include pension plans, insurance companies, official institutions, banks, foundations, endowments, family offices, and individual investors located all around the world. Asset owners have capital to invest, and can choose to either manage it themselves, outsource this role to asset managers, or a combination of both. Asset owners accept the investment risk, as well as gains or losses.
- **Asset managers** are fiduciary agents, required to act in the best interest of their clients, the asset owners. They invest the capital of their clients according to the guidelines set out in the legal documentation of the mandate, or the applicable regulatory framework of the investment vehicle selected.
- The two critical points are that asset managers (i) do not own the assets of their clients, and (ii) in most cases do not determine the asset allocation of their clients.

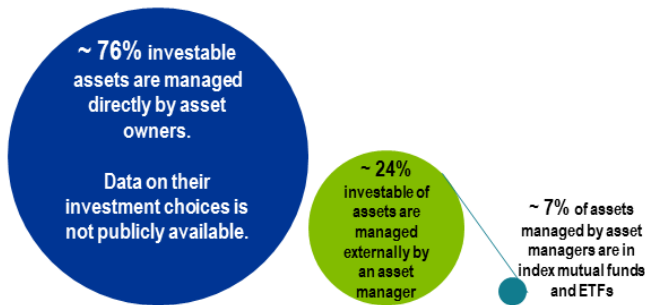
Importantly, it is asset owners that make the overall strategic decisions on their portfolios, including that of asset allocation.

Most assets managed directly by asset owners

According to McKinsey, approximately 76% of investable assets (stocks and bonds) are managed by the asset owner.³⁰ Approximately 24% of investable assets are managed by external asset managers, as illustrated in Exhibit 6.³¹ Considering assets managed by asset managers provides only a limited view of the universe of investable assets.

While data regarding investment in mutual funds and ETFs can be easily obtained, the investment styles and preferences of the 76% of assets that are managed directly by the asset owners can only be estimated.

Exhibit 6: Percentage of internally and externally managed assets, and the proportion of externally managed assets in index funds and ETFs



Source: Figures, McKinsey, July 2013, Illustration, BlackRock. For illustrative purposes only.

When considering equity investment in isolation, we estimate that 43% of investable stocks are managed externally by asset managers, as shown in Exhibit 2 (17.5% according to index strategies, and a 25.6% actively). For illustrative purposes only.

Asset allocation decisions, not products, drive investment flows

Asset allocation decisions start with an asset class or sub-class decision. A typical pension fund or insurer will, for example, determine its overall investment policy and then allocate capital to specific asset classes (i.e. equity, fixed income, commodities), and often to specific sub-asset classes (i.e. developed markets, emerging markets). It may then hire an external asset manager to implement those investment decisions or may choose to manage assets in-house. Likewise, the choice of investment styles is an implementation decision.

As the asset owner first makes the asset allocation decisions, then chooses how to implement them, index strategies are just one of the equity investment styles that an asset owner might select. Index funds and ETFs are simply vehicles for expressing the asset allocation decisions of

Asset managers are diverse

Complementing the diversity of asset owners, asset managers also come in a wide variety of shapes and sizes, and may choose to specialize in a particular asset class, region or strategy, or offer a more diversified set of products and services.

Even the legal entities and capital structures differ, as firms may be organized as partnerships, public companies, subsidiaries of banks or insurers, or even as a mutualized company.

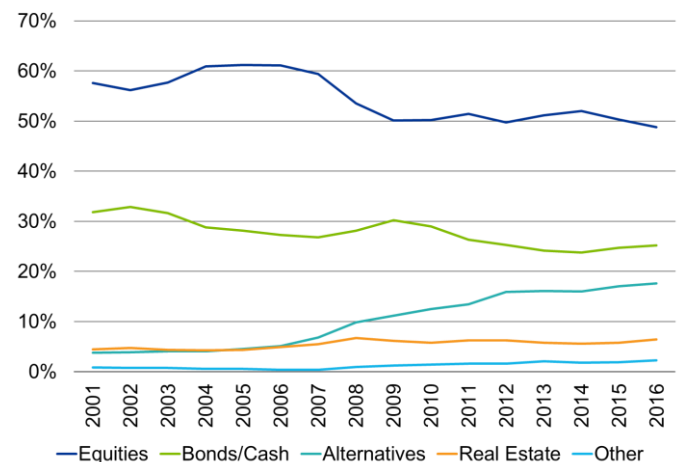
Investment decisions

1. Asset class or sub-asset class
2. Manage in-house or outsource to an asset manager
3. Choice of investment styles and vehicles

asset owners. As a result, the presence or absence of index strategies, including index funds, is not the driver of the amount of assets invested in equities.

In the absence of index funds or ETFs, investors could invest in active mutual funds or they might choose to invest directly in stocks and try to replicate the benchmark. To demonstrate how asset allocations change, Exhibit 7 shows that during the past decade, US public pension funds reduced their allocation to equities by over ten percentage points (from 61% in 2006 to 49% in 2016).

Exhibit 7: US public pension plan asset allocation over time



Source: Public Plans Database, accessed August 2017.

Threshold reporting, and what it can tell us

Stock ownership figures frequently attributed to asset managers, based on regulatory threshold reporting, relate not to stock owned by an asset manager, but to stock managed on behalf of diverse asset owners (discussed further in the next section).

Investors, including both asset owners and asset managers investing on behalf of clients, are generally required to report on their equity holdings to regulators in all jurisdictions where their assets are subject to disclosure requirements. Though the specific requirements differ by jurisdiction, the common purpose is to identify equity holdings in a given company as well as derivatives and other positions for regulatory purposes.

In our *ViewPoint* “Index Investing and Common Ownership Theories,” we explained that threshold reporting is not the same as ownership of stock unless the asset owner is managing its own assets.³² In the case of asset managers, the reporting numbers generally reflect aggregate holdings of the stock of an individual company that may be held in multiple portfolios of diverse asset owner clients.³³ In practice, dozens or even hundreds of portfolios – using different investment styles – at a single asset manager may each own stock in the same company. As a result, threshold reporting is of limited use in understanding the holdings of a single fund or even a suite of products managed by one asset manager on behalf of clients.

The difference between being “active as a manager” and being an “activist investor”

All asset managers, whether following absolute return, relative return, factor, or index strategies, have the ability to vote proxies based on the number of shares they hold across various portfolios.³⁴ One of the concerns raised by commentators over the past decade has been that “index managers” should not be passive with regards to corporate engagement with the companies whose stocks the index funds hold.³⁵

Today, there is increasing pressure from commentators and policy makers for external asset managers and asset owners to engage with companies on a variety of topics, including long-term performance and environmental, social or governance (ESG) issues.³⁶ Some have gone as far as to state that “the current level of the monitoring of investee companies and engagement by institutional investors and asset managers is often inadequate and too focused on short-term returns, which may lead to suboptimal corporate governance and performance of listed companies.”³⁷

In a similar vein, in the US, the DoL’s position is that “the fiduciary act of managing plan assets which are shares of corporate stocks includes decisions on the voting of proxies and other exercises of shareholder rights.”³⁸ Guidance from the DoL has also recognized that “fiduciaries may engage in other shareholder activities intended to monitor or influence corporate management where the responsible fiduciary concludes that there is a reasonable expectation that such monitoring or communication with management...is likely to enhance the value of the plan’s investment in the corporation, after taking into account the costs involved.”³⁹ The DoL’s view is that “proxies should be voted as part of the process of managing the plan’s investment in company stock unless a responsible plan fiduciary determined that the time and costs associated with voting proxies with respect to certain types of proposals or issuers may not be in the plan’s best interest.”⁴⁰

Activist investors

Activist investors are primarily hedge fund managers whose strategy is to take a large position in a company and then agitate for significant corporate changes. The activist might seek board seats⁴¹ or encourage management to consider a merger⁴² or break up a company into multiple companies.⁴³ While they are often criticized for advocating for corporate strategies that maximize short-term profits rather than taking a longer-term view, activists argue that they unlock value for shareholders.

One of the concerns that has been raised is that index funds prevent activists from improving companies. In practice, voting data as shown in Exhibit 8 indicates that managers of index funds sometimes support activists’ proposals and sometimes oppose them.

Exhibit 8: Incidence of BlackRock, Vanguard, and State Street voting in favor of activists or management, July 1, 2014 to June 30, 2015⁴⁴

	Voted in support of activist proposals	Voted in support of all management proposals
BlackRock	39% of the time	33% of the time
Vanguard	17% of the time	72% of the time
State Street	27% of the time	53% of the time

Source: Houlihan Lokey, Activist Situations Practice, Nov. 2015

Active managers

While there are a variety of active investment styles, these asset managers generally vote their proxies but do not seek seats on the boards of portfolio companies. UCITS for example effectively prohibits managers taking a board seat or controlling vote, stating, “an investment company or a management company acting in connection with all of the common funds which it manages and which fall within the scope of this Directive shall not acquire any shares carrying voting rights which would enable it to exercise significant influence over the management of an issuing body.”⁴⁵

In voting their proxies, some managers perform their own analysis and may engage directly with the companies in their portfolios; others rely extensively on proxy advisory services.⁴⁶ Importantly, if an active manager decides not to invest in a company, it can reduce its position or sell the shares entirely.

Active engagement

In contrast, an index manager will hold a stock for as long as the “name” is in the benchmark, and will need to engage with companies and vote their proxies in order to express their views, focusing on the long-term value of the company. In the paper “Engagement: The Missing Middle Approach in the Bebchuk-Strine Debate,” Matthew Mallow and Jasmin Sethi explain that one can have active engagement with a company without being an activist.⁴⁷

Investors define engagement as any communication with a company that enhances mutual understanding, or as a process intended to bring about a change of approach or behavior at a company, or even as a continuum covering all this and more – potentially including full-blown activism. BlackRock’s Investment Stewardship team engages with approximately 1,500 companies a year globally on a range of ESG issues likely to impact the firm’s long-term economic interests.⁴⁸

Approach to corporate engagement

Asset owners and asset managers are distinct in their approach to corporate engagement with the individual companies in which they invest.

An asset owner might want to be more involved in the running of companies in their portfolio, and in that case may request a board seat and seek to participate in strategy development and execution.⁴⁹

Index asset managers generally limit their engagement with companies to corporate governance topics such as the qualifications of directors, the time they have to devote to their duties, executive pay, or environmental, social or governance (ESG) issues.

Impact of index investing on equity markets

While the benefits of index investing to investors are widely recognized, recent commentary focuses on the role of index investing with respect to efficient capital markets. Specifically, some commentators have argued that index investing may harm the functioning of equity markets.

In this section, we first outline the concerns that have been raised and then seek to address the market realities around each. We then clarify the important concepts related to index investing’s impact on markets, including: (i) information sources that contribute to price discovery; (ii) how asset allocation decisions, rather than individual product choices, drive investment flows; (iii) the diversity of index strategies, which reduces market concentration; and (iv) the role of macroeconomic factors in correlation among stock prices. In addition, we describe how we can never reach the extreme of indexing entirely dominating the market because, were index flows to affect prices, this would create opportunities for active management.

Information sources that contribute to price discovery

Stock prices are determined by supply and demand in the market. Price discovery refers to the dynamic process by which prices evolve in response to new information. After incorporation of these information sources, the stock settles on a “market price.”

In practice, the price discovery process is driven through turnover and trading of those underlying stocks by market

Data, technology and price discovery

Stock markets have increasingly taken advantage of technology and moved to electronification, and away from open outcry trading. Customer-facing retail brokerages have also connected individual investors to major market stock exchanges. US stocks trade approximately \$175 billion per day,⁵⁰ with buying and selling dominated by stock selectors seeking to beat the market or profit from short term price fluctuations: individual investors via brokerage platforms; mutual fund managers; in-house investment teams at asset owners, like sovereign wealth funds; professional arbitrageurs and high-frequency traders; and hedge funds.

Price discovery happens today with extraordinary velocity. The unprecedented availability of data, advances in technology, and changes in regulation require stock selectors to generate an informational advantage in new ways. These investors are thoroughly active across the globe, and incorporate new information about a company at great speed.

Does index investing distort investment flows into sectors or asset classes?

This theory is based on a concern that index funds drive flows in a potentially disruptive way. However, it is the asset allocation decisions made by asset owners that drive flows into different asset classes, sectors, and geographies, not the investment vehicles or products. Drivers of asset allocation decisions include macroeconomic developments such as global interest rate policy.

THEORIES	MARKET REALITIES
Flows into index investment are driving up valuations in the stock market, and could create pricing bubbles, or exacerbate downward movements in stocks when sentiment changes.	<p>It is asset allocation decisions that drive flows into different asset classes, sectors and geographies – not investment styles or products. Index investing is just one way to implement these decisions.</p> <ul style="list-style-type: none"> If investors favor a particular region or sector they can invest via single stocks, ETFs, mutual funds, and derivatives. Absent index investing, they could still use any of these other styles to express views. <p>In addition, the index universe is extremely diverse across products, vehicles, and providers.</p> <ul style="list-style-type: none"> Index assets are dispersed widely throughout the investable universe.
Index fads drive flows into particular super stocks, inflating prices.	<p>As above, asset allocations – not products or vehicles – drive flows into different sectors.</p> <ul style="list-style-type: none"> Moreover, indexes are not static – their constituents are adjusted periodically (e.g., quarterly, semi-annually). Index weights, additions, and deletions change over time.

Does index investing hinder price discovery?

This theory asks whether index investing hinders the mechanism by which investors interpret information to determine (or 'discover') the price of a stock. In practice, the efficiency of capital markets has benefitted from leaps in technology. A variety of information sources and market participants contribute to price discovery, and active trading still dominates the process.

THEORIES	MARKET REALITIES
Index investors cause stock prices to deviate from their correct valuations, by investing on "auto-pilot" – making markets inefficient	<p>Active stock trading still dominates the price discovery process.</p> <ul style="list-style-type: none"> Active strategies have larger AUM, as well as higher stock turnover ratios. In US equity markets, an estimated \$22 is traded by active stock selectors for every \$1 traded by index-funds. <p>For the price of a stock to deviate from its correct valuation for longer than one trading day, flows and new investments by index funds would need to cause permanent effects on prices.</p> <ul style="list-style-type: none"> Short-term price changes create opportunity for active managers, and are quickly traded away. <p>Any future impact on price discovery by index investing is ultimately self-regulating – resulting in an equilibrium between active and index.</p> <ul style="list-style-type: none"> If index investing were to grow large enough to affect price discovery, any short term price fluctuations on individual stocks would be used by active managers to improve their performance. This would attract flows back into active, and create continuous adjustment to an equilibrium between index and active.
Index funds are free-riders on the hard work of active managers in determining stock prices, without contributing to efficient markets.	<p>The trading of ETFs on stock exchanges is an important contributor to price discovery across markets sectors, and individual stocks.</p> <ul style="list-style-type: none"> International ETFs traded during US market hours contribute to price discovery every day when non-US markets are closed. During suspensions of international stocks or markets, US-domiciled ETFs, for example, may be the primary source of pricing information available to market participants.
Index investing is increasing correlation among stock prices, diminishing the ability of active managers to generate returns through stock selection.	<p>Correlations in returns are driven by factors related to the macro environment – including interest rate levels – not index investing.</p> <ul style="list-style-type: none"> Stock correlations were higher in the 1930s, prior to the development of index investing. Correlations among currencies – a market with little index investing – have also risen in the past decade, reflecting interest rate policy and the macroeconomic environment. When common factors (such as global interest rate policy, changes in aggregate demand, or the prices of raw materials) explain a large fraction of return movements relative to stock-specific return, correlations will be larger, and the opportunities for active managers will be fewer. <p>The growing market share of index strategies may present opportunities for active managers should we ever get to the stage where index flows affect prices.</p> <ul style="list-style-type: none"> This eventuality seems far off in the future and is naturally self-correcting. As mentioned above, any impact on price discovery would enable active managers to take advantage of short term price fluctuations to improve their performance, and attract flows back into active management.

participants. While some commentators have referred to the size of assets managed according to index or active strategies, the most important input to market prices is the trades of individual stocks, whether by active funds, index strategies, or individual holders.

Index investing and price discovery in context

Despite its popularity, index investing still plays a relatively small role in the price discovery process. To put the impact of index investing on price discovery in context, index funds represent 7.4%⁵¹ of the global equity market, while all index strategies combined (including institutional index investing and internal index investing) represent 17.5% of the global equity market. Moreover, active managers have significantly higher portfolio turnover ratios than index funds. In Exhibit 9, we estimate the total amount of stock turned over by active and index strategies in US equities per year, calculated by multiplying relative AUM size by their respective turnover ratios of underlying stocks. When multiplying respective turnover rates by AUM size, we find that roughly \$22 is traded by active stock selectors for every \$1 traded by index managers.⁵² Given that trades placed by active stock selection represent the vast majority of trading activity, active management is the critical driver of price discovery.

Exhibit 9: Total stock turned over by active and index strategies (US equity), calculated by multiplying relative AUM size by their respective turnover ratios

Form of Asset Management	AUM	Turnover	Total amount of stocks turned over annually
Active stock selection	\$12.5 trillion	80%	\$10.0 trillion
Index tracking	\$6.5 trillion	7%	\$0.46 trillion

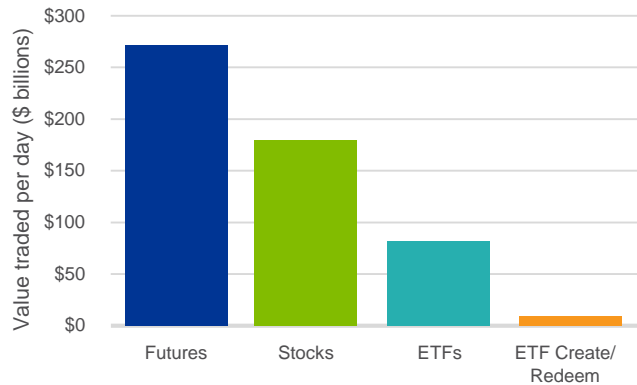
Source: BlackRock, McKinsey, and Investment Company Institute (2015)
 Notes: Active stock selection includes institutional, retail, and multi-asset hedge funds, including fund leverage. Index tracking includes index and ETFs.

In addition to turnover in individual stocks, several other equity related transactions contribute important information to price discovery. These include equity futures, share issuances, repurchases, individual stock options, and other relevant market valuations such as private equity.

Exhibit 10 shows the relative size of trading of futures, stocks, and ETFs. Futures trading volumes not only exceeds stock trading, but also far exceeds either the secondary market trading in ETFs or the creation and redemptions of ETF shares (more on this distinction below). Their

contribution to price discovery at the sector level is widely acknowledged. However, while trading in the futures market is largely concentrated in two US indexes – the S&P 500 and the Russell 2000 – ETFs trade more broadly, contributing to price discovery across sectors, countries and asset classes.⁵³

Exhibit 10: ETF creations are a fraction of US equity dollar trading volume



Source: Bloomberg, KCG Market Commentary: ETF Insights (Feb. 8, 2017),

ETFs exhibit a number of important features that are critical to understanding their impact on markets. Shares in the ETF itself trade like shares of any other stock on a stock exchange, which is referred to as “secondary market trading.” These trades occur without necessarily causing the underlying stocks to trade. In the event of a deviation between the market value of the underlying stocks and the price of the ETF shares, an authorized participant may choose to enter into a creation or redemption transaction to take advantage of such arbitrage opportunities and either deliver a basket of stocks (creation), or request a basket of stocks (redemption).⁵⁴ While this creation and redemption process does lead to the trading of the underlying stocks of an ETF portfolio, this accounts for just 5% of all US stock market trading.⁵⁵

The impact of ETF flows on individual securities or sectors has been cited as a contributor to volatility. In fact, as mentioned above, the possible impact of flows on underlying trading specific securities is quite small. As a case study, consider the largest market cap company, Apple Inc. (AAPL). In July 2017, a month which saw large inflows to ETFs, \$65.9 billion of Apple stock was traded. Although Apple was held by 331 ETFs globally, we found that at least 95% of the stock’s trade volume in July 2017 was not directly related to ETF flows.⁵⁶ Leveraged and inverse exchange-traded products may require additional analysis.

Even though ETF trading contributes comparatively little to the trading of underlying individual stocks, ETFs do contribute to price discovery in two important ways.⁵⁷

- **International ETFs hold securities that trade in non-US trading hours:** International ETFs traded during US market hours offer an example of efficient price discovery of underlying markets everyday when non-US markets are closed.
- **Price discovery at the region, sector or asset class level:** Increasingly, trading of ETFs based on broad indexes, sectors, styles, countries, and regions has contributed to price discovery across asset classes. For example, hedge funds may use ETFs to express views on the valuation of sectors, i.e. by selling technology and buying energy. Similarly, were an individual investor to rebalance from an exposure to US large cap index to the German DAX index, these ETF trades, which express the change in allocation by asset owners, would contribute to regional or country valuations.

Asset allocation decisions – rather than individual product choices – drive investment flows

The theory that index investing may accelerate investment flows into or out of certain market segments or specific stocks misinterprets the nature of investment decisions, the diversity of asset owners and their objectives, and the diversity of investable indexes.

Asset allocation comes first

First, as discussed on page 8 in “The difference between asset owners and asset managers,” the asset allocation decision starts with an asset class or sub-class decision. The decision to manage in-house versus outsource, or use a combination of these approaches, is about the implementation of the allocation decision. Likewise, the decision to choose an index strategy versus an active strategy is an implementation decision. In the absence of index funds, these asset allocation decisions would still simply be executed via an alternative means – and we would see the same result through essentially the same flows into or out of different asset classes, regions, or sectors.

Index strategies are extremely diverse

Second, the argument that index investing distorts investment flows or stock prices implicitly assumes that only a small number of indexes are available and that these indexes are not sufficiently broad-based. In practice, index strategies are extremely diverse along multiple dimensions. There are numerous index providers, including Morgan Stanley Capital International (MSCI), Russell, and Standard

& Poor’s (S&P). The index providers establish index inclusion rules and rebalance these indexes periodically according to the construction rules to reflect changes in the markets. Indexes are therefore dynamic, not static, and the stocks included change over time, reflecting the competitive landscapes that they track. Further, each of these providers offers a wide range of indexes covering various segments of the investable universe of stocks. This includes indexes with a broad market focus, others with a geographic focus, and still others with a sector-specific focus. Investors can select the index that best meets their investment needs. The diversity of index strategies reflects the diversity of the universe of benchmarks and, more importantly, investor demand. Exhibit 11 highlights this diversity while focusing on the most popular regional indexes.

Exhibit 11: Most popular single country/regional indexes (by amount of index assets benchmarked to it)

Region	Index
EMEA	SIX Swiss Performance Index
	Financial Times Stock Exchange (FTSE) All-Share
	Morgan Stanley Capital International (MSCI) Europe
	Financial Times Stock Exchange (FTSE) 350
	Morgan Stanley Capital International (MSCI) EMU
	Euro STOXX 50
US	Standard & Poor’s (S&P) 500
	Center for Research in Security Prices (CRSP) US Total Market
	Standard & Poor’s (S&P) MidCap 400
	CRSP US Mid Cap
	CRSP US Small Cap
	MSCI US REIT
APAC	Nihon Keizai Shimbun (Nikkei) 225
	Tokyo Stock Price (TOPIX) Index
	Hang Seng (HSI)
	CSI 300
	S&P/ASX 300
	KRX KOSPI 200 Korea

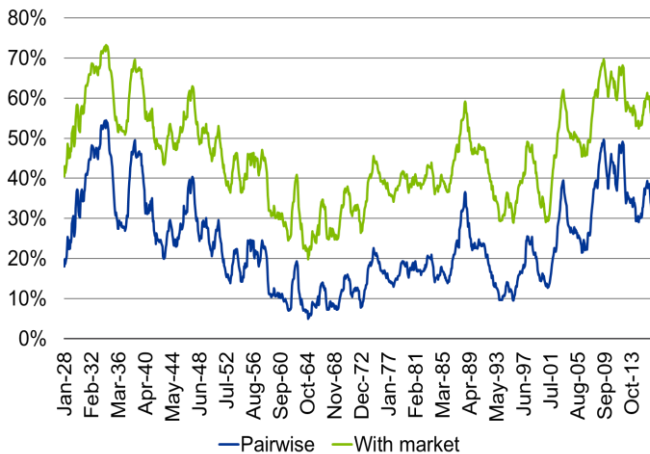
Source: Morningstar, as at end of December 2016. The popularity of the equity index is calculated on the basis of the index fund (index funds) assets tracking those indexes in each of the three selected regions, in USD.

The role of macroeconomic factors in correlation among stock prices

Some commentators suggest that the growth of index investing is causing greater correlation among stock returns.⁵⁸ The result, they say, is increasing correlations of stock return movements with those in the same industry.

In practice, the correlation among stock prices is driven by the macroeconomic environment – including interest rate levels – rather than investment strategies or specific products. For example, as Exhibit 12 shows, cross-stock correlations were higher in the 1930s – before the advent of index investing – than they are today. A key macroeconomic factor in the past decade has been global monetary policies that emphasized low (and even negative) interest rates. A component of these policies has been quantitative easing in which central banks purchased large amounts of assets, increasing their balance sheets significantly. These policies and actions have fueled a bull market in equities and increased correlations across assets.

Exhibit 12: Average US equity cross-stock correlations (12 month trailing moving averages)



Source: BlackRock based on data from CRSP, Bloomberg. “Pairwise” correlation represents the average return correlation between any two pairs of stocks in the index – in this example the S&P 500; “With market” represents the average correlation of each stock’s return with the S&P 500 index return, based on the methodology of Madhavan and Morillo (2014).⁵⁹

Benefit of index inclusion for companies

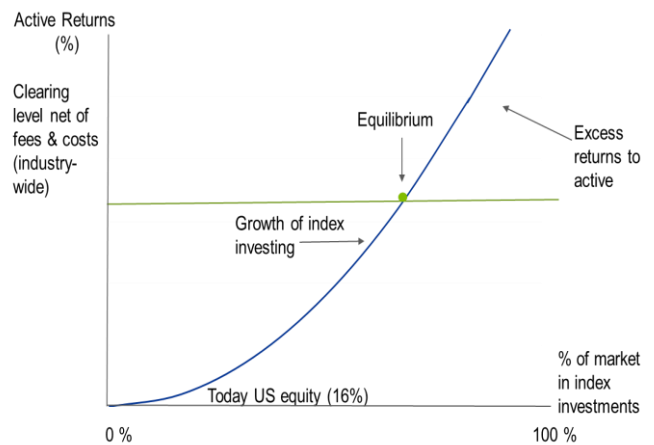
Index funds are efficient at channeling disparate pools of capital from around the globe to companies issuing stock.

This is as important for companies who are starting out as it is for established companies, and many companies strive to be added to the benchmark to be able to enjoy these benefits. Small companies would have more difficulty building a steady capital base in the absence of index funds tracking specialized indexes.

The opportunity for active strategies to outperform as index increases in market share may drive continuous adjustment to an equilibrium between index and active. Rather than fueling correlations that harm active managers, the growing market share of index strategies could open up new opportunities for active managers to outperform, through their ability to utilize short term price fluctuations of individual stocks. In fact, this dynamic means that any market impact of the rise of index is ultimately self-regulating: improved performance would likely attract flows back into active management, resulting in continuous adjustment to an equilibrium between active and index strategies.

Some commentators have pointed out that the increase in index investing may create short-term price fluctuations that can be utilized by active investors. In 2016, Seth Klarman’s Baupost investor letter stated: “The inherent irony of the efficient market theory is that the more people believe in it and correspondingly shun active management, the more inefficient the market is likely to become.”⁶⁰ Likewise, Grossman and Stiglitz have long held that there will always be active investors in the market because price is never the result of perfect information.⁶¹

Exhibit 13: Equilibrium in investment styles



Source: BlackRock, for illustrative purposes only.

As the share of index increases and opportunities open up for active investors to take advantage of short term stock price fluctuations, active performance may in turn improve. Given that active strategies with strong performance net of fees continue to attract inflows (see Exhibit 4), any increase in general active performance would likely cause some asset owners to reallocate their capital back to active funds, intuitively resulting in continuous adjustment to an equilibrium between active and index investing (as illustrated in Exhibit 13).

Academic theories around common ownership

Having explored theories related to the impact of index investing on equity markets, we now turn to those attributing competition effects – from higher consumer prices, escalating executive compensation, and other economic effects – to the growth of index investment products and index managers.⁶² This academic discourse is often referred to as the literature on ‘common ownership’, and is addressed in further detail in our March 2017 *ViewPoint* “Index Investing and Common Ownership Theories.”

Academic discourse

Those who suggest that index investing has negative effects on competition argue that ownership of individual companies across an industry by a large manager means that these companies have an incentive not to compete, and thereby keep aggregate industry profits high. Some authors claim to find evidence of such incentives; an academic debate has ensued regarding the validity of these results and what policy remedies, if any, should address such claimed findings. This ‘common ownership’ debate drew significant attention with a working paper called “Anti-Competitive Effects of Common Ownership” on the airline industry in April 2015.⁶³ The paper asserts that increases in common ownership coincided with airline seat ticket prices rising anywhere between three and seven percent during the 2001 to 2013 period.

This paper was followed by another working paper in July 2016 on bank competition entitled “Ultimate Ownership and Bank Competition,” which claimed to find that greater common ownership, as proxied by inclusion of a stock in an index, led to higher fees and lower interest rates for individual deposit accounts between 2004 and 2013.⁶⁴

A third working paper entitled “Common Ownership, Competition, and Top Management Incentives” put out in November 2016 postulates that common ownership deters company managers from competing aggressively with rivals as evidenced by executive compensation practices.⁶⁵ In these papers, the authors found correlations in the data; however, more current research casts doubt on their ability to demonstrate causation. Moreover, as we stated in “Index Investing and Common Ownership Theories,” these theories fail to account for the realities of the asset management business, which must cater to the needs and interests of a variety of clients. These clients have a range of investment mandates, making such an interest in higher consumer prices (which would ultimately hurt the returns of other companies in the asset manager’s portfolio) implausible.

These initial academic papers have been followed by a growing number of academic papers that challenge the

assumptions, methodology and conclusions of the original academic work. “Executive Compensation under Common Ownership” comes to the opposite conclusion regarding executive compensation, finding instead that common ownership increases the incentives to compete by sensitizing executives to their performance relative to rivals.⁶⁶

Likewise, “Testing for Competitive Effects of Common Ownership” by Federal Reserve staffers finds that the results of the earlier paper on the banking industry are not robust and that statistical evidence of common ownership impacting competition is mixed.⁶⁷

As we discussed in “Index Investing and Common Ownership Theories,”⁶⁸ these papers led to a series of policy proposals ranging from limiting index funds to hold one company per sector to denying index funds the right to vote their proxies. Quite a few papers responded to these proposals by questioning these solutions and suggesting that the remedy might be worse than the alleged problem, assuming that there is even a problem at all.

Recent developments

Most recently, papers authored by other economists have further weakened the arguments by those claiming that common ownership is a source of anti-competitive behavior.⁶⁹

In “The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence,” O’Brien et al., focusing exclusively on the airline industry, conclude that there is no evidence that common ownership has raised airline prices. The paper uses two different empirical approaches to estimate the effects of common ownership on airline prices. Both approaches serve as checks on each other and past research on this subject, and notably both methods produce no evidence that common ownership has raised prices.⁷⁰

Further, in “Proposal to Remedy Horizontal Shareholding Is Flawed,” Buckberg et al. argue that the remedies that have been proposed offer a costly and disruptive way to change asset manager behavior that would impair households’ ability to accomplish their long-term financial goals. This paper then claims that more research on whether institutional holdings are related to reduced competition is needed before any solution related to mitigating anti-competitive behavior is formulated.⁷¹

Despite broader concerns about increasing concentration in the economy, there is no clear evidence that index funds are a source of anti-competitive behavior. Academics have offered hypotheses based on correlations. Other academics have tested these hypotheses and responded. Given the preliminary stage of this work and the conflicting conclusions of various academics, it is premature to consider any policy measures.⁷²

Conclusion

Change causes displacement and rapid growth attracts attention. Given the shifts from active to index and the increasing popularity of index funds, we recognize the need to consider these questions and to engage in a fact-driven discussion. The conversation must start with a common language, and would also benefit from quality data – some of which is difficult to obtain.

A key aspect of this discussion is the role of asset owners in the capital markets, since decisions start with the owners of the assets. Most importantly, the asset owners decide on their overall asset allocation, which includes how much should be invested in stocks versus bonds, and often how much should be invested in various sub-asset classes. Funds are one of several choices that enable asset owners to express their macroeconomic views. The bottom line is that index funds are simply a vehicle for expressing the views of asset owners, and these funds themselves are not the drivers of equity market prices or individual stock prices.

As of now, active strategies still dominate both the trading of stocks, and the information sources used in price discovery. Despite the headlines, we are far from reaching an extreme concentration of index investing in the market, as index investing comprises less than 20% of global equities, with index funds and ETFs representing only 7.4% of global equities.⁷³ Moreover, we believe that the balance in market share between index investing and active is ultimately self-regulating. Though we have not yet reached a tipping point in the market share of index investments at which pricing inefficiencies have opened up, even if we were to move past this point, active managers would benefit from opportunities to profit from short term fluctuations in individual stock price

– which could improve active performance and likely attract flows back into active management. This in turn would result in a new equilibrium between the two styles.

Index investing provides a number of important benefits. First, given the diversity of indexes and the breadth of their holdings, index funds provide capital to a very large number of companies across the spectrum of size, geography, and sector. Second, index investors take a long-term perspective on the companies that they hold. In an era where long-termism is a scarcity, these funds provide stability. Third, sponsors of large index funds are actively engaged in investment stewardship. The scale of these funds allows firms to invest more resources in this area. As a result, most large index funds vote their proxies, rather than outsourcing this function to a proxy advisory firm. Finally, index funds democratize access to diversified investment portfolios. Institutional investors have established diversified portfolios at a low cost for decades. Index funds allow individual investors to enjoy these same benefits.

The key drivers of this shift towards index strategies are performance, fees, regulatory change, and business model changes. If any of these key drivers change, we can anticipate additional shifts down the road. For example, as mentioned above, the growth in index investing is likely to provide more opportunity for active managers to utilize pricing inefficiencies. The resulting outperformance, in turn, is likely to attract flows. In the meantime, market participants will need to adapt to this paradigm shift and find a new equilibrium – recognizing that the shift to index strategies is disruptive to the asset management industry, but not to markets.

Related content

[*ViewPoint: Index Investing and Common Ownership Theories*](#)

[*ViewPoint: A Primer on ETF Primary Trading and the Role of Authorized Participants*](#)

[*ViewPoint: Who Owns the Assets?*](#)

For more information

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Endnotes

1. See BlackRock, Index Investing and Common Ownership Theories, BlackRock Public Policy (Mar. 2017), available at <https://www.blackrock.com/corporate/en-de/literature/whitepaper/viewpoint-index-investing-and-common-ownership-theories-eng-march.pdf> at 3 (Common Ownership *ViewPoint*).
2. See, e.g., Frank Partnoy, *Are Index Funds Evil?*, The Atlantic (August 2017), available at <https://www.theatlantic.com/magazine/archive/2017/09/are-index-funds-evil/534183/>; Simone Foxman, *Paul Singer Says Passive Investing Is 'Devouring Capitalism.'*, Bloomberg (August 2017), available at <https://www.bloomberg.com/news/articles/2017-08-03/singer-s-elliott-hedge-fund-returns-3-5-in-the-first-half>; Matt Levine, *Are Index Funds Communist?*, Bloomberg (August 2016), available at <https://www.bloomberg.com/view/articles/2016-08-24/are-index-funds-communist>.
3. See, e.g., Chris Flood, *Record ETF Inflows Fuel Price Bubble Fears*, Financial Times (Aug. 2017), available at <https://www.ft.com/content/8720939e-7e82-11e7-9108-edda0bcbc928>; Natasha Doff, *Traders Fear Hard Landing in Emerging Markets*, Bloomberg (July 2017), available at <https://www.bloomberg.com/news/articles/2017-07-24/traders-fear-hard-landing-in-emerging-markets-as-bond-etf-swells>; Robin Wigglesworth and Adam Samson, *EM worries over swelling influence of ETF flows*, Financial Times (Aug. 2017), available at <https://www.ft.com/content/6f0350be-8295-11e7-a4ce-15b2513cb3ff>.
4. See, e.g., Einer Elhauge, *Horizontal Shareholding*, 129 Harvard Law Review 1268 (Mar. 10, 2016), available at <http://cdn.harvardlawreview.org/wp-content/uploads/2016/03/1267-1317-Online.pdf> (Horizontal Shareholding).
5. We focus on stock markets because (1) ownership percentages of debt markets by index funds are still de minimis (~5%); (2) debt owners do not customarily have the same governance rights as stock owners; and (3) debt markets trade over-the-counter and not on exchanges, with various levels of pricing transparency ranging from the Trade Reporting and Compliance Engine (TRACE) reporting to “by appointment” or even without report.
6. Common Ownership *ViewPoint*.
7. Index investing represents less than 20% of global equities (inclusive of assumptions around institutional indexing outside of mutual funds and ETFs), with index funds and ETFs (where no estimates are required as this data is publicly available) representing just over 7% and 12% of the global and US equity universes, respectively.
8. The Business Times, *Citi Says Emerging Markets Increasingly Reliant on ETF Flows*, The Business Times (Aug. 2017), available at <http://www.businesstimes.com.sg/banking-finance/citi-says-emerging-markets-increasingly-reliant-on-etf-flows>; Robin Wigglesworth and Adam Samson, *EM worries over swelling influence of ETF flows*, Financial Times (Aug. 2017), available at <https://www.ft.com/content/6f0350be-8295-11e7-a4ce-15b2513cb3ff>; Chris Flood, *Record ETF inflows fuel price bubble fears*, Financial Times (Aug. 2017) available at <https://www.ft.com/content/8720939e-7e82-11e7-9108-edda0bcbc928>.
9. As shown in Exhibit 9 in this paper, we estimate the total amount of US equity stocks turned over by active mutual funds and index funds, calculated by multiplying relative AUM size by their respective turnover ratios. We estimate that active funds drive greater turnover of US equities than index funds do, showing that active funds clearly dominate stock trading flows.
10. Phil MacKintosh, *5 Reasons ETFs Impact Stocks Less Than You Think*, Virtu Financial (formerly known as KCG) Market Commentary: ETF Insights (Feb. 8, 2017), available at <https://portal.kcg.com/kresearch/do/research/getDownload?attachmentId=4728&username=8FEW5ecT13JtHAY7Qm0TA> (ETF Insights Report). Create/Redeem flow is an average of \$8.9 billion per day. This is 11% of all ETF trading but only about 5% of all US stock trading. US stocks traded \$190 billion in 2016.
11. Investment practices that increase or decrease tracking error to a market capitalization benchmark could include, for example, dynamic market; factor and sector timing; tactical asset allocation (TAA); stock selection and acquisition of off-benchmark positions; and hedging and market risk management techniques.
12. See BlackRock, *A Matter of Style: The Long and the Short of Style Factor Investing* (Sept.2016), available at <https://www.blackrock.com/institutions/en-gb/literature/whitepaper/a-matter-of-style-en.pdf> at 4 (Matter of Style).
13. See generally Ang, Andrew, *Asset Management: A Systematic Approach to Factor Investing*, Oxford University Press (2014) (Factor Investing Book); See Matter of Style at 4.
14. While some active ETFs have been developed recently, the vast majority are index-based.
15. See generally Factor Investing Book.
16. Following multiple years of steady 10-12% organic asset growth rates, index funds' growth rates have increased to over 20%.
17. Equity ETF data includes both index and active ETFs. However, active ETFs constitute a very small portion of this data and do not materially impact this estimation.
18. An open-end fund is a type of mutual fund that does not have restrictions on the amount of shares the fund can issue.
19. The number 11.8% was computed by BlackRock using data from Simfund and Broadridge.
20. Futures are derivative securities because they are side bets on the value of the underlying security prices. Since ETFs are portfolios of stocks, they are not derivatives.
21. ETF Insights Report.
22. CME Group, *Stock Index Futures vs. Exchange Traded Funds (ETFs): TEXPERS 2015 San Antonio Educational Conference* (2015), available at [http://www.texpers.org/files/Lerman_CME ETFs\(1\).pdf](http://www.texpers.org/files/Lerman_CME ETFs(1).pdf).
23. William L. Silber, *The Economic Role of Financial Futures*, American Enterprise Institute for Public Policy Research (1985), available at http://www.farmdoc.illinois.edu/irwin/archive/books/Futures-Economic/Futures-Economic_chapter2.pdf.
24. In the early 1970s, John A. McQuown and William L. Fouse of Wells Fargo, developed the principles and techniques leading to index investing. This led to the construction of a \$6 million index account for the pension fund of Samsonite Corporation. See John C. Bogle, *The First Index Mutual Fund: A History of Vanguard Index Trust and the Vanguard Index Strategy*, Vanguard: Bogle Financial Markets Research Center (2006), available at https://www.vanguard.com/bogle_site/lib/sp19970401.html. In 1981, David Booth and Rex Sinquefeld started Dimensional Fund Advisors (DFA), and McQuown joined its Board of Directors many years later. DFA then developed indexed based investment strategies. See Della Bradshaw, *Chicago gets \$300m naming gift*, Financial Times (Nov. 7, 2008), available at <https://www.ft.com/content/ceb1907a-acbb-11dd-971e-000077b07658>. In 1989, with a group of investors and partners, Gary P. Brinson bought out his firm from First Chicago Bank and established Brinson Partners focused on passive management. The firm grew to control \$36 billion in AUM in five years. See Joel Chernoff, *How market's shift dislodged Gary Brinson* (Mar. 11, 2000), available at <http://www.chicagobusiness.com/article/20000311/ISSUE01/100013446/how-markets-shift-dislodged-gary-brinson>.

25. Institutional investors also benefited from the development in the early to mid-1980s of equity index derivatives, including futures, options and swaps.
26. Inigo Fraser-Jenkins, *Fund Management Strategy: Nearing the 50% passive milestone*, Alliance-Bernstein Report (April 25, 2017) at 3.
27. Department of Labor, *Fiduciary Requirements for Disclosure in Participant-Directed Individual Accounts Plans - Timing of Annual Disclosure* (29 C.F.R. 2550.404a-5) (Mar. 29, 2015), available at <http://webapps.dol.gov/federalregister/HtmlDisplay.aspx?DocId=28129&AgencyId=8&DocumentType=2>.
28. Department of Labor, *Definition of the Term "Fiduciary"; Conflict of Interest Rule—Retirement Investment Advice* (29 C.F.R. 2510.3-21) (April 2016), available at <https://webapps.dol.gov/federalregister/PdfDisplay.aspx?DocId=28806>.
29. BlackRock, *Who Owns the Assets? Developing a Better Understanding of the Flow of Assets and the Implications for Financial Regulation* (May 2014), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-who-owns-the-assets-may-2014.pdf> (Who Owns the Assets *ViewPoint*).
30. McKinsey & Company, *Strong Performance but Health Still Fragile: Global Asset Management in 2013. Will the Goose Keep Laying Golden Eggs?* (July 2013), available at http://www.asset-management-summit-2015.com/pdf/2013_Asset_management_brochure_20130723.pdf (McKinsey Report).
31. McKinsey Report. Note that the percent of externally managed assets is lower than the IMF's calculation since the IMF's calculation includes loans in total global financial assets. See also *Who Owns the Assets ViewPoint*.
32. McKinsey Report.
33. Common Ownership *ViewPoint* at 7-8.
34. To the extent that no external manager is involved and the asset owner is conducting the regulatory reporting, the regulatory data reflects the asset owner's holding. Given that asset owners may use a combination of internal and external sources, the threshold reporting is not useful for identifying the ultimate asset owners.
35. In certain markets, proxy voting involves logistical issues which can affect BlackRock's ability to vote such proxies, as well as the desirability of voting such proxies. These issues include but are not limited to: (1) untimely notice of shareholder meetings; (2) restrictions on a foreigner's ability to exercise votes; (3) requirements to vote proxies in person; (4) "share-blocking" (requirements that investors who exercise their voting rights surrender the right to dispose of their holdings for some specified period in proximity to the shareholder meeting); (5) potential difficulties in translating the proxy; (6) regulatory constraints; and (7) requirements to provide local agents with unrestricted powers of attorney to facilitate voting instructions.
36. "If a large slice of institutional investor money is passive, this could mean that few of them have any interest in holding boards to account. The concern is that if boards do not feel accountable to shareholders, incentives for good governance could wither away. Recently we have been engaging more with companies and asset managers about the implications of this. Basically, we want to encourage all asset managers to focus on how companies are governed and how they manage risks, and to get involved where necessary. Just over a year ago, we introduced a new stewardship code, which we call the Principles of Responsible Ownership. The principles aim to encourage investors to constructively engage with companies and to establish clear voting policies." See Ashley Alder, *Keynote Speech at Companies Registry Corporate Governance Roundtable*, Hong Kong Securities and Futures Commission (March 13, 2017), available at http://www.sfc.hk/web/EN/files/ER/PDF/Speeches/AIA_20170313.pdf at 5.
37. Shareholder Rights Directive.
38. DoL Guidelines at 95880.
39. DoL Guidelines at 95880.
40. DoL Guidelines at 95880.
41. Elliott/Hess and Jana Partners have been known to take or negotiate for board seats on the boards of companies in which they invest (e.g. Elliott/Hess on Arconic and Jana Partners on Agrium).
42. Pershing Square and Valeant formed a co-bidder entity with the intent to make an investment in Allergan and assist Valeant's merger with Allergan. Ultimately that effort fell apart and Allergan merged with Actavis.
43. Recent engagement by Carl Icahn's fund has included pushing for spin-offs at target companies and then lobbying for the adoption of shareholder-friendly corporate governance provisions at those targets. Settlements will often provide for Board representation at both parent and the spin-off, as in the cases of eBay and Manitowoc.
44. BlackRock withheld its vote 28% of the time, Vanguard withheld its vote 11% of the time, and State Street withheld its vote 20% of the time. Houlihan Lokey, *Activist Situations Practice* (Nov. 2015), available at http://www.hl.com/email/pdf/2015/HL-Activist-Shareholder-Update-Nov-15_v2.pdf. Some commentators even find that the growth of passive managers facilitates activism when activists practices are consistent with promoting long term value. Appel et al., *Standing on the Shoulders of Giants: The effect of passive investors on activism* (Sept. 26, 2016), available at https://finance.eller.arizona.edu/sites/finance/files/gormley_4.28.17.pdf.
45. European Parliament and Council, *Directive 2009/65/EC of the European Parliament and of the Council, Article 56* (July 13, 2009), available at http://ec.europa.eu/internal_market/investment/docs/ucits-directive/directive_2009_65_ec_en.pdf.
46. See United States Government Accountability Office, *Proxy Advisory Firms' Role in Voting and Corporate Governance Practices* (Nov. 2016), available at <http://gao.gov/assets/690/681050.pdf>.
47. Matthew J. Mallow and Jasmin Sethi, *Engagement: The Missing Middle Approach in the Bebchuk–Strine Debate*, 12 NYU JLB 385 (2016), available at <https://www.blackrock.com/corporate/en-us/literature/publication/mallow-sethi-engagement-missing-middle-approach-may-2016.pdf>. At the time of the writing of this paper, Matthew J. Mallow was the Chief Legal Officer at BlackRock and is currently Vice Chairman at BlackRock. Jasmin Sethi is a Vice President in the Legal & Compliance Department at BlackRock.
48. BlackRock, *Investment Stewardship Protecting our clients' assets for the long-term* (July 2017), available at <https://www.blackrock.com/corporate/en-gb/literature/publication/blk-profile-of-blackrock-investment-stewardship-team-work.pdf> at 6.
49. For instance, Berkshire Hathaway is a division of an American multi-national conglomerate that oversees and manages a number of subsidiary companies. Tied together with Berkshire Hathaway's investment in Coca-Cola Company is the presence of Warren Buffet's son on the Coca-Cola Company board. In June 2016, we published a *ViewPoint* entitled "Exploring ESG: A Practitioner's Perspective" which sets out BlackRock's views on ESG issues from the perspective of a fiduciary investor acting on behalf of asset owners. BlackRock, *Exploring ESG: A Practitioner's Perspective* (July 2016), available at <https://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-exploring-esg-a-practitioners-perspective-june-2016.pdf>. More recently, the FSB's recommendations¹⁹

of the Task Force on Climate-related Financial Disclosures went even further recommending specific reporting by companies. Task Force on Climate-Related Financial Disclosures, Recommendations of the Task Force on Climate-related Financial Disclosures (June 2017), available at <https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Report-062817.pdf>. See also Department of Labor, Interpretive Bulletin Relating to the Exercise of Shareholder Rights and Written Statements of Investment Policy, Including Proxy Voting Policies or Guidelines, 81 Fed. Reg. 95880 (Dec. 29, 2016), available at <https://www.gpo.gov/fdsys/pkg/FR-2016-12-29/pdf/2016-31515.pdf> (DoL Guidelines); Council of the European Union, Directive of the European Parliament and of the Council Amending Directive 2007/36/EC as Regards the Encouragement of Long-Term Shareholder Engagement (Dec. 13, 2016), available at <http://data.consilium.europa.eu/doc/document/ST-15248-2016-INIT/en/pdf> (Shareholder Rights Directive).

50. ETF Insights Report at 1.
51. ETF Insights Report.
52. As shown in Exhibit 8 in this paper, we estimate the total amount of US equity stocks turned over by active mutual funds and index funds, calculated by multiplying relative AUM size by their respective turnover ratios. We estimate that active funds drive greater turnover of US equities than index funds do, showing that active funds clearly dominate stock trading flows.
53. See ETF Insights Report at 2; Credit Suisse, US Chartbook: Market Structure Review 2016/2017 (January 9, 2017).
54. For a more detailed explanation of this process, see BlackRock, A Primer on ETF Primary Trading and the Role of Authorized Participants (Mar. 2017), available at <https://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-etf-primary-trading-role-of-authorized-participants-march-2017.pdf> (A Primer on ETF).
55. ETF Insights Report. Create/Redeem flow is an average of \$8.9 billion per day. This is 11% of all ETF trading but only about 5% of all US stock trading. US stocks traded \$190 billion in 2016.
56. Specifically, we reckoned the imputed impact of daily flows into all 331 ETFs over the month of July 2017, with the conservative assumption that the underlying stock (AAPL) was traded in proportion to its weight in each ETF that included it as a constituent. If AAPL was 3% of a fund that saw total flow of \$100 million (defined the sum of absolute daily flows over the 22 trading days in July), we would impute \$3 million of associated create/redeem activity. This estimate is an upper bound on the amount of primary market activity induced by flows because in reality, market makers will typically wait more than a day or so to net out buys and sells before trading the underlying. We estimate the maximum primary market create/redeem activity as 5.11% of AAPL's ADV in July 2017 using the approach outlined by Madhavan. See Ananth N. Madhavan, Exchange Traded Funds and the New Dynamics of Investing, Oxford University Press (2016) at Chapter 15 (discussing the approach utilized for this analysis). The top five contributing ETFs are: QQQ, with contribution of 2.52%; SPY, with contribution of 0.88%; IVV, with contribution of 0.27%; XLK, with contribution of 0.24%; and DIA, with contribution of 0.13%. The remaining 326 ETPs contribute around 1.06% to Apple's ADV. (Data from this analysis is from Bloomberg and Morningstar, as of August 1, 2017).
57. See David Perlmán, Passive Investing: Rise of the Machines, UBS (Sept. 2017), at Figure 6: "Passive strategies' growth hasn't affected price discovery."
58. See Doron Israeli, Charles M. C. Lee, and Suhas A. Sridharan, Is there a Dark Side to Exchange Traded Funds? An Information Perspective, Review of Accounting Studies (Jan. 13, 2017), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2625975&download=yes.
59. Ananth N. Madhavan and Daniel Morillo, The Impact of Flows into Exchange-Traded Funds: Volumes and Correlations (Jan. 23, 2014); ETFs and New Dynamics at Chapter 15.
60. This quote has been widely attributed by media sources to Seth Klarman, Chief Executive of Baupost Group, 2016 Investor Letter.
61. Sanford Grossmann and Joseph Stiglitz, On the Impossibility of Informationally Efficient Markets (June 1980), available at <http://people.hss.caltech.edu/~pbs/expfinance/Readings/GrossmanStiglitz.pdf> at 393.
62. Horizontal Shareholding.
63. José Azar, Martin C. Schmalz, and Isabel Tecu, Anti-Competitive Effects of Common Ownership (Mar. 15, 2017), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2427345 (Azar et al. Airline Paper); José Azar, Sahil Raina, and Martin C. Schmalz, Ultimate Ownership and Bank Competition (July 23, 2016), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2427345.
64. José Azar, Sahil Raina, and Martin C. Schmalz, Ultimate Ownership and Bank Competition (July 23, 2016), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2710252.
65. Miguel Antón, Florian Ederer, Mireia Giné, and Martin C. Schmalz, Common Ownership, Competition, and Top Management Incentives (Nov. 15, 2016), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=280233.
66. Heung Jin Kwon, Executive Compensation under Common Ownership (Jan. 30, 2017), available at <http://fmaconferences.org/Boston/ExecutiveCompensationunderCommonOwnership.pdf>.
67. Jacob Gramlich and Serafin Grundl, Testing for Competitive Effects of Common Ownership (Feb. 19, 2017), available at <https://www.federalreserve.gov/econres/feds/files/2017029pap.pdf>.
68. Common Ownership *ViewPoint*.
69. Daniel P. O'Brien et. al, The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence (July 2017), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3008331 (O'Brien et al. Paper); Elaine Buckberg et al., Proposal To Remedy Horizontal Shareholding Is Flawed, (July 2017), available at http://www.brattle.com/system/publications/pdfs/000/005/470/original/Proposal_To_Remedy_Horizontal_Shareholding_Is_Flawed.pdf?1500409920 (Buckberg et al. Paper).
70. O'Brien et al. Paper at 1, 22-23.
71. Buckberg et al. Paper.
72. Even the authors of Azar et al. Airline Paper acknowledge that "the empirical literature on the anti-competitive effects of common ownership is still in its infancy." José Azar, Martin Schmalz, and Isabel Tecu, *Why Common Ownership Creates Antitrust Risks*, Antitrust Chronical Volume 3 (June 2017), available at <https://www.competitionpolicyinternational.com/category/antitrust-chronicle/antitrust-chronicle-2017/spring-2017-volume-1-number-3/?submit=View> at 17.
73. ETF Insights Report.

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