Asset Management Primer – Tremendous change, but not without opportunity

Primer

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An asset management primer – facing tremendous change

The asset management industry is undergoing tremendous change, including product and vehicle innovation, changes in product preference (including passive), a shifting distribution backdrop, competitive pricing, and new regulations, among other areas. Given this backdrop, which can make investing in the sector a bit challenging when comparing it to history, we thought it was a good time for a primer. In this report, we discuss the following: the lay of the asset management land, how asset managers work and different models, product and vehicle trends, different distribution channels, passive and pricing trends, regulations, the M&A outlook, the financials, and valuation.

How asset managers work and what is changing

Asset managers operate by managing client assets in different investment strategies for a fee. There are retail and institutional clients; active and passive offerings; and equity, fixed income, alternative, and multi-asset strategies that focus on domestic, global, and/or international markets. The main changes in the industry have been around new vehicles, new regulations, accessing distribution, and competitive pricing.

The key challenges facing the industry

The main challenges for the industry include more money shifting to passive strategies, competitive pricing pressures, areas of active underperformance for the industry, and increased regulations and costs (SEC rules and proposals, RDR, MiFID II, etc.). This backdrop has increased the need for efficiencies & scale, which has led to more M&A.

The areas of opportunity and growth

Despite the challenges, there are still growth opportunities in the industry, particularly for those active managers with differentiated offerings, strong investment performance and competitive fees. We see attractive growth in some product areas (including multi-asset, solutions, alternatives, global, small cap, ESG, smart beta, and passive), certain vehicles (ETFs and separately managed accounts), and geographies (Europe and Asia).

Understanding financials and valuation

All asset managers report GAAP earnings, but a handful also report adjusted earnings, particularly the multi-boutique firms. Revenues are dominated by management fees, but performance fees, distribution revenues, and account/other revenues exist. Expenses are weighted towards compensation since it's a talent business, but distribution, marketing, technology, property, and G&A are the other main buckets. Typically, a good portion of the distribution revenues and expenses offset one another. Operating margins can peak in the 40s for some (average in the mid 30's) and trough in the teens (average in the mid-20s). The business is not capital intensive, with cash flow used to seed new products, pursue M&A, as well as dividends and buybacks. P/E is the most common valuation, but adjusted P/E, EV/EBITDA, Market Cap/AUM, and DCFs are also used.

What does it all mean for strategies and stocks

Given this backdrop, we expect firms to continue to invest in growth areas (products, distribution, tech, M&A) while also seriously focus on costs/efficiencies to manage through the headwinds. However, should the headwinds intensify, we could see some large scale M&A with significant synergies. Given the size of growth areas at most firms vs. legacy headwind areas, we expect the backdrop to remain selective for stocks.

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Overview

The asset management industry is undergoing tremendous change, including product & vehicle innovation, changes in product preference (i.e. passive), a shifting distribution backdrop, competitive pricing, and new regulations, among other areas. The degree and pace of change has been swift and has created significant headwinds for most firms in the industry. That said, some growth opportunities still exist and there are firms that are better positioned than others. Given this backdrop, scale will matter more than ever, which will likely lead to more M&A. In our view, firms that focus on new growth areas, make strategic & competitive investments, and very seriously rethink cost structures for the new level of industry growth, will likely be best positioned in the years ahead.

What is included in this report

In this primer we explain how asset managers work and the different models; describe the lay of the asset management land (global and U.S.); provide a deep dive into the different product and vehicle offerings as well as the different distribution channels; analyze some of the key themes in the sector (passive competition, pricing, and regulations); provide an update on the M&A outlook; and explain the financials, valuation metrics, and how the stocks tend to trade.

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How asset managers work

A fairly simple business model, with two primary organizational structures

Asset managers manage assets and make investment mandate decisions on behalf of individuals and/or institutions by employing proprietary research, resources, and processes with the objective of meeting client needs. Investment mandates can span asset classes, geographies, and the risk/return spectrum. There are two primary models in the industry; the pure play structure and the affiliate structure, though some are more like hybrids.

Organizational structure: Pure play vs. affiliate or multi-boutique

Most asset managers function as "a pure play" or a unified organization that is mostly integrated and markets their investment products under a single brand. Some of the largest public managers have multiple branded product lines, which reflect acquisitions, separate country markets, or asset class specialization. In these cases, financial results are fully consolidated, but in some instances sales, compensation, investment process and possibly some administrative functions may be decentralized.

The other model is typically referred to as the affiliate model or multi-boutique model, which generally has an operating management team, some services provided by the operating parent (corporate, distribution, marketing, innovation/seed, etc.), and multiple investment affiliates with various ownership structures. The level of involvement of the parent can vary across the different models.

While broad stroke comments generally cannot be made for either model (each have exceptions), the pure play model with some separate brands tends to be the most prominent model, though the affiliate model has been increasing its presence and in some cases seeing stronger growth given some favorable industry trends. Notably, the two newest public asset managers are both affiliate models; Victory Capital (IPO in Feb 2018) and Old Mutual, renamed to BrightSphere Investment Group (IPO in Oct 2014).

Roughly 65% of public managers are pure-play firms with a unified executive team and fully consolidated financial results, in which AUM and flows for separate brands are not broken out as such, and revenue share or non-controlling interest is minimal (Exhibit 1).

At large / multinational firms, separate marketing / other efforts may exist for distinct geographies (Perpetual, Trimark and Great Wall at IVZ), brands (Franklin, Templeton and Mutual Series at BEN), or product types (notably ETFs such as iShares at BLK, PowerShares at IVZ, or NextShares at EV), though more integration has been a trend.

In a true affiliate model, an asset manager encompasses multiple separate investment managers, usually from acquisitions, which have revenue or profit sharing arrangements and/or equity share/incentives. While we think both models can work, we do think models that are able to drive scale and efficiencies will be more important vs. the past given increased regulatory costs, the continued rise of passive, and pricing pressure among other industry headwinds.

Exhibit 1: Most Asset Managers are Pure-Play Firms

Pure-Play Managers		Affiliate Managers	
Firm	**Ticker**	**Firm**	**Ticker**
AllianceBernstein	AB	Affiliated Managers Group	AMG
BlackRock	BLK	Artisan Partners	APAM
Calamos	*CLMS*	BrightSphere Investment Group	BSIG
Cohen & Steers	CNS	Eaton Vance	EV
Federated Investors	FII	Legg Mason	LM
Franklin Resources	BEN	Victory Capital	VCTR
Gamco	*GBL*	Virtus	VRTS
Invesco	IVZ		
Janus Henderson	JHG		
Manning & Napier	*MN*		
T. Rowe Price	TROW		
Waddell & Reed	WDR		
WisdomTree	WETF		

Source: BofA Merrill Lynch Global Research. CLMS, GBL, & MN are not covered by BofAML.

Pure-play firms

Pure play firms are those that generally operate under one name and operations tend to be consolidated. For any product gaps that exist at a pure-play asset manager, they would often build a team internally to fill product gaps by either developing talent or bringing in new talent from other firms. While pure play firms do pursue acquisitions, they tend to consolidate and integrate the new entity into the current platform. The financials of pure-play asset managers are also generally more simple and transparent versus the affiliate models.

Affiliate operations

The affiliate model has operational implications in the product, distribution and management areas, as well as financial effects on expenses, margins and equity ownership. Shared distribution is usually an important feature of an affiliate model, given the economies of scale and marketing advantages of a broad product line-up.

Affiliate products that may have been under-distributed or confined to a narrow institutional clientele can benefit from the parent's geographic reach, shelf space at major intermediaries, and capability to package the same strategies in new vehicles. In turn, the parent strengthens its distribution relationships by offering a wider range of products, and enabling clients to rotate exposures or change allocation more easily within the parent's fund complex.

Affiliate financials

Affiliates may be wholly owned (fully reflected in parent's operating results) majority owned (consolidated results, with non-controlling interest reducing earnings), or minority owned (with results on the parent's income statement as income from equity method investments). Structures between affiliates and parents can vary in detail, but at a high level the affiliate either shares a portion of its revenue or its earnings with its parent. With revenue sharing relative to profit sharing, the parent generally has less influence over the affiliate's expense base. Both structures have their strengths and weakness with neither being the clear cut better option in our opinion.

In addition, for wholly owned affiliates, key employees of the specific affiliate can be granted equity either in the parent or in the specific affiliate in order to incentivize and align interests. For partially owned affiliates, key employees typically own the remaining equity and can also be granted equity of the parent in order to incentive and align interests.

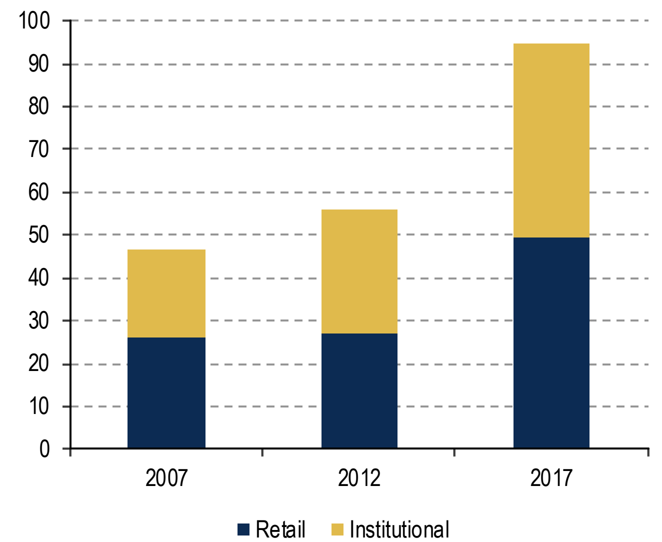
Affiliate growth and succession

The affiliate model can also resolve issues around management succession at acquired firms. A private firm acquired into a public affiliate firm gains the capability of granting public equity incentives to its employees for recruiting and retention. Over the longer term, an acquired private affiliate with an active but aging founder or management team can arrange a gradual transition of ownership to the parent or other employees, with performance and retention incentives to maintain operational stability while providing liquidity to the affiliate's key members. Given generational trends in the sector, this is one of the favorable growth drivers for the affiliate model.

Asset management – the lay of the land

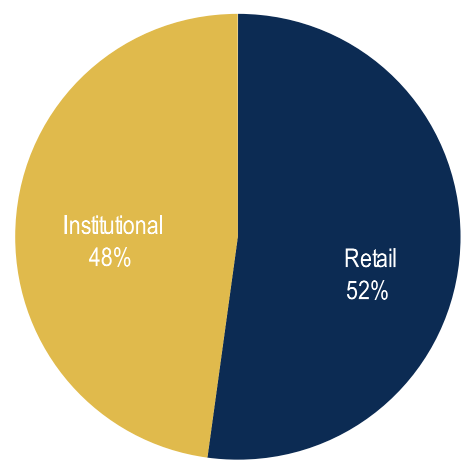
Global Assets under Management (AUM) stood at ~$95T at the end of 2017, up considerably from ~$46T at the end of 2007 (7.5% CAGR). Assets are fairly evenly split between retail and institutional investors. The largest region by AUM is the United States, followed by Europe and then the Asia Pacific region. However the Asia Pacific region and the rest of the world have all seen higher growth rates over the last decade. (Charts 1-4).

Chart 1: Global AUM ($T)



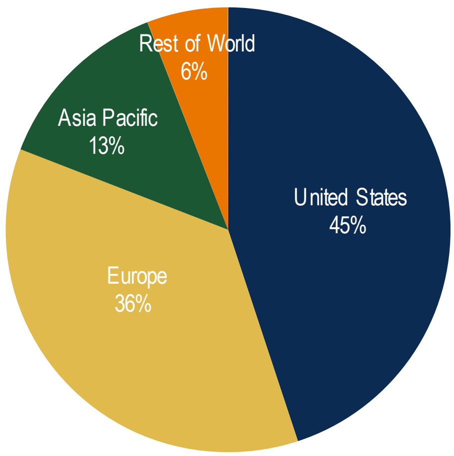
Source: ICI, P&I, and BofA Merrill Lynch Global Research. Retail is representative of the fund market.

Chart 2: Global AUM Mix by Retail and Institutional



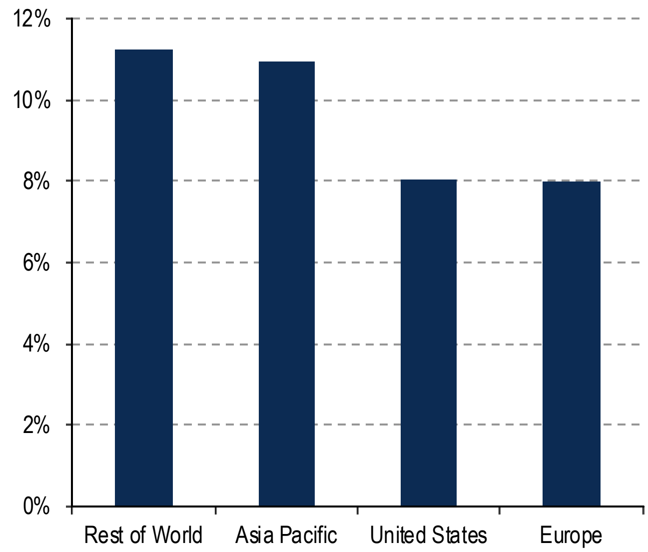
Source: ICI, P&I, and BofA Merrill Lynch Global Research. As of 12/31/2017. Retail is representative of the fund market.

Chart 3: Global AUM Mix by Region



Source: ICI. As of 12/31/17. Region mix is derived from the approximate $50T fund universe.

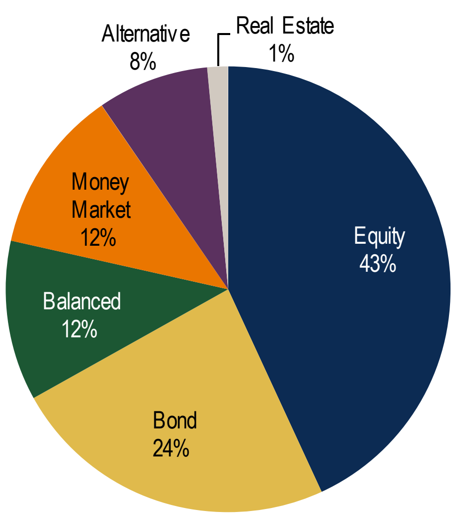
Chart 4: 10 Year AUM Compound Annualized Growth Rates by Region



Source: ICI. Data from 2008-2017.

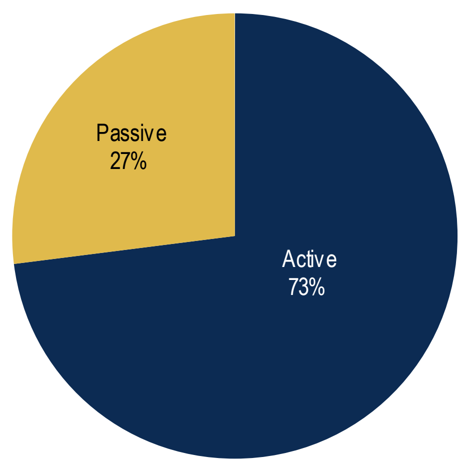
In terms of asset class, equity AUM is the largest at 43%, followed by fixed income/bond, balanced, money market, alternatives, and real estate. These assets are still predominantly actively managed, though passive has been gaining share over the last decade. At the end of 2017 roughly 30% of assets were passively managed (Charts 5-6).

Chart 5: Global AUM Mix



Source: Cerulli. As of 2017. Alternatives include private equity, hedge funds, commodities, derivative strategies, etc.

Chart 6: Global Active Passive Mix



Source: Strategic Insight Simfund. As of 12/31/2017. Universe includes AUM of global funds.

The Asset Management Industry is comprised of thousands of firms across the globe, however the industry is highly concentrated with the largest 20 firms (less than 1% of the total number of firms) controlling ~40% of the market, as scale increasingly matters. Over the last decade there has been some movement at the top. Through acquisitions and strong organic growth, BlackRock has established itself and put some decent distance between itself and the next largest asset manager to rank number 1 by AUM at the end of 2017, rising from #4 in 2007.

Furthermore, over the last decade the top 3 firms in the industry have increased their share of the overall pie. At the end of 2017, the top 3 firms controlled roughly 15% of the entire market, up from 11% in 2007. Important to note, is that the top 3 firms at the end of 2017, BlackRock, Vanguard, and State Street are all predominantly passive managers, illustrating the share gains by passive over the last decade driven by a host of factors that include mediocre active investment performance (particularly in equity), the relative benefits/rise of the ETF, regulations, and an increased focus on fee levels and transparency among other factors (Exhibits 2-3).

Exhibit 2: Top 20 Global Asset Managers 2017

Firm name	WW AUM ($B)	% of Total
BlackRock Inc.	6,288	7%
Vanguard Group Inc.	4,940	5%
State Street Global Advisors	2,782	3%
Fidelity Investments	2,449	3%
BNY Mellon Investment Management	1,893	2%
The Capital Group Cos. Inc.	1,778	2%
J.P. Morgan Asset Management	1,714	2%
Amundi	1,709	2%
The Goldman Sachs Group Inc.	1,494	2%
Prudential Financial	1,394	1%
Pacific Investment Management Co. LLC	1,335	1%
Legal & General Investment Management (Holdings) Ltd.	1,330	1%
Wellington Management Group LLP	1,080	1%
T. Rowe Price Associates Inc.	991	1%
Nuveen	970	1%
Northern Trust Asset Management	961	1%
Invesco	938	1%
Morgan Stanley	936	1%
AXA Investment Managers	896	1%
DWS Group GmbH & Co. KGaA	843	1%
Total	36,722	39%

Source: Pensions & Investments. % of Total is based on an approximate total AUM of $94.5T

Exhibit 3: Top 20 Global Asset Managers 2007

Firm name	WW AUM ($B)	% of Total
State Street Global Advisors	1,979	4%
Fidelity Investments	1,862	4%
Vanguard Group Inc.	1,365	3%
BlackRock Inc.	1,357	3%
J.P. Morgan Asset Management	1,193	3%
BNY Mellon Investment Management	1,121	2%
Legg Mason Inc.	994	2%
The Goldman Sachs Group Inc.	853	2%
DWS Group GmbH & Co. KGaA	816	2%
PineBridge Investments	813	2%
AllianceBernstein LP	800	2%
UBS Asset Management	786	2%
Northern Trust Asset Management	757	2%
Pacific Investment Management Co. LLC	746	2%
Morgan Stanley	655	1%
Prudential Financial	648	1%
Franklin Templeton Investments	644	1%
Credit Suisse Asset Management LLC	614	1%
Wellington Management Group LLP	588	1%
MetLife Inc.	559	1%
Total	19,151	41%

Source: Pensions & Investments. % of Total is based on an approximate total AUM of $46.5T

Passive investing; changing the landscape

In our opinion, the most significant outlook changing trend in asset management has been the shift from active to passive (see Active vs Passive) given its impact on organic asset and revenue growth. So what are the key differences between the two, what is causing the migration, and what is the outlook?

An active investment approach is one that seeks to outperform a given index through strategic/tactical timing, sector/style allocation, and security selection. For example, a large cap active equity manager who uses the S&P 500 as his/her benchmark will make conscience decisions to be over/underweight specific sectors within the S&P or other categories like factors (growth, value, size, momentum, volatility, etc.). Additionally, within the sectors/styles they choose to allocate to, the active manager will over/underweight specific securities. The idea is that by incorporating diligent research, intellect, timing, and skill, active managers can identify repeatable attractive investment opportunities that will drive outperformance and add value to client portfolios.

Passive management is a bit simpler to understand. The investment approach is not to outperform a benchmark, but mimic its returns as closely as possible. The measurement unit to assess how well a passive fund did is not excess return, but tracking error which measures how closely the fund followed its benchmark, net of fees. It is clear with passive, that the amount of resources and investment professionals required is substantially less than with active and consequently passive expense ratios are lower

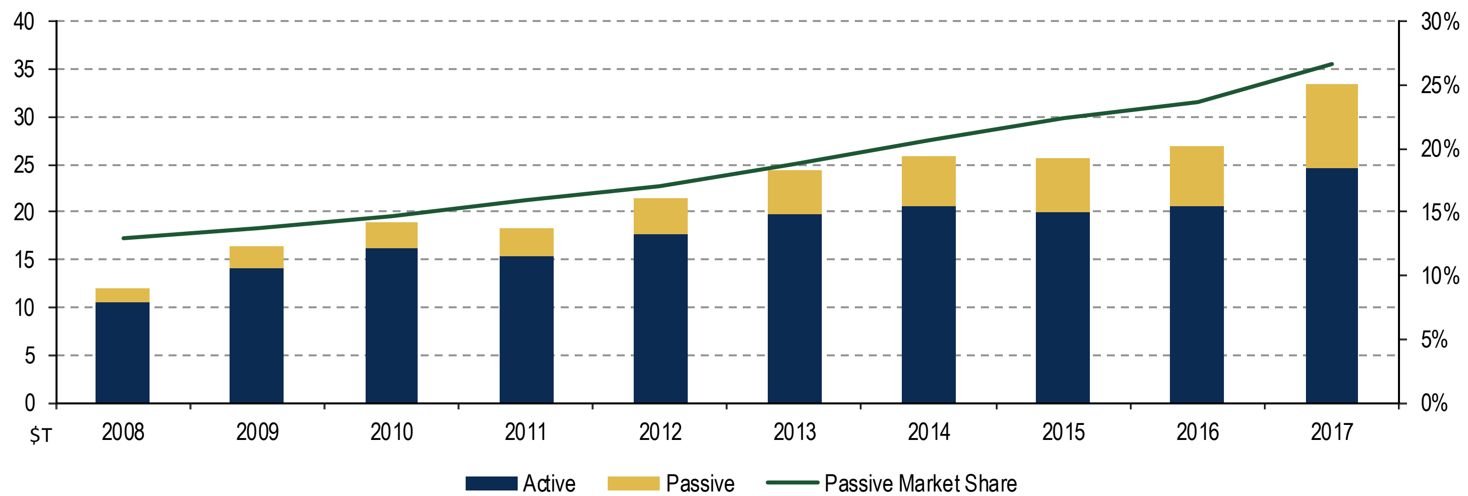
(Table 1). The lower cost of passive is just one factor fueling strong growth. Over the past decade, passive market share has doubled to >25% (Chart 7).

Table 1: Weighted Average Total Expense Ratios

Product	Expense Ratio
Active Equity	0.79%
Active Hybrid	0.60%
Active Bond	0.56%
Passive Hybrid	0.37%
Active Money Market	0.27%
Passive Equity	0.15%
Passive Bond	0.12%

Source: Strategic Insight Simfund

Chart 7: Passive AUM has Consistently Taken Market Share

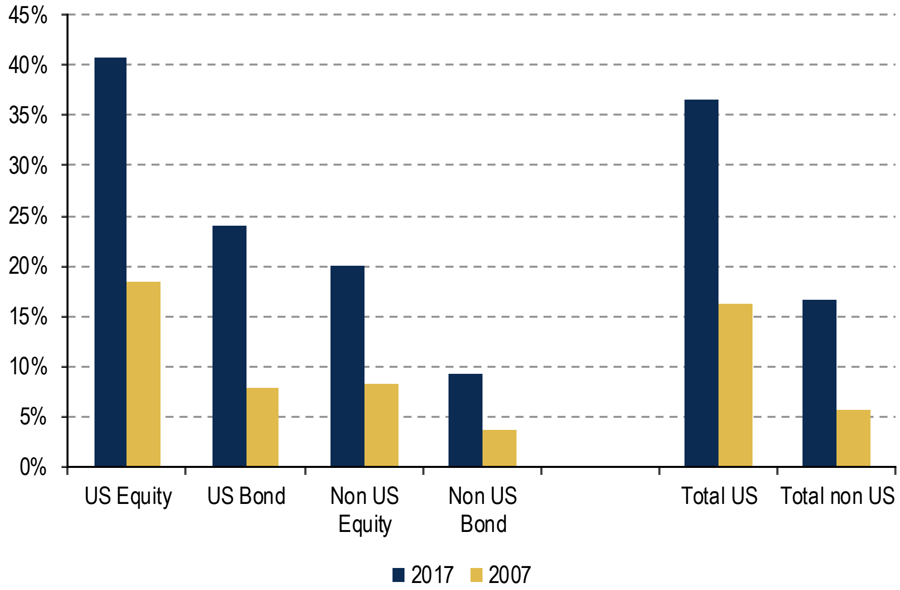


Source: Strategic Insight Simfund. Data is representative of the global fund universe and does not include money market funds. Passive includes index funds as well as ETFs.

In addition to lower fees attached to passive, other factors have contributed to passive's development that include poor active equity investment performance (less than 50% of active equity managers beating their respective benchmarks for the trailing 1/3/5/10-year periods as of 3Q18 according to Strategic Insight Simfund), regulations (MiFID II/DOL/SEC regulations focusing on investor transparency and fiduciary obligations leading to the acceleration of fee based account growth vs commission based), and the rise of the ETF (ETFs are 98% passive, see ETF Primer) which is used not only as an alternative to an active fund, but also as a building block within active portfolios and other uses (approximately 25% of BlackRock's iShares are owned by active asset managers).

Passive has been infiltrating the investable asset class universe at varying speeds and has reached different extents and while there can be some double counting, the following percentages are our best estimates. The most heavily penetrated market by far is the US equity market with passive controlling over 40%, up markedly from <20% a decade ago. The international equity market in contrast is only 20% passive, but market share gains have still been significant as only 8% of the market was passive a decade ago. In general the passive market share in the US is greater than it is overseas and greater in equities vs fixed income (Chart 8).

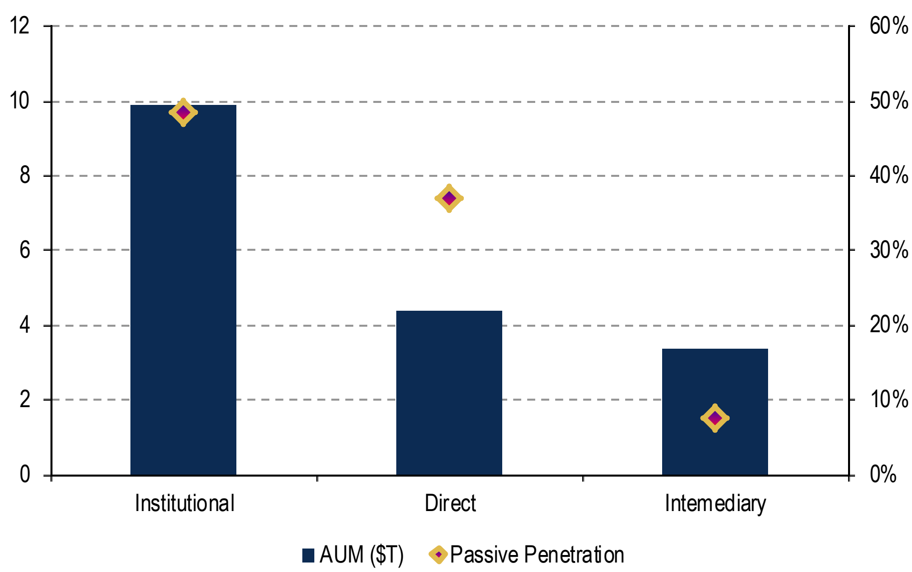
Chart 8: Passive Penetration by Domicile & Asset Class



Source: Strategic Insight Simfund.

Similar to regions and asset classes, passive has penetrated different distribution channels to varying degrees. Although it is difficult to get complete and accurate information on passive penetration by distribution channel given disclosure insufficiencies, we can gather some insight by looking at share classes, though it is not perfect. We find that the institutional channel, also the largest channel (pension funds, sovereign wealth funds, etc.) is the most diversified with a 50/50 active passive split (however, this data only looks at fund products, whereas this channel, particularly pensions, also invest heavily in alternatives, which would increase the active mix). The next channel is the direct channel (~35% passive), followed by other intermediaries at <10% penetrated (Chart 9).

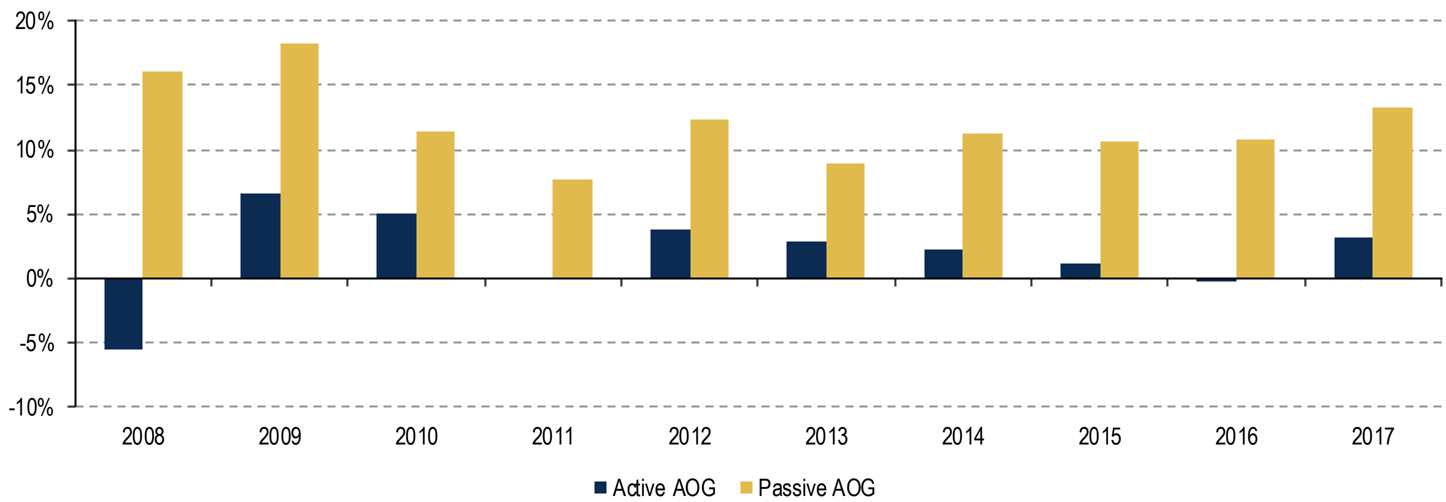
Chart 9: AUM and Passive Penetration by Distribution Channel



Source: Strategic Insight Simfund, Lipper, BofA Merrill Lynch Global Research. Institutional - Funds primarily targeted at organizations and institutions. Some examples include pension funds, 401k plans, profit sharing plans and endowments. Direct - No-load funds that are marketed directly to the consumer. Intermediary – Funds sold through any other channel ex Institutional and Direct. Data as of 4/30/2018.

It is clear that passive is growing in many different areas - so what has this meant to the average firm in the industry? There have been two major adverse implications from passive's rise which are flow and fee pressure or put simply, organic revenue pressure. The vast majority of asset managers are active managers and thus passive share gains have benefitted just a few firms like BlackRock, Vanguard, and State Street given their dominance in ETFs and index funds. So for the average firm in the industry, attracting new money or net new flows (organic growth) has been incredibly challenging over the last decade as passive product growth has outpaced active in every year (Chart 10).

Chart 10: Organic Growth in the Past Decade by Active and Passive



Source: Strategic Insight Simfund. Data is representative of the global fund universe. AOG = Annualized Organic Growth or net new flows divided by beginning AUM.

The second major impact has been on fees. The rise of lower cost passive substitutes as well as the pricing pressure within passive (Fidelity launched zero fee index funds) makes it more challenging for active managers to beat a passive product, net of fees and it makes it more difficult to charge/negotiate higher fees. Given this and active's challenging performance track record, investors have become more skeptical and sensitive about the fees that they pay for active management. Consequently, it is more important than ever for managers to deliver excess returns, net of fees, because those that are hugging/underperforming benchmarks will likely continue to face pricing pressure and lose share to passive firms (Exhibits 4-5).

Exhibit 4: Top 20 Passive Equity Managers Globally

Firm	AUM ($B)
BlackRock Inc.	2,763
Vanguard Group Inc.	2,633
State Street Global Advisors	1,622
Northern Trust	400
Legal & General Inv Mgmt	325
Geode Capital Management	303
BNY Mellon	285
Charles Schwab	127
Nuveen	125
Invesco	124
Parametric Portfolio Associates	93
Deutsche Asset Management	92
T. Rowe Price Associates Inc.	80
Prudential Financial	64
Goldman Sachs Asset Management	63
Principal Global Investors	47
RhumbLine Advisers	46
Manulife Financial	40
J.P. Morgan Asset Management	33
Fidelity Investments	25

Source: Pensions & Investments. As of 6/30/2017

Exhibit 5: Top 20 Passive Bond Managers Globally

Firm	AUM ($B)
BlackRock Inc.	919
Vanguard Group Inc.	668
State Street Global Advisors	312
Legal & General Inv Mgmt	120
Northern Trust	84
Prudential Financial	76
Baird Advisors	54
BNY Mellon	40
Invesco	36
Deutsche Asset Management	32
Fidelity Investments	28
Nuveen	18
Principal Global Investors	12
MetLife Inc.	12
Charles Schwab	11
Neuberger Berman	10
T. Rowe Price Associates Inc.	7
Camden Asset Management LP	4
Voya Investment Management	3
Manulife Financial	2

Source: Pensions & Investments. As of 6/30/2017

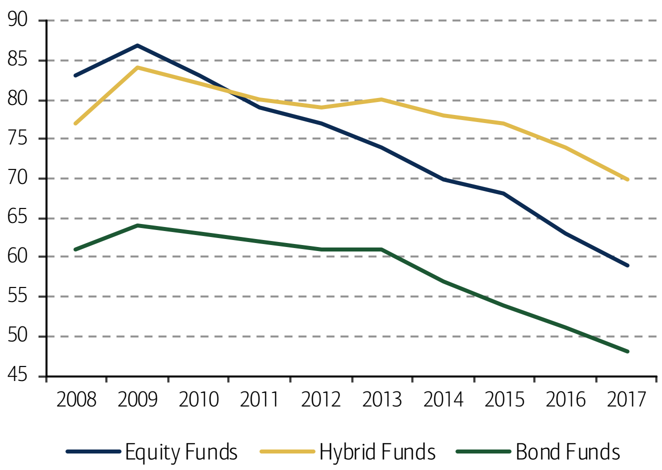
Pricing – ongoing fee pressure

Industry pricing has drifted lower over the years (Chart 11) driven by several factors including the mix shift toward lower fee passive products, pricing pressure (particularly in passive), and asset mix shift driven by product preference or markets. Flows into lower priced passive strategies have been much stronger than higher priced active flows over the past decade, leading to a lower overall fee rate for the industry as passive AUM has been on the rise. Increased competition and lower returns vs history (Chart 12) have spurred more price cuts and a more competitive backdrop. Industry giants like Vanguard, BlackRock, Fidelity, Schwab, State Street, and Invesco, among others have all cut fees on passive products (see note).

In addition to the above trends impacting pricing and fee rates, product preference and market moves can also have an impact on the overall fee rate. For example, if demand for fixed income has been stronger than equities, generally that will weigh on the fee rate given that on average fixed income strategies have a lower fee rate than equity strategies. In addition to product preference, markets and foreign exchange rates can also impact the fee rate. For example, if international equity markets are weak, this can weigh on fee rates, since on average international equity strategies have some of the highest fees across product strategies (that said, if international equity markets are strong that can also benefit the fee rate). In the past, BlackRock has attributed the bulk of its fee rate decline to mix shift rather than pricing pressure.

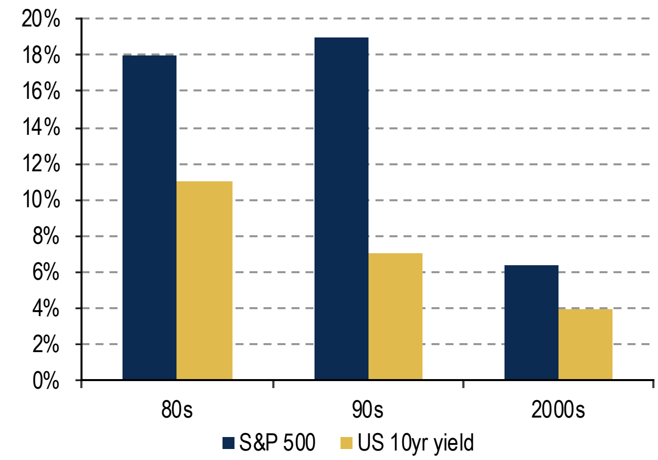
We expect the general trend of lower industry prices to continue as we believe pricing pressure will be ongoing and passive will continue to take share from active although mix shift from markets is tougher to predict. That said, most product innovation is in areas that are seeing growth and can demand more attractive fees, which can create a partial offset.

Chart 11: Mutual Fund Expense Ratios Over Time (bps)



Source: ICI

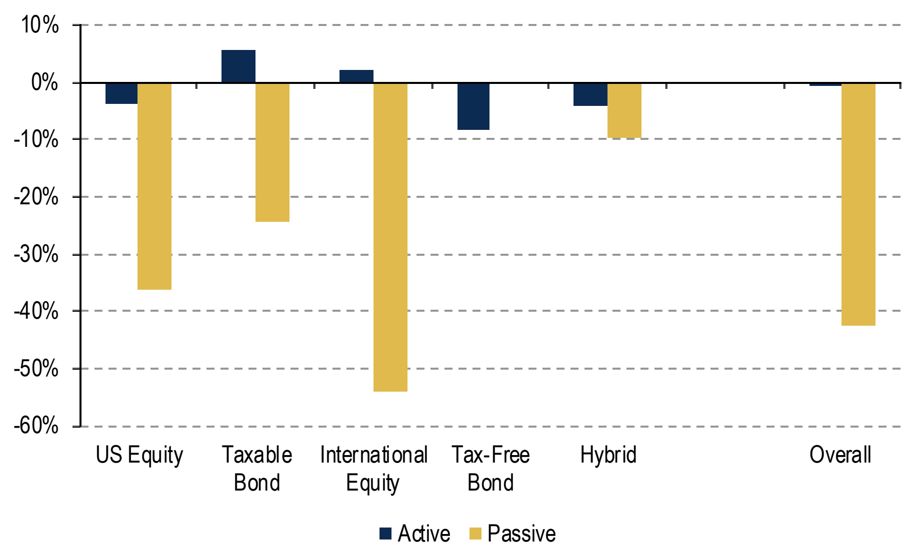
Chart 12: Average Annual Returns



Source: Bloomberg. As of 2017

With respect to price cuts in active, they have occurred, but to a much lesser degree vs passive. Since 2008 active fund fee rates have fallen by ~1% according to Strategic Insight Simfund, while passive fund fee rates have fallen by >40% and in some asset classes like taxable bond and international equity the active fund fee rate has actually risen vs 10 years ago (Chart 13). This makes sense to us given passive product issuers can really only compete on pricing (liquidity is also important, but that is more of a byproduct of scale vs conscience strategic decision) because there is not much difference from one index fund to another. Thus, fees are top of mind when choosing a passive fund while in the case of active; fees take a backseat to manager track record, although fees are still strongly considered.

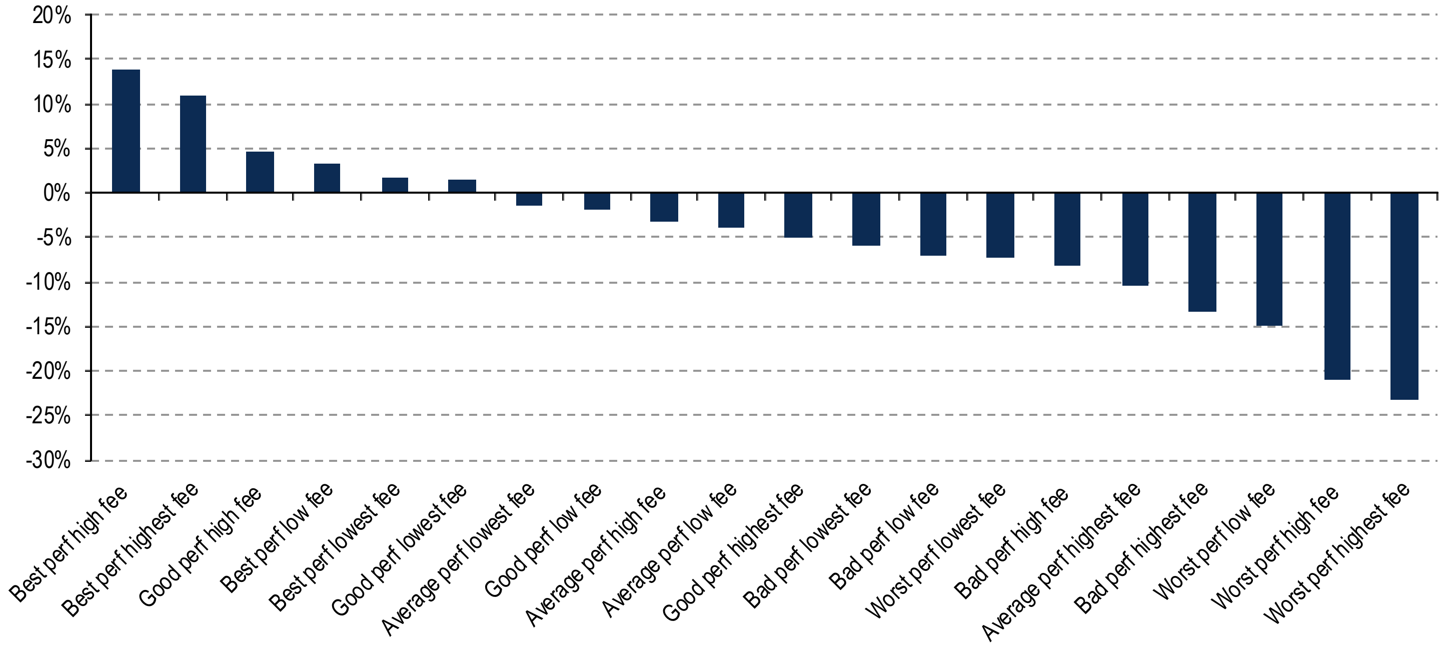
Chart 13: Fund Fee Rate Change (2017 vs 2008)



Source: Strategic Insight Simfund.

A fee cut is much more impactful to gaining share in passive that it is in active. If an active fund with poor investment performance and outflows were to cut its management fee in half, we strongly doubt that would cause outflows to go the other direction. We find that investors are willing to pay more in management fee in return for alpha (Chart 14).

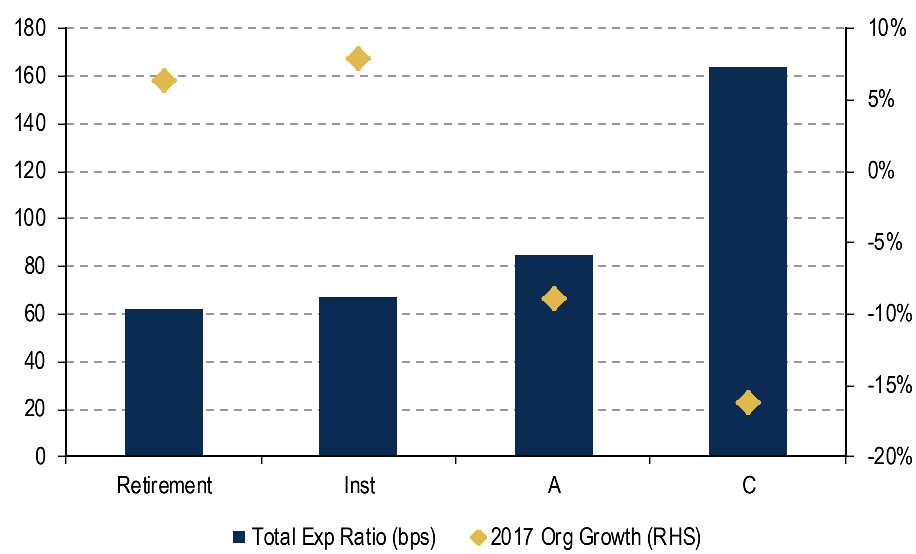
Chart 14: 2017 Organic Growth by Relative Performance and Fee



Source: Strategic Insight Simfund. Note: Performance measures: Best = top Lipper quintile, Good = 2nd Lipper quintile, Average = 3rd Lipper quintile, Bad = 4th Lipper quintile, Worst = bottom Lipper quintile. Fee measures: lowest = Lipper leader expense score between 4 and 5, low = expense score between 3 and 4, high = expense score between 2 and 3, highest = expense score between 1 and 2.

The mix shift change in favor of passive and passive fee cuts is not the entire story with respect to fee rates and pricing. Looking deeper into active, we find that lower cost share classes are gaining share. Institutional share class and retirement share classes achieved healthy active organic growth in 2017 vs outflows in more costly A and C shares (Chart 15).

Chart 15: Lower Cost Active Share Classes Gaining Share



Source: Strategic Insight Simfund.

Additionally, as asset balances grow with the markets, they hit certain thresholds that make it suitable for fund assets to be converted into lower cost CITs (Collective Investment Trusts). We see this quarterly with TROW's target date business and according to Cerulli, CITs have achieved over a 9% CAGR for the last 3 years vs under 4% for open end mutual funds.

Institutional investors are also pushing for lower fees. The low rate backdrop coupled with the expectations for low returns going forward and many underfunded pensions, have institutions keying in on the fees they pay asset managers. In a 2017 survey conducted by Cerulli, that asked US institutions what their investment related concerns were, the #1 response was investment management fees where 63% of respondents citing fees as very concerning and an additional 22% conveying they were somewhat concerning.

In conclusion, the asset managers are facing fee pressure on multiple fronts and in today's world with a renowned focus on fees, this pressure is likely to continue for the foreseeable future. The best thing an asset manager can do to combat this fee pressure, is to provide excess return, net of fees which is much easier said than done.

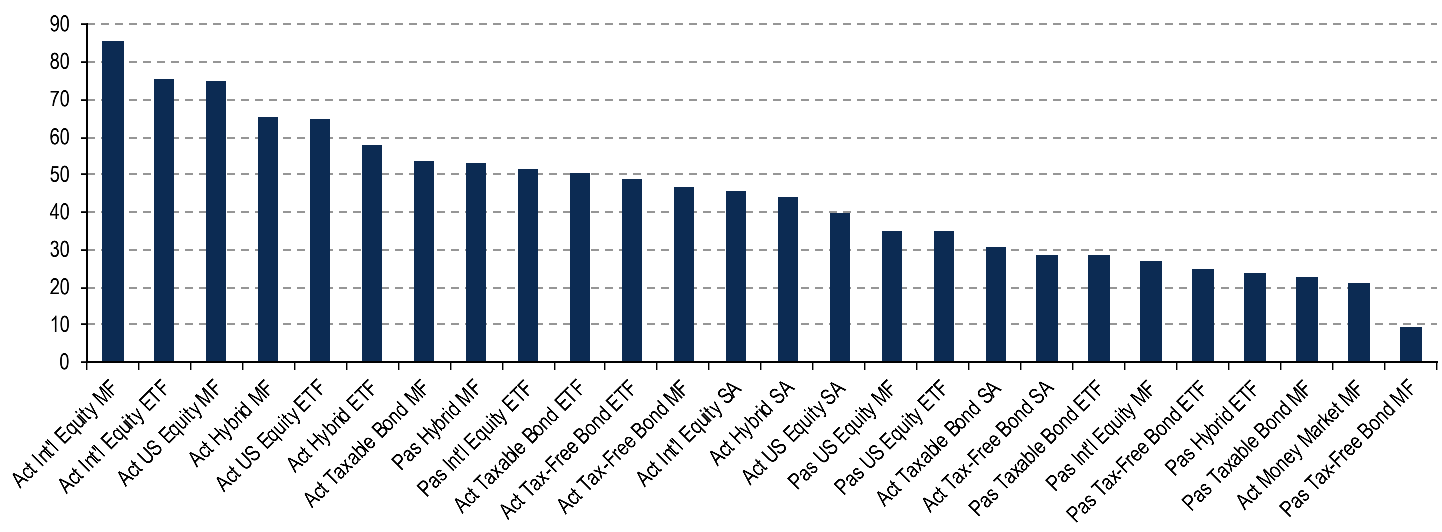
An expanding product offering

General overview

Asset managers' products can be thought of as different investment strategies, either actively managed or passively managed, distributed to clients through a variety of different vehicles or "wrappers". The strategies can span different asset classes (equities, fixed income, cash, alternatives – private equity, real estate, hedge funds, etc.) or a combination of them (multi-asset or solutions), geographies (U.S., Europe, Asia, Global, International, etc.), styles (growth, value, large cap, small cap, etc.) and delivered to clients either through a pooled investment vehicle like a mutual fund or through a separate account.

Fees paid by the purchaser of an asset manager's product can vary notably depending upon the level of management (active vs passive), the asset class, and the vehicle among other things. In mostly all cases a passive product will be cheaper than an active substitute, equity and alternative products will be at the high end of the pricing spectrum with bond and money market products at the low end (Chart 16).

Chart 16: Average Fee Rates by Product (basis points)



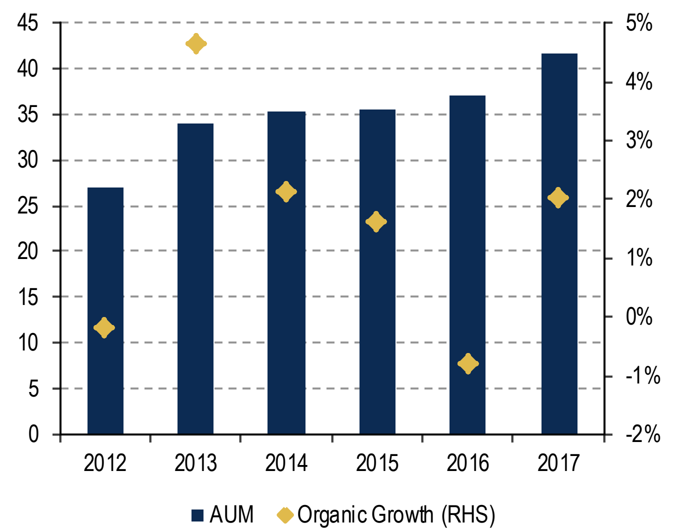
Source: Strategic Insight Simfund, Cerulli and BofA Merrill Lynch Global Research. Act = Active. Pas = Passive

Equity overview

Equity products invest primarily in publicly traded stock markets around the world. The most common approaches to equity offerings are to choose a universe, either domestic or international (some offerings are global) with some equity box style tilt, though this is shifting. Equity style boxes range from Large Cap Value to Small Cap Growth. It is important to note that equity funds that primarily invest in small cap or mid cap equities tend to face capacity constraints leading to soft or hard closes. A hard close would be when the fund stops accepting new money from investors and a soft close is when the fund will still accept new monies from existing investors, but not from new ones. Equity products can also be designed to invest solely in one industry sector among other niche markets. The more exotic or specialized a strategy is, the higher the expenses to the investor will likely be, which is generally true across asset classes.

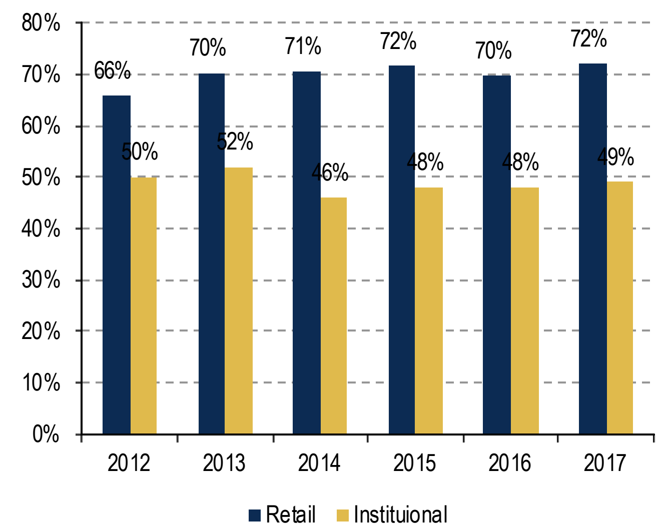
Global equity AUM reached a record $42T at the end of 2017, up notably from $27T in 2012 driven by strong market appreciation as well as positive organic growth (over the last decade the organic growth rate in equities has averaged roughly 3%). Retail investors' allocation to equity has historically been higher vs an institution. The disconnect is likely driven by other cash products as well as the lack of alternative investments available to most retail investors given that allocations to hedge funds, private equity, private credit, and other alternative strategies require substantial minimum investments, have illiquid holding terms, and are not permitted in some accounts. However, in both cases equity is the largest allocation for both sets of investors (Charts 17-18).

Chart 17: Equity AUM ($T) & Organic Growth



Source: Towers Watson, Strategic Insight Simfund, and BofA Merrill Lynch Global Research. Organic growth is derived from fund data.

Chart 18: Long Term Asset Allocation Mix to Equities

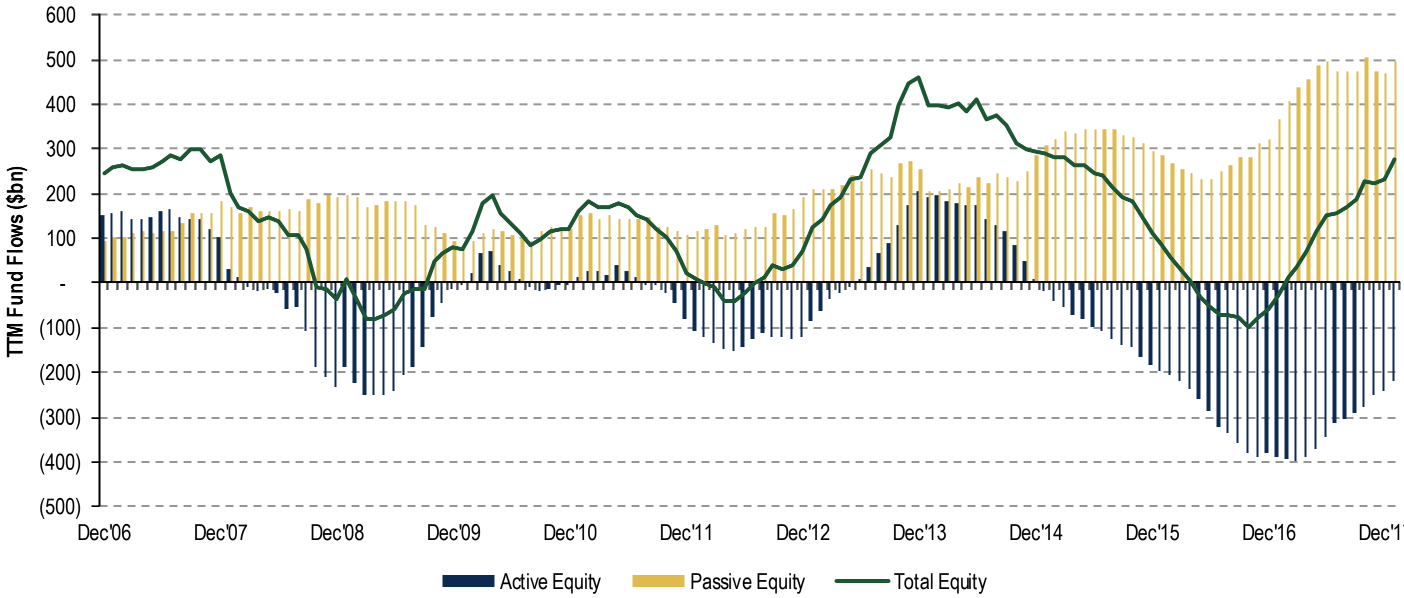


Source: Strategic Insight Simfund, Towers Watson, and BofA Merrill Lynch Global Research. Equity AUM includes balanced.

Challenges

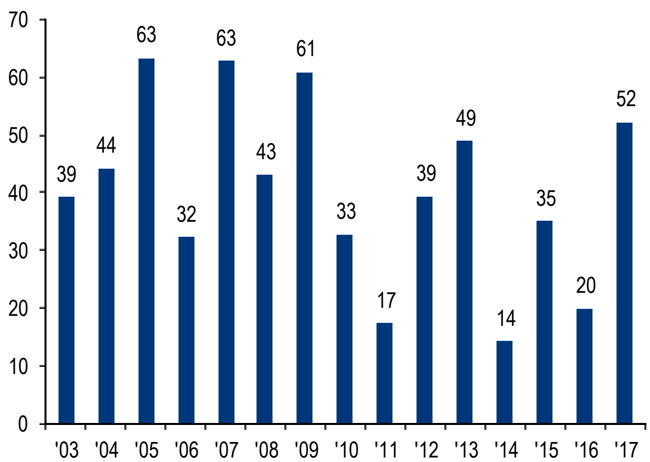
The biggest challenge facing firms within equities is the ongoing shift to passive due to weak active manager performance, lower costs, added advantages of ETFs which are predominantly passive, and regulation which is shifting distribution dynamics and increasing transparency (Charts 19-21).

Chart 19: Equity Fund Flows



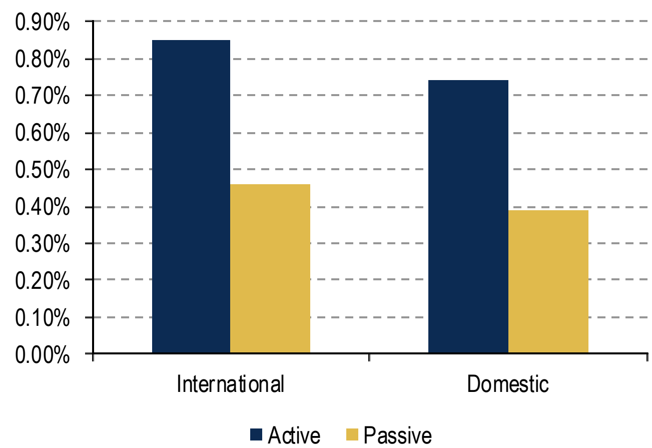
Source: Strategic Insight Simfund

Chart 20: Percentage of Funds Outperforming the S&P



Source: Lipper Analytical Services; BofA Merrill Lynch US Equity & US Quant Strategy

Chart 21: Equity Average Management Fee Rates

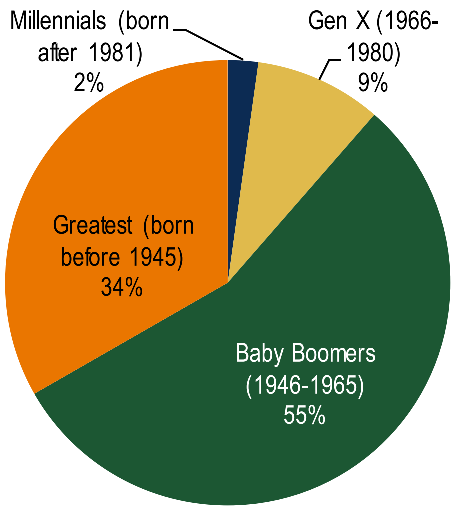


Source: Strategic Insight Simfund Fee rates are average across funds regardless of fund size.

While flows into the asset class are positive overall and can be viewed positively, the reality is that the vast majority of the firms in the asset management industry are active managers and only a few major firms dominate the passive market, i.e. BlackRock, Vanguard, and State Street. Thus flows are concentrated to only a few firms which hurts AUM growth and consequently profits. Additionally for the public firms, their multiples as well as their earnings have taken hits because of the lost growth due to passive's dominance.

Another issue for equity is the demographic makeup of the country right now. With more and more baby boomers retiring each day (10K until 2030), they increasingly shift allocations toward fixed income which is a structural impediment on equity flows which also happen to carry higher fee rates and margins than their bond counterparts. While the millennials are ramping up in terms of investable assets as they grow, AUM by investor age is still heavily dominated by the Greatest and Baby Boomer generations (Chart 22).

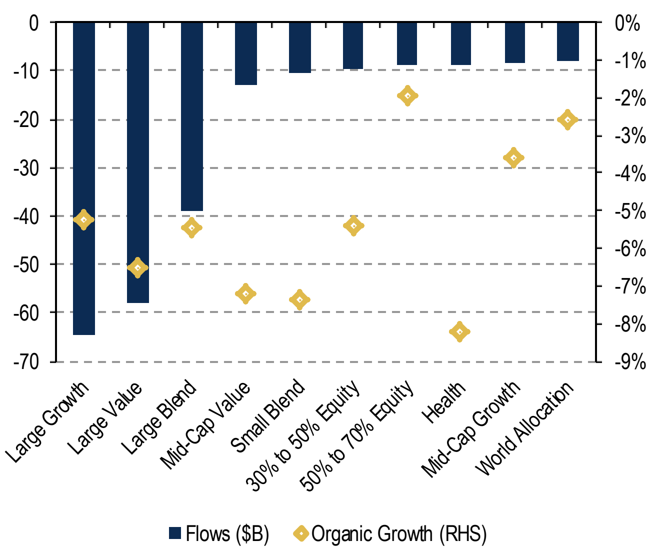
Chart 22: AUM by Generation



Source: McKinsey. As of 2017.

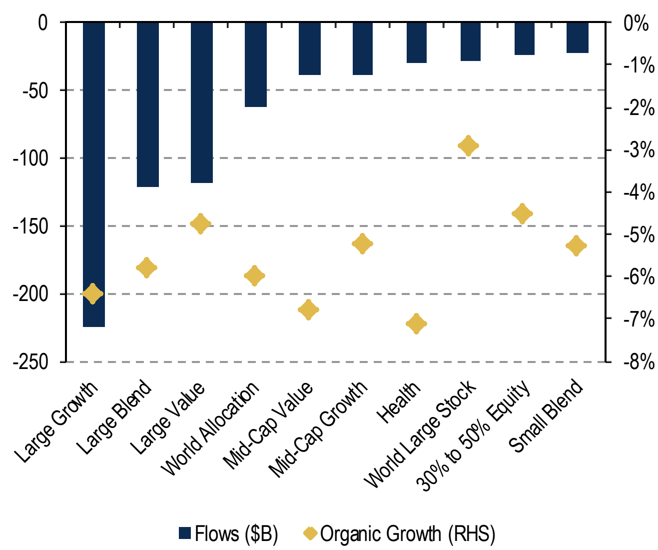
Areas within active equity more specifically that have come under pressure in the past several years include all styles of Large Cap which has been hit hardest by passive as well as Mid Cap strategies (Charts 23-24). So for firms that lack diversification and happen to be concentrated in these areas of the market, the pressure on the top line can be even greater which can lead to cost cutting, talent departure, and accelerate outflows, a vicious cycle.

Chart 23: Largest Active Outflow Categories Last Twelve Months



Source: Strategic Insight Simfund. As of 5/31/18

Chart 24: Largest Active Outflow Categories Last 3 Years



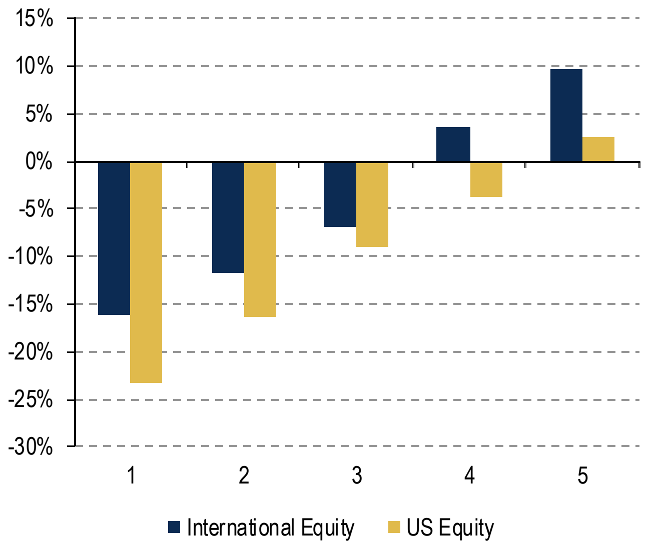
Source: Strategic Insight Simfund. As of 5/31/18

Opportunities

Although passive has and is likely to continue to take share from active equity managers, there remains opportunities for firms to garner inflows so as long as they have strong performance track records. In particular, we see opportunities in international equity vs US equity strategies as well as mid and small cap strategies (regardless of region), while large cap equity remains a tough spot for active managers.

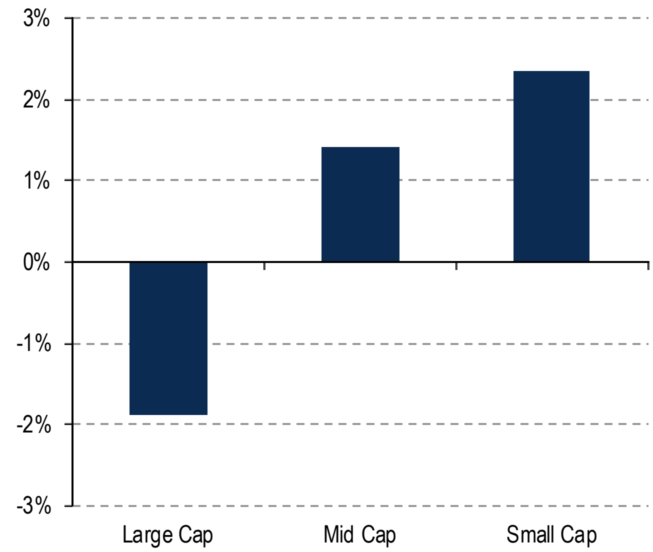
We find that international strategies regardless of relative performance have seen stronger organic growth relative to their US focused counterparts, highlighting a greater demand for active management in international equity mandates. For funds that rank in the top half of peers over the trailing 1 and 3 year time periods, mid and small cap strategies have healthy positive flows while large cap strategies have outflows, despite good performance, illustrating investors preference for passive in large cap (Charts 25-26).

Chart 25: 3yr Avg Active AOG by Overall Morningstar Rating



Source: Strategic Insight Simfund. 3yr Avg AOG = 2016, 2017, and YTD through Aug 2018. Data is US domiciled funds and as of Aug 2018. A 5 star rating is the best and 1 is the worst.

Chart 26: 3yr Avg Active AOG by Equity Style Box w/ Good Perf*

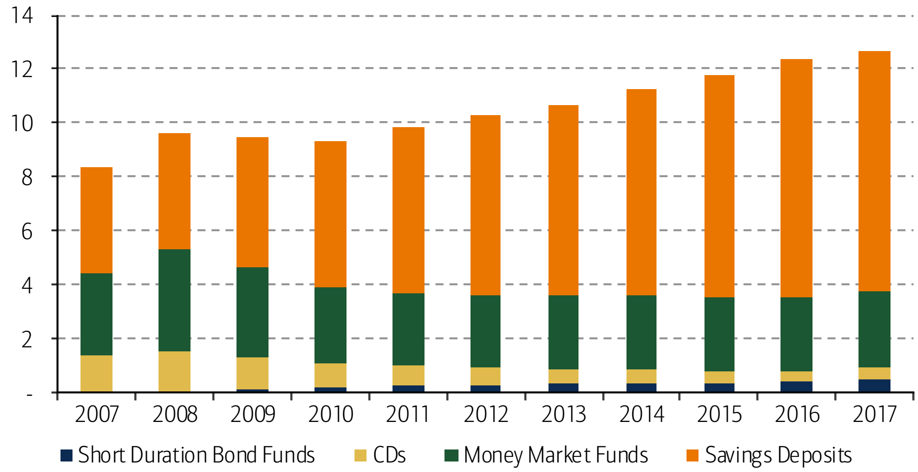


Source: Strategic Insight Simfund. 3yr Avg AOG = 2016, 2017, and YTD through Aug 2018. Data is US domiciled funds and as of Aug 2018. *Good performance = funds in the top half of peers as ranked by Morningstar for the trailing 1 and 3 year periods

We think a more volatile backdrop, which we've seen thus far in 2018 is more conducive to active outperformance though it will take some time to see if this can bear fruit for active equity managers as a whole. Additionally, asset managers, in particular AllianceBernstein (AB) has launched a series of funds branded as "FlexFee" which charge a management fee comparable to passive (10-20bps) and if the fund does well AB can earn performance fees (see note). This is in response to passive taking share as it positions active in a more attractive light which if successful could lead to other firms in the industry launching similar pricing structures which could potentially recapture flows from passive. In addition to AB, firms like Janus Henderson, Fidelity International and others also have offerings with the pay for performance feature.

Another opportunity arises from a considerable and growing cash balance on the sidelines (Chart 27) which is an attractive opportunity for equity AUM as well as other long term strategies. The key to getting cash off the sidelines and into the markets is education. Large firms like BlackRock who have scale possess the ability to spend time and resources into educating individuals and institutions on the importance of saving and investing for retirement.

Chart 27: Cash on the Sidelines ($T)



Source: Strategic Insight Simfund, ICI, and the St. Louis Fed.

Vanguard, BlackRock, and State Street largest equity managers

At the end of 2017, the largest equity manager by AUM was Vanguard followed by BlackRock and State Street each of which has notable passive exposure (Table 2).

Table 2: Top 20 Equity Asset Managers Globally

Firm	AUM ($B)
Vanguard Group Inc.	3,508
BlackRock Inc.	3,364
State Street Global Advisors	1,836
Fidelity Investments	1,482
The Capital Group Cos. Inc.	1,369
T. Rowe Price Associates Inc.	755
J.P. Morgan Asset Management	561
Northern Trust Asset Management	529
Invesco	503
BNY Mellon Investment Management	473
Wellington Management Group LLP	470
Dimensional Fund Advisors LP	455
MFS Investment Management Inc.	419
Morgan Stanley	405
UBS Asset Management	382
Prudential Financial	376
Legal & General Investment Management (Holdings) Ltd.	359
Nuveen	353
Geode Capital Management	352
Franklin Templeton Investments	324

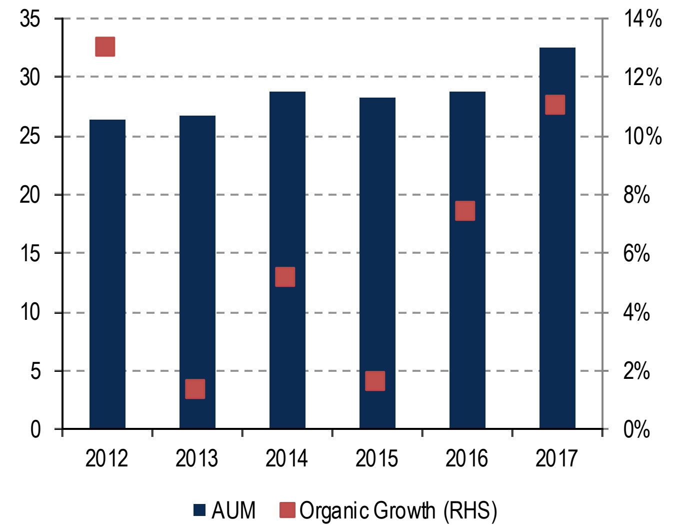
Source: Company filings, Pensions & Investments. As of 12/31/2017.

Fixed income overview

Fixed income products invest primarily in debt instruments from a variety of issuers that include corporations, federal/sovereign governments, and state and local municipalities. In the US there is a distinct difference between taxable and non-taxable fixed income with the latter investing in issues from state and local governments as well as government agencies which are deemed to be tax free. In the US, the bond fund market is roughly 80% taxable and 20% muni/tax free.

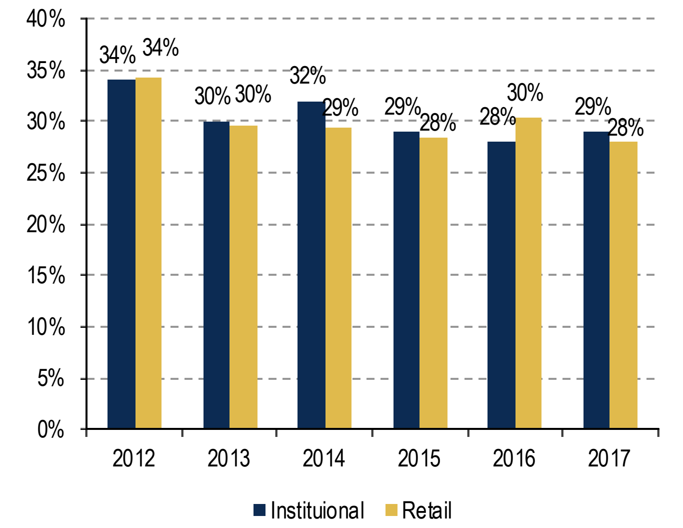
Global fixed income AUM stood at ~$33T at the end of 2017, up considerably from approximately $26T at the end of 2012 with strong organic growth trends aided by aging demographics and the accompanying thirst for yield. In terms of investors' allocation to fixed income, both retail and institutional investors have had a ~30% allocation to fixed income over the last several years (Charts 28-29).

Chart 28: Fixed Income AUM ($T) & Organic Growth



Source: Towers Watson, Strategic Insight Simfund, and BofA Merrill Lynch Global Research. Organic growth is derived from fund data.

Chart 29: Long Term Asset Allocation Mix to Fixed Income

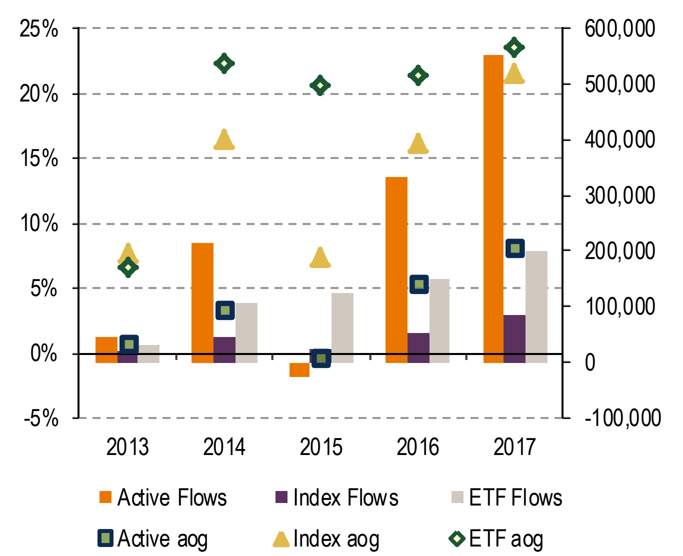


Source: Strategic Insight Simfund, Towers Watson, and BofA Merrill Lynch Global Research

Challenges

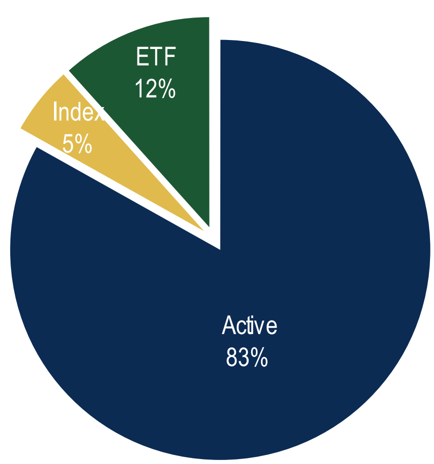
Similar to equity, passive is gaining share in fixed income given lower costs and the benefits of ETFs, however given the relative size of passive (index funds and ETFs) and attractive active fixed income performance, active fixed income flows are still notably greater than passive fixed income flows, but nevertheless growth rates in passive are higher (charts 30-31).

Chart 30: Fixed Income Fund Flows (RHS in $M) & Organic Growth (LHS)



Source: Strategic Insight Simfund

Chart 31: Fixed Income Fund Mix

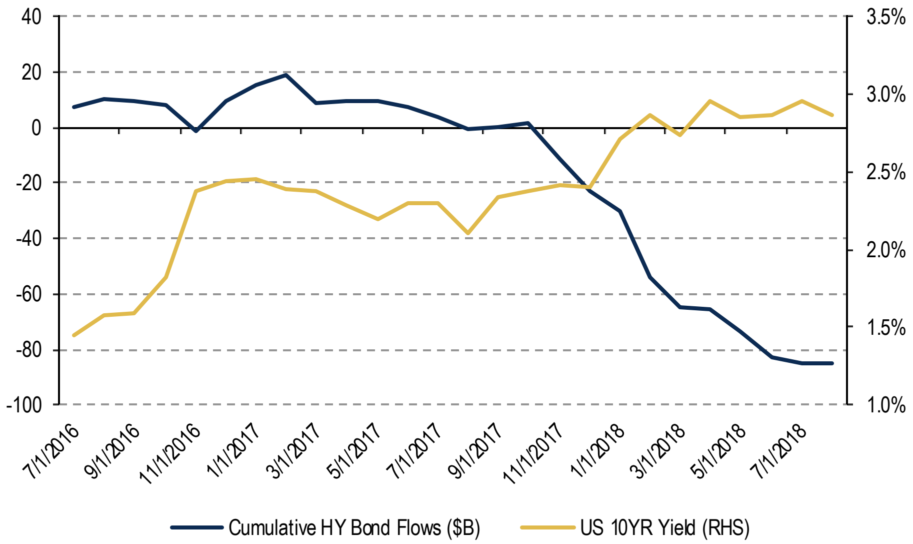


Source: Strategic Insight Simfund. As of 12/31/17.

Although rates have been rising and the FED has been tightening, real yields across the globe remain historically low. This low rate backdrop coupled with an overall funding gap in the DB market (93% average funded status with an aggregate gap of -$110B at the end of August 2018, down from 106%/+$70B at the end of 2007, the last year in which there existed a surplus according to the Milliman 100 Pension Funding Index) makes traditional fixed income less attractive.

Furthermore as the FED continues to gradually raise short term rates and longer term rates rise in anticipation of stronger growth and higher inflation, fixed income returns are likely to be challenged given the inverse relationship between price and yield which could further challenge fixed income flows in the short term. In particular, high yield flows have been challenged; since the US 10 year yield bottomed in the summer of 2016, high yield bond funds have shed >$85B or 14% of beginning AUM (Chart 32).

Chart 32: High Yield Bond Flows and the US 10 Year Yield



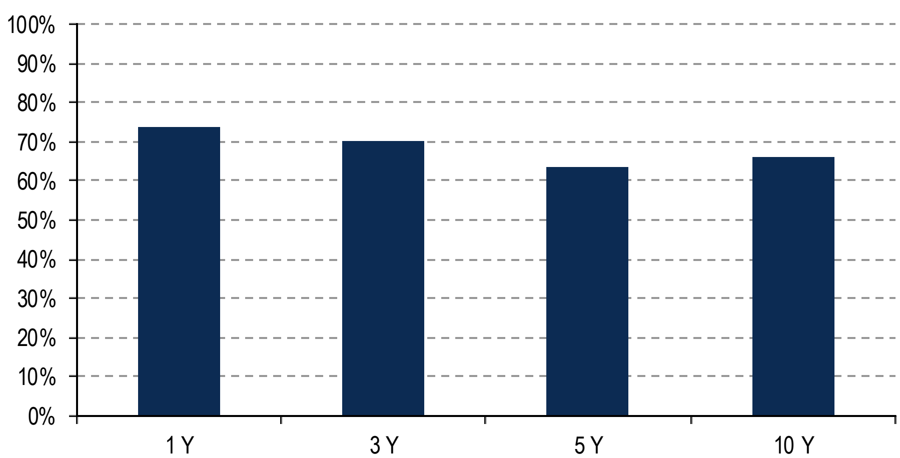
Source: EPFR and Bloomberg. Data is from July 2016 through August 2018.

Opportunities

Approximately 10,000 baby boomers reach retirement age every day in the US, a trend expected to continue to 2030. This backdrop structurally favors fixed income as people retire and need dependable income. We believe fixed income fund flows which have averaged ~5% organic growth over the last 5 years, have benefitted from current demographic dynamics and should continue to do so as retirees grow by the day.

Unlike equity, active fixed income managers have added value over the long haul. Over 50% of actively managed fixed income AUM is beating relevant benchmarks over the last 1, 3, 5, and 10 year periods (Chart 33). This general trend makes it easier to sell active sleeves for firms which should continue to be favorable in the years to come.

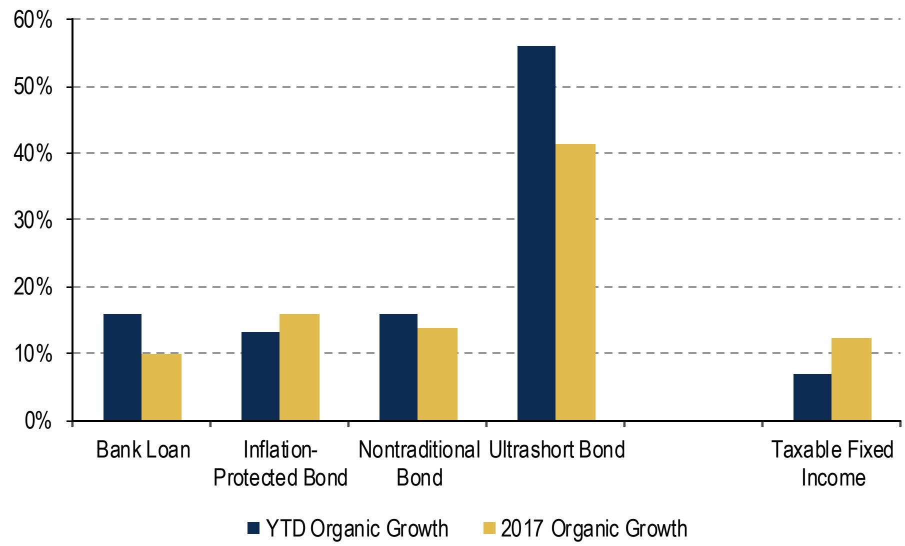
Chart 33: Percentage of Active Fixed Income AUM beating Benchmark



Source: Strategic Insight Simfund and BofA Merrill Lynch Global Research. As of 8/31/18.

While a rising rate backdrop typically pressures fixed income returns and subsequently the overall outlook for flows, there are certain strategies that actually see strong demand in such an environment. Since the US 10 year yield bottomed in summer 2016, bank loan, inflation protected, nontraditional/unconstrained, and ultra-short term bond strategies have seen healthy above average organic growth and we believe there is an attractive opportunity in these types of strategies for asset managers to take advantage of as rates continue to rise (Chart 34).

Chart 34: Certain Fixed Income Strategies Benefit in Rising Rate Environments



Source: Strategic Insight Simfund. As of 8/31/18.

BlackRock, Vanguard, and PIMCO are largest fixed income managers

BlackRock and Vanguard are at the top of the fixed income league tables by AUM similarly in equity, while PIMCO is amongst the top 3 (Table 3).

Table 3: Top 20 Fixed Income Asset Managers Globally

Firm	AUM ($B)
BlackRock Inc.	1,849
Vanguard Group Inc.	1,205
Pacific Investment Management Co. LLC	1,068
Prudential Financial	941
BNY Mellon Investment Management	852
Amundi	773
The Goldman Sachs Group Inc.	660
J.P. Morgan Asset Management	569
AXA Investment Managers	545
Legal & General Investment Mgmt	479
Fidelity Investments	453
State Street Global Advisors	445
Wellington Management Group LLP	419
Legg Mason Inc.	410
Nuveen	398
New York Life Investments	385
Manulife Financial	381
DWS Group GmbH & Co. KGaA	320
Invesco	298
AllianceBernstein LP	296

Source: Company filings, Pensions & Investments. As of 12/31/2017

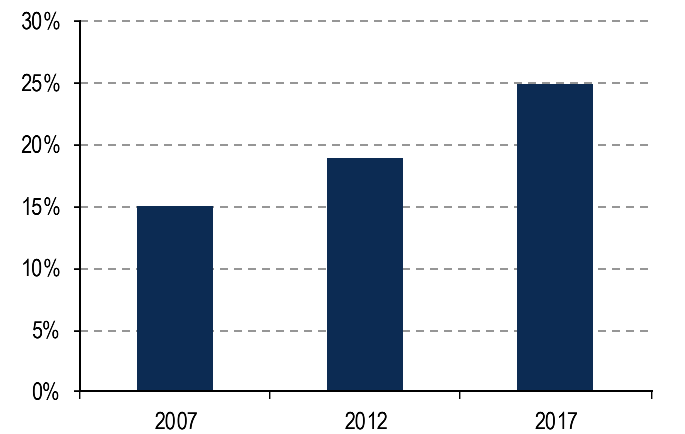
Alternatives

Alternative products include any long term strategies excluding traditional long only equity and fixed income. Popular alternative investments include private equity, private debt, hedge funds (equity and credit), and real estate among others, while there are also liquid alternative strategies as well as multi-asset or solution strategies that can be categorized as alternative to some. Most of the larger traditional asset managers have alternative capabilities in some respect and view alternatives as a key attractive growth area given healthy fundraising trends, locked-up capital, and attractive fee rates with performance fee upside (see Alternative Asset Manager Primer).

Opportunities & challenges

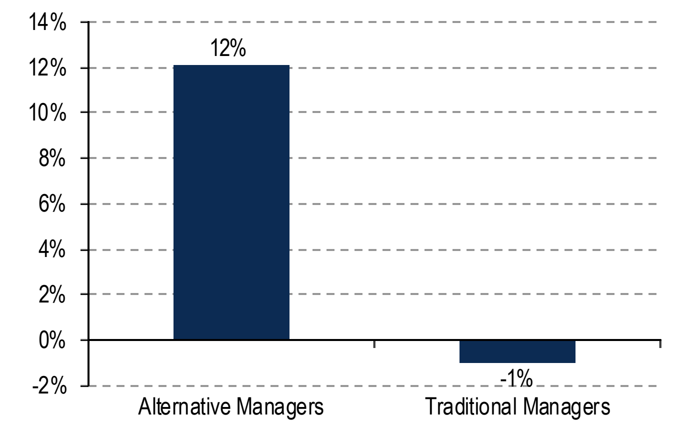
Institutions have increasingly allocated more capital to alternative investments at the expense of traditional AUM (Chart 35) and recent fundraising trends at the pure-play alternative asset managers have been as strong as ever, indicating the demand for alternatives remains healthy (Cart 36). The low return backdrop coupled with the impressive track record of alternative strategies providing uncorrelated return streams with attractive absolute returns should continue to drive flows. Traditional firms can and are taking advantage of the demand for alternatives both by launching alternative style products organically and through targeted acquisitions.

Chart 35: Institutional Alternative Allocation



Source: Willis Towers Watson. Allocations represent the average P7 pension allocations.

Chart 36: 3 Year Average Organic Growth by Public Firms



Source: Company reports. 3 year average is 2015-2017. Alternative managers include APO, ARES, BX, CG, KKR, & OAK. Traditional Managers include AB, AMG, APAM, BEN, BLK, CNS, EV, FII, IVZ, JHG, LM, TROW, VRTS, & WDR.

Common challenges that impede alternative growth within the retail channel, are substantial investment minimums, multi-year lock-up periods, and agreed upon contracts that require expensive professional fees. Thus historically, alternative strategies have been limited to high net worth and institutional investors (Table 4).

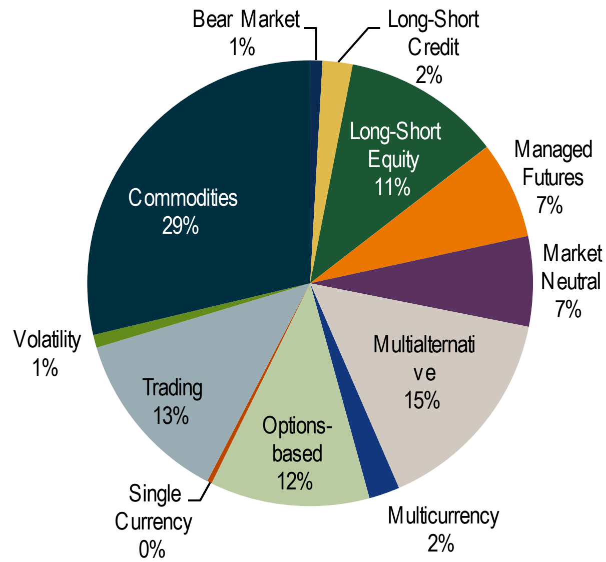
Table 4: Institutional Mandates Placed

Mandate Type	2017
Private Equity	$70,629
Real Estate	$32,468
Fixed Income	$31,819
Other Private Investments	$19,366
Multi-Asset Traditional	$13,398
Outsourced CIO	$12,543
US Equity	$11,890
Balanced	$11,449
Hedge Funds	$10,314
International Equity-Passively Managed	$8,365
Total	**$222,241**

Source: Eager, Davis, and Holmes and Cerulli.

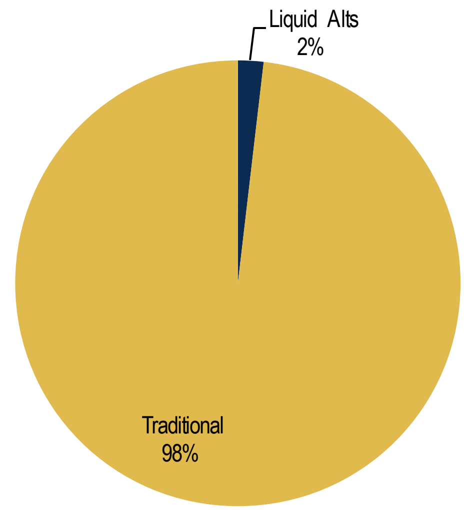
There are however, a growing line of "liquid alt" products which are open end vehicles accessible by retail investors. These products give retail investors a taste of some alternative strategies that can include long/short (equity and credit), market neutral, inverse, levered, managed futures, options based, and commodities among others (Chart 37). At the end of 2017, liquid alt assets in the US were ~$330B or 2% of the long term fund market (Chart 38). Over time, depending on if regulations change, there could be opportunities in retail/retirement accounts for more illiquid alternative products.

Chart 37: Liquid Alternative AUM Mix



Source: Strategic Insight Simfund and BofA Merrill Lynch Global Research. As of 12/31/17. Data represents only US domiciled funds. Trading funds include leveraged and inverse.

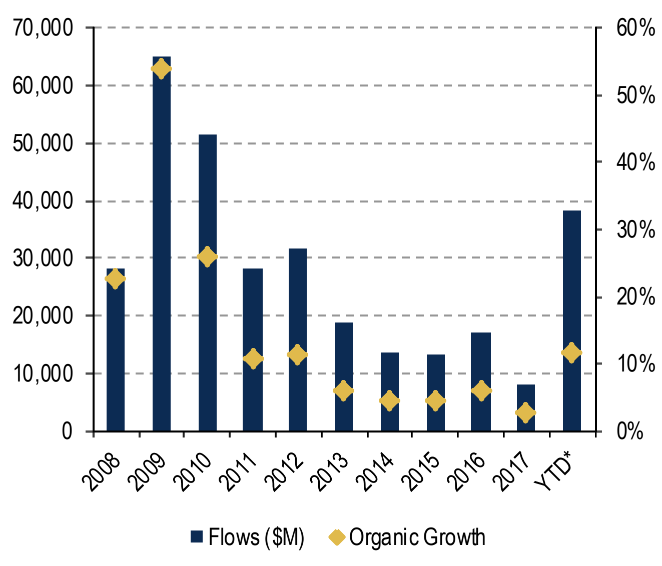
Chart 38: Long Term Fund Mix



Source: Strategic Insight Simfund and BofA Merrill Lynch Global Research. As of 12/31/17. Data represents only US domiciled funds

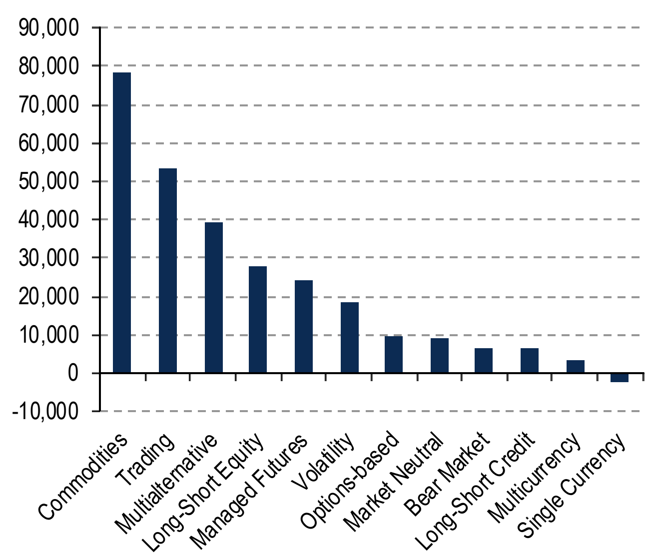
Liquid alternatives have seen strong resilient flows throughout the past decade, averaging 15% organic growth, well above traditional long term fund organic growth of roughly 3% over the same time period. Liquid alt flows are fairly diverse with all categories seeing inflows over the past 10 years, except for the single currency category which has seen modest outflows. Commodities and trading strategies have seen the largest absolute flows over the past 10 years (Charts 39-40).

Chart 39: Liquid Alternatives



Source: Strategic Insight Simfund. YTD is as of April and the flows and organic growth figures are annualized. Data consists of US domiciled funds

Chart 40: Cumulative Flows ($M) from 2008-2017



Source: Strategic Insight Simfund Data consists of US domiciled funds

State Street, Affiliated Managers, and BlackRock are the three largest liquid alternatives providers in the US, followed by ProFunds, Allianz, and Natixis. Notably Fidelity, Calamos, Neuberger Berman, and Blackstone exhibited robust organic growth during 2017 followed by Affiliated Managers Group, Catalyst Capital, and BlackRock (Table 5).

Table 5: Top 20 Liquid Alternative Providers

Firm	2017 AUM ($M)	2017 flows ($M)	2017 aog
State Street Corp	34,918	858	3%
Affiliated Managers Group	28,791	2,632	11%
BlackRock	26,753	1,898	8%
ProFunds Advisors	25,619	634	3%
Allianz SE	20,039	745	4%
Natixis	13,801	43	0%
Rafferty Asset Management	12,556	511	5%
Eaton Vance	10,058	213	2%
ORIX Corporation	9,044	16	0%
INVESCO Ltd	8,096	-1,074	-12%
Manulife Financial	7,503	-1,610	-18%
Calamos Investments	5,403	996	24%
Blackstone Group	5,325	584	13%
Catalyst Capital Advisors	5,230	517	10%
Fidelity	4,923	1,219	34%
Diamond Hill Capital Management	4,836	92	2%
Neuberger Berman	3,958	562	19%
Credit Suisse Group AG	3,884	-700	-15%
Bank of New York Mellon Corp	3,830	136	4%
Goldman Sachs	3,703	-115	-3%

Source: Strategic Insight Simfund. Data consists of US domiciled funds

Multi-Asset

Multi-asset products or strategies are those that invest across asset classes (equity, fixed income, alternatives, cash, etc.) and/or styles (active, passive, growth, value, etc) and factor in asset allocation framework into investment decisions. This unconstrained approach is gaining appeal among investors that are increasingly focused on total portfolio risk versus expected return.

Active and passive equity and fixed income, as well as alternative strategies have become building blocks for multi-asset, outcome-driven solutions. Investors are becoming increasingly aware of the betas in their portfolios and can distinguish alpha more easily with the use of technology. Passive will play an increasing role in multi asset, though active and alternative strategies will be the building blocks that can provide alpha and boost performance.

As clients increasingly seek multi asset solutions that are customized, it is more difficult to find a passive substitute to deliver the same customized asset allocation and outcome. From this vantage point, active and passive can grow together to meet wide ranging specific client needs.

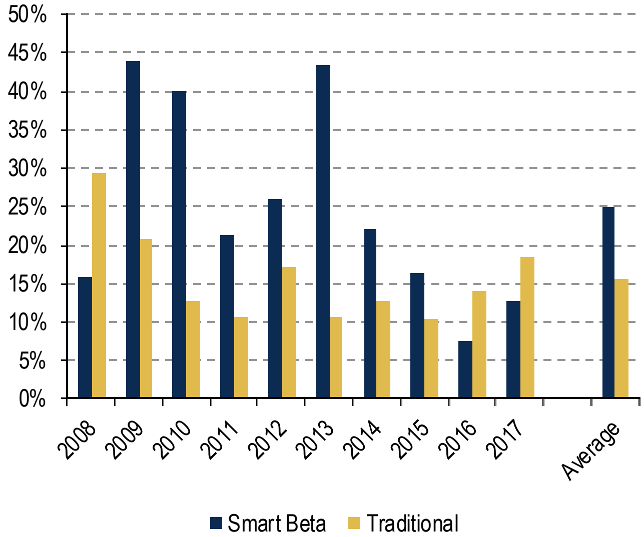
Innovation

There are certain non-traditional asset manager products not yet discussed in detail that have gained appeal over the trailing years or are currently in the nascent stage with the potential for strong future growth. These products include smart beta, target date or lifestyle funds which are popular in the retirement channel, non-transparent active ETFs, performance-fee linked fund structures, and Environmental Social Governance (ESG) influenced products.

Smart beta

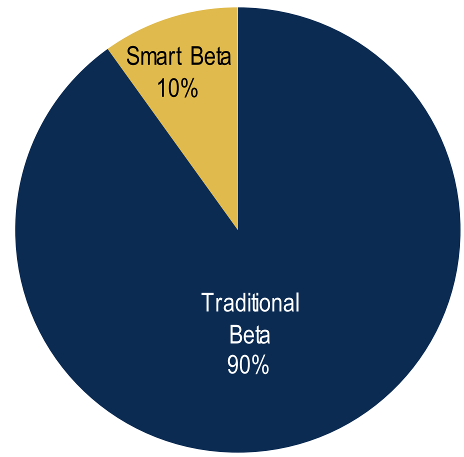
Smart beta products, commonly delivered in an ETF wrapper, are designed to track a particular index, but weight constituents based on some factor (volatility, liquidity, momentum, value, etc.) other than market capitalization. Market cap weighted ETFs still dominate in terms of market share given their initial origination, but over the last decade smart beta ETFs have gained share and have achieved 25% aog vs 15% for traditional ETFs (Charts 41-42). The largest smart beta managers according to Strategic Insight Simfund include BlackRock, Invesco, and State Street (Table 6).

Chart 41: ETF Organic Growth



Source: Strategic Insight Simfund

Chart 42: ETF Market Share by Beta Type



Source: Strategic Insight Simfund. As of 2017

Table 6: Top 20 Smart Beta Managers by AUM

Firm	AUM ($M)
BlackRock	102,134
Invesco	85,715
State Street	48,016
WisdomTree	45,531
First Trust	36,990
Schwab	23,915
Fidelity Investments	11,767
Northern Trust	8,986
Goldman Sachs	5,515
ProFunds Advisors	5,394
Exchange Traded Concepts	4,357
ALPS Advisors Inc	3,505
Credit Suisse	3,078
New York Life	2,802
Natixis	2,707
Societe Generale	2,594
Van Eck Associates	2,553
OppenheimerFunds	2,481
Amundi	2,394
Victory Capital	2,375

Source: Strategic Insight Simfund. Data captures the global fund universe. As of 2017.

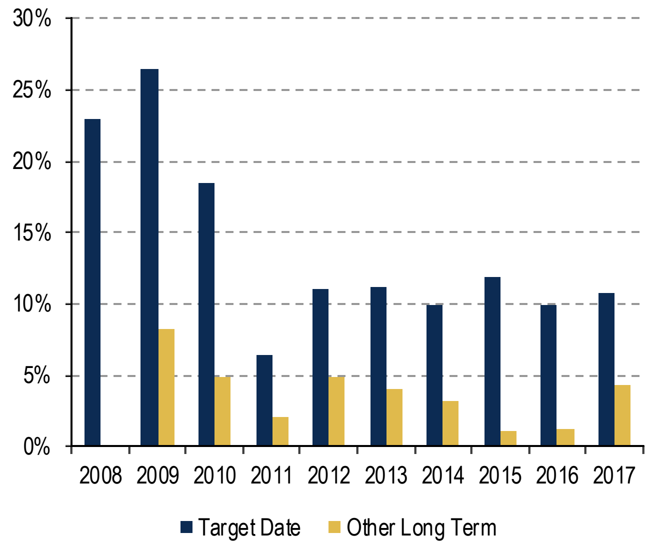
Target Date/Lifestyle funds

Target date or lifestyle funds can be described as allocation, multi-asset, or hybrid funds since they invest in equity, fixed income, cash, and some alternatives. A number of target date funds, like T. Rowe Price's target date lineup are fund of funds in the sense that they allocate to their equity and bond funds based on the determined asset allocation per vehicle.

The appeal of target date funds is that it is a simple way for an investor to save for retirement without having to switch allocations or have an advisor do it for them. They simply choose the year they want to retire, for example 2040, invest in T. Rowe's 2040 target date fund and let T. Rowe do the rest. As the investor gets closer to his/her target retirement date, the mix shift in the 2040 fund gravitates more to fixed income/conservative assets and less to equity/risky assets as investors often demand income over capital appreciation when they reach retirement.

Target date funds have achieved strong organic growth, averaging ~14% over the last decade, well above other long term fund organic growth of ~3% over that same time frame (Chart 43). Vanguard, T. Rowe, and BlackRock are the top target date managers by AUM (Table 7).

Chart 43: Organic Growth



Source: Strategic Insight Simfund. Data includes US domiciled funds.

Table 7: Top 20 Target Date Firms Globally

Firm	AUM ($M)
Vanguard Group Inc.	438,976
T. Rowe Price Associates Inc.	195,351
BlackRock Inc.	190,438
Fidelity Investments	189,027
J.P. Morgan Asset Management	110,681
The Capital Group Cos. Inc.	74,633
State Street Global Advisors	52,086
Principal Global Investors	41,167
AllianceBernstein LP	39,453
Nuveen	27,598
American Century Investments	21,011
Wells Fargo Asset Management	10,046
Russell Investments	9,300
Voya Investment Management	8,896
Manulife Financial	7,882
Northern Trust Asset Management	7,652
Prudential Financial	3,599
Putnam Investments	3,184
MFS Investment Management Inc.	2,125
Manning & Napier Inc.	1,149

Source: Pensions and Investments. As of 12/31/17.

Non-transparent ETFs

A significant reason why active ETFs only comprise 1% of the ETF market is transparency. Active managers fear using ETF wrappers for their strategies because they would need to disclose their holdings daily which could invite copy cats and comprise the fund managers investing edge. Thus there have been many attempts, with only one success so far, to gain approval from the SEC to launch an actively managed product that is not fully transparent.

In 2014, Eaton Vance won approval from the SEC to offer their ETMFs (Exchange Traded Managed Funds) under the brand name NextShares. Currently there are several registrations on file with the SEC, most notably from Precidian (LM owns a minority stake) and T. Rowe, but approvals for their versions of non-transparent ETFs have yet to gain approval.

The ETMF benefits from professional management as well as some of the advantages of ETFs which ultimately lower operating costs and subsequently boost the return of the portfolio. Additionally, ETMFs offer liquidity on the exchange and tradability for investors. The challenge with the ETMF is that it is a new structure, neither a mutual fund nor an ETF, so offering the product takes some operational investments for distribution platforms. There are currently 18 active ETMFs totaling ~$160M in AUM (Table 8).

Table 8: NextShares Funds

Firm	Name	AUM ($M)
Eaton Vance	Eaton Vance Oaktree Dv rsfd Credit NxtShr	52
Waddell and Reed Financial	Ivy Focused Growth NextShares	14
Eaton Vance	Eaton Vance Stock NextShares	14
Waddell and Reed Financial	Ivy Focused Value NextShares	11
Eaton Vance	Calvert Ultra Short Dur Inc NextShares	10
Waddell and Reed Financial	Ivy Energy NextShares	8
Eaton Vance	Eaton Vance TABS 5-15Yr Lad Muni NextShr	7
Eaton Vance	Eaton Vance Glbl Inc Builder NextShares	6
Hartford Life	Hartford Global Impact NextShares	6
GAMCO Investors Inc	Gabelli Media Mogul NextShares	6
Eaton Vance	Eaton Vance Floating-Rate NextShares	5
Causeway Capital	Causeway Global Value NextShares	5
Reinhart Partners	Reinhart Intermediate Bond NextShares	5
Causeway Capital	Causeway Intl Value NextShares	5
Brandes Investment Partners	Brandes Value NextShares	2
GAMCO Investors Inc	Gabelli Food of All Nations NextShares	2
GAMCO Investors Inc	Gabelli Pet Parents' NextShares	1
GAMCO Investors Inc	Gabelli RBI NextShares	1

Source: Strategic Insight Simfund. As of 8/31/18.

The build out of NextShares has been gradual, which makes sense given the newness of the product and the onus on Eaton Vance to show proof of concept. In November 2017, EV rolled out NextShares to UBS and their financial advisors. Initial uptake at UBS was slow given educational and operational hurdles, but we think it will take several years to see if the product can eventually gain solid traction with investors.

Long-only mutual funds with performance fee components

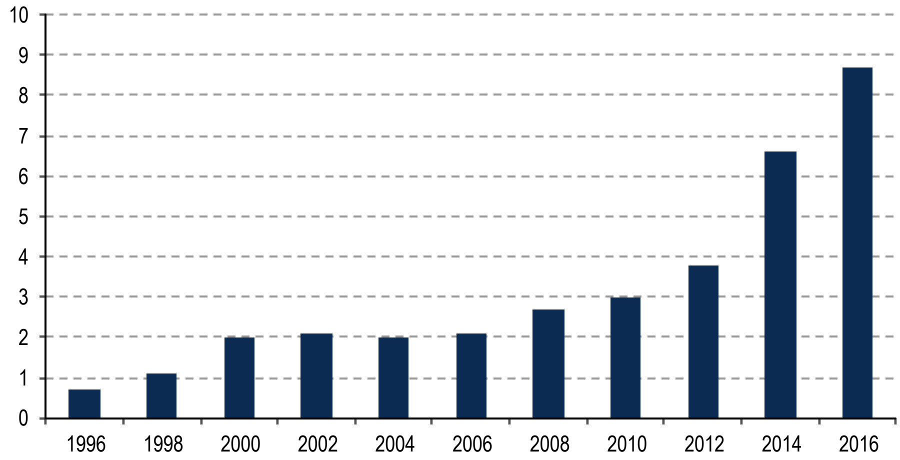
Janus Henderson has a series of US open end funds that charge a management fee, but if the fund outperforms/underperforms its stated benchmark over a 3 year period by a certain bogey, the fund receives/waives 15bps of management fee, i.e. the performance fee component. Although Janus Henderson's funds are still active and some have scale, others in the industry have not adopted such structures given the volatility it creates with respect to revenue (JHG has periods of negative performance fees).

In 2017, AllianceBernstein came out with a different fund structure. The idea behind AB's FlexFee series is to position active products advantageously against passive products by charging a minimal management fee or roughly 10-20bps, then if the fund hits certain performance criteria, charges a performance fee. These funds are marketed as the AB's "FlexFee" series; there are 7 active funds in the market as of 3Q18 with total AUM of ~$250M. The adoption from distribution platforms has been positive, but for this fund structure to gain scale and broader commercialization we think it will take multiple years and will require AB's initial funds to demonstrate proof of concept and the AB sales force to educate potential investors.

ESG (Environmental, Social, Governance)

ESG investing captures the notion of using non-financial factors that incorporate the environmental impact (E), social impact (S) and governance attributes (G) of a corporation. In the US, ESG is becoming increasingly more important to institutional clients as well as retail investors who can access newly minted ESG inspired ETFs from providers such as BlackRock. According to the Global Sustainable Investment Alliance, global ESG AUM stood at ~$23T at the end of 2016 (although depending upon the source and scope, ESG AUM can differ materially). In the US, ESG AUM has grown significantly from <$1T in 1995 to ~$9T at the end of 2016, exhibiting a 13% CAGR (Chart 44). BofAML's strategy team believes that ESG AUM can see $15-20T of inflows over the next 20-30 years (see note) and thus it is important for asset management firms to understand this demand trend and either launch new strategies or begin positioning some as ESG focused in order to be in the conversations for ESG focused mandates.

Chart 44: US ESG AUM ($T)



Source: US SIF Foundation

Note: Based on a survey by US SIF of 1) 477 institutional investors, 300 money managers and 1043 community investment institutions that apply ESG criteria in investment analysis/portfolio selection, and 2) institutional investors or money managers that filed/co-filed shareholder resolutions on ESG issues at publicly traded companies from 2014-2016, eliminating double counting of assets between the two samples.

According to Pensions and Investments, the largest ESG manager by a healthy margin is Aberdeen with nearly $800B of ESG AUM followed by HSBC and BlackRock each with close to $500B at the end of 2017 (Table 9).

Table 9: Top 20 Global ESG Managers

Firm	AUM ($B)
Aberdeen Standard Investments	779
HSBC Global Asset Management	469
BlackRock Inc.	465
AllianceBernstein LP	428
J.P. Morgan Asset Management	365
RBC Global Asset Management	336
Dodge & Cox	316
Pacific Investment Management Co. LLC	295
BNP Paribas Asset Management	279
Baillie Gifford Overseas Ltd.	235
State Street Global Advisors	207
AQR Capital Management LLC	165
BNY Mellon Investment Management	131
Neuberger Berman	129
Robeco	120
Legg Mason Inc.	118
Payden & Rygel	117
UBS Asset Management	99
CBRE Global Investors	89
Northern Trust Asset Management	86

Source: P&I. As of 12/31/17

Technology

The asset management industry historically didn't invest significantly in technology, however, most firms are now investing in technology to not only improve operational efficiency but improve distribution and enhance investment performance. Titans in the industry, notably BlackRock and more recently T. Rowe Price now have dedicated technology teams and centers focused on how big data and artificial intelligence can be harnessed to ultimately gain an edge.

In 2017, BlackRock overhauled its active US equity mutual fund lineup to include a series of lower cost products that lean heavily on quantitative models to pick stocks vs human fundamental research and the unit is showing early signs of improvement. Additionally, early in 2018, BlackRock introduced a series of artificial intelligence driven ETFs dubbed the "Evolved" iShares. While it is still too early to tell if AI driven processes can lead to superior investment results over the long term, most firms find it necessary to continue to monitor and invest in technology as it could be vital in the future and those that are left behind could face significant challenges.

Nuances between different vehicles

There are two broad vehicle types that an asset managers can deliver return streams through to investors which are pooled investment vehicles and separate accounts. A pooled investment vehicle is where a group of investors aggregate funds for the purpose of investment in order to achieve scale and diversification. The most common pooled vehicle would be a mutual fund, although there are a wide variety of these vehicle types with distinct nuances. A separate account on the other hand would contain assets managed by the asset manager on behalf of one investor, either an individual (typically high net worth) or an institution.

Pooled investment vehicles in the United States

Different types of pooled vehicles that are most common in the United States include open end mutual funds, exchange traded funds (ETFs), closed end funds (CEFs), unit investment trusts (UITs), and collective investment trusts (CITs). While all of these vehicles are similar in the sense that they pool together money from a myriad of investors, there are differences.

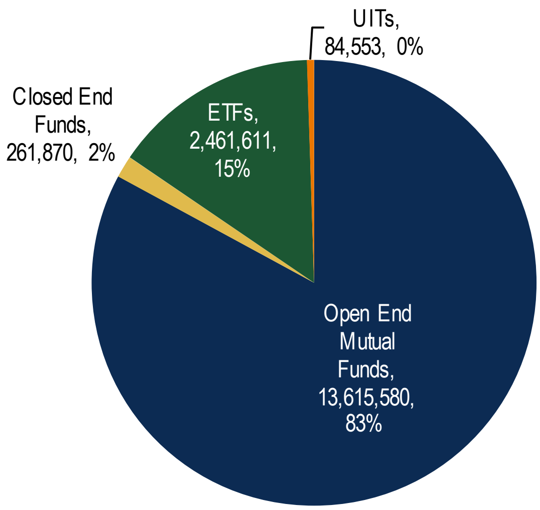
An open end mutual fund is the largest pooled investment vehicle in terms of AUM and a unique feature is there are no restrictions in the number of shares the fund can issue, which is also true with ETFs, however ETFs can only issue and redeem shares via authorized participants (APs) which are large broker dealers in units large enough to satisfy a creation unit which can vary in size.

The ETF, the second largest pooled vehicle by AUM as well as the fastest growing (at their 2018 investor day, BLK thinks the ETF market could more than double to $12T by 2023; see note) is unique because it has a primary source of liquidity via their open-end nature as well as a secondary source of liquidity on exchanges, hence the “exchange traded fund”. ETFs are also unique in the way they redeem creation units, they do so “in-kind” meaning instead of delivering cash to fill a redemption order like a mutual fund would, they deliver securities and by doing this avoid selling securities with embedded gains which could be taxable and therefore provides tax efficiencies.

The closed end fund, a small and shrinking component of the market, is “closed” meaning it has a fixed number of shares launched through an IPO and subsequently trades on exchanges. Closed end funds are permanent capital vehicles and thus shares cannot be redeemed or created. This allows these funds to trade out of step with NAV or net asset value, which is derived by taking the fund’s net assets divided by shares outstanding.

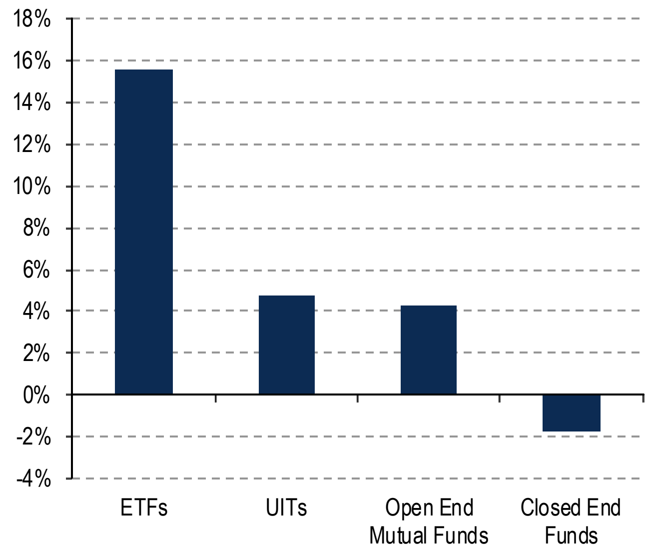
A UIT, the smallest pooled vehicle by AUM, is similar to open end funds and closed end funds but also unique. Like open-end funds, UITs issue redeemable shares, however like closed-end funds UITs typically issue a fixed number of shares. UITs do not actively trade its investment portfolio instead it buys and holds a fixed portfolio until the UIT reaches a pre-determined termination date at which time the trust is dissolved and proceeds are paid to shareholders (Charts 45-47).

Chart 45: AUM ($M) and Mix by Vehicle



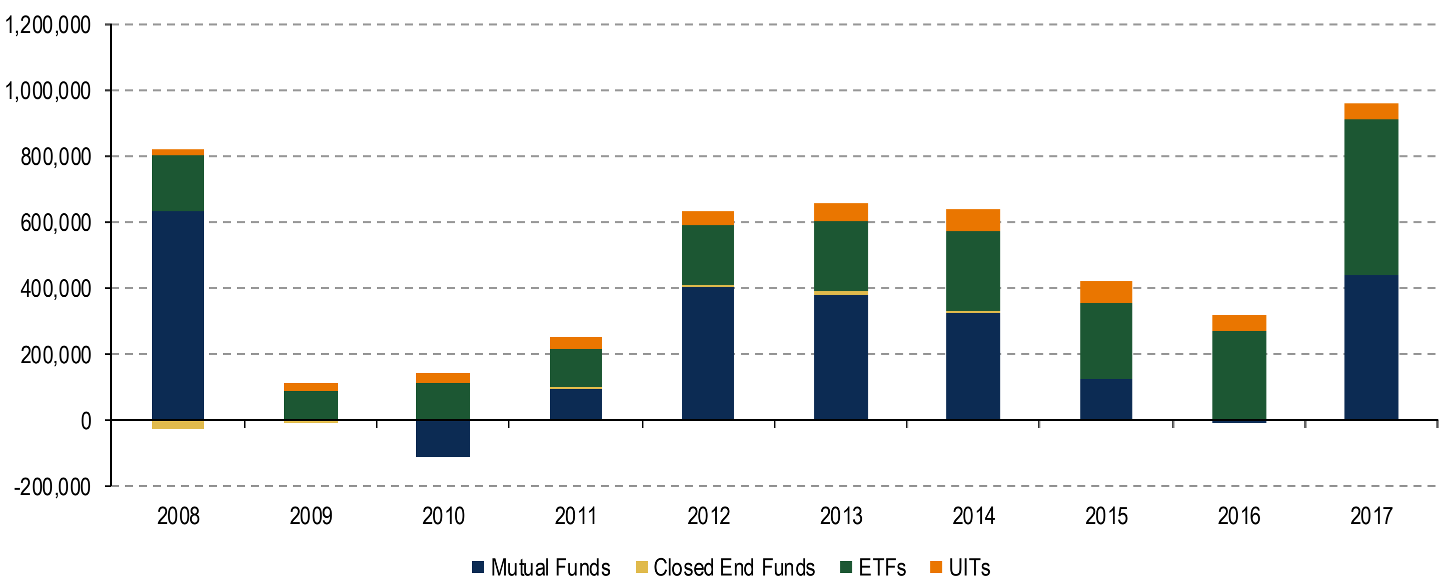
Source: ICI. Note: Data does not include money market funds. As of 2017

Chart 46: 10 Year AUM CAGR by Vehicle



Source: ICI. Note: Data does not include money market funds. As of 2017.

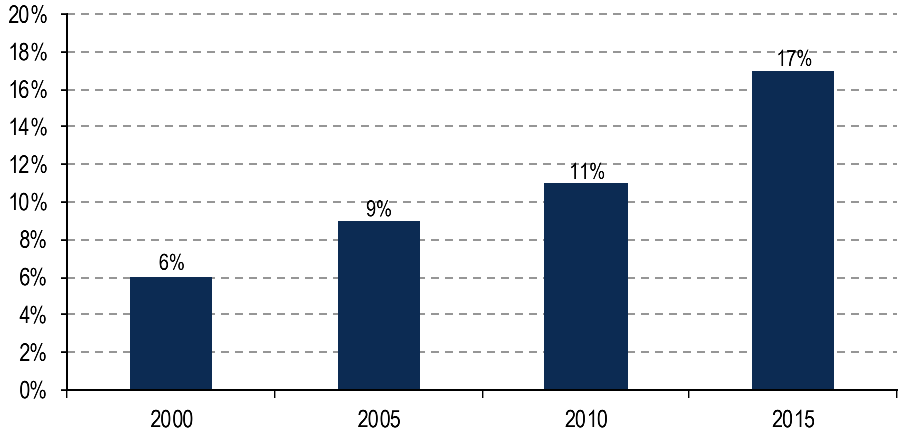
Chart 47: Net Flows ($M) by Vehicle



Source: ICI. Note: Data does not include money market funds

Collective investment trusts (CITs) are pooled vehicles that unlike OEFs, ETFs, CEFs, and UITs are not regulated under the 1940 Act, but instead are regulated under banking laws and are not marketed as widely as mutual funds given substantial minimum investment thresholds which in turn leads to lower operational and compliance costs. CITs are an increasingly viable alternative to mutual funds for DC plans given the lower expense profiles, but are still professionally managed (Chart 48).

Chart 48: Percentage of Assets in 401(k) Plans in CITs



Source: ICI . *2016 data shows 19% of 401(k) assets held in CITs.

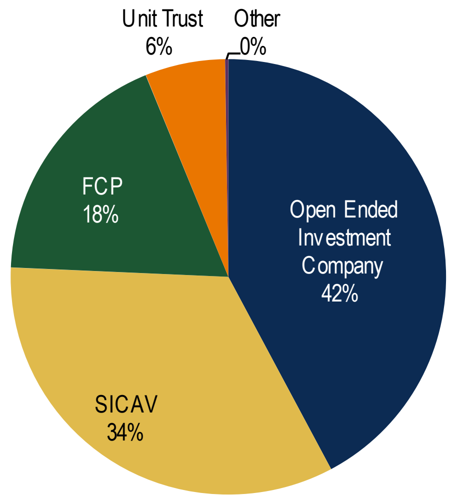
Internationally domiciled pooled investment vehicles

Outside of the United States, there exists what is called a UCITS fund; "Undertakings for Collective Investment in Transferable Securities" which is similar to a mutual fund based in the European Union. The underlying concept of a UCITS fund was originally designed in a 1985 EU law. Prior to UCITS law, the fund industry in Europe was very fragmented and purchasing funds outside one's country was either forbidden, unattractive from a tax standpoint, or just too complex given multiple different regulations across different nations.

In response, the law set out to create a standardized regulatory approach which put in place certain rules around types of securities that could be purchased, necessary disclosures to investors, distribution requirements, and other guidelines. The adoption of a single regulatory framework makes distribution of these funds a lot easier and safer. After the original passing of UCITS directive in 1985, the UCITS fund market has grown rapidly, reaching roughly $12T at the end of 2017.

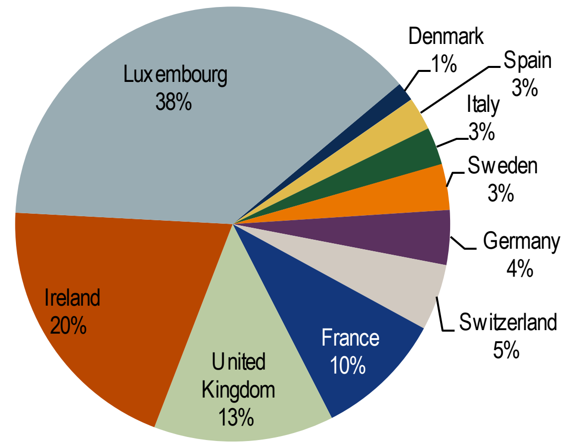
The legal structures chosen for a particular UCITS fund can vary and are often determined by domicile given that each country in the EU has its own types of structures and solutions available to companies seeking to launch UCITS funds. The most common by AUM are open ended investment companies (OEICs), followed by SICAVs ("Societe d'investissement a capital variable" – investment company with variable capital), UITs (Unit Investment Trusts), and FCPs ("Fond Commun de Placement" – common investment fund). In terms of domicile, OEICs (also referred to as ICVCs or Investment Company with Variable Capital) are most common in the UK, Ireland, and in Germany, while SICAVs and FCPs are common in Luxembourg, which is the largest UCITS market (Charts 49-50).

Chart 49: UCITS AUM Mix by Legal Structure



Source: Strategic Insight Simfund. As of 2017

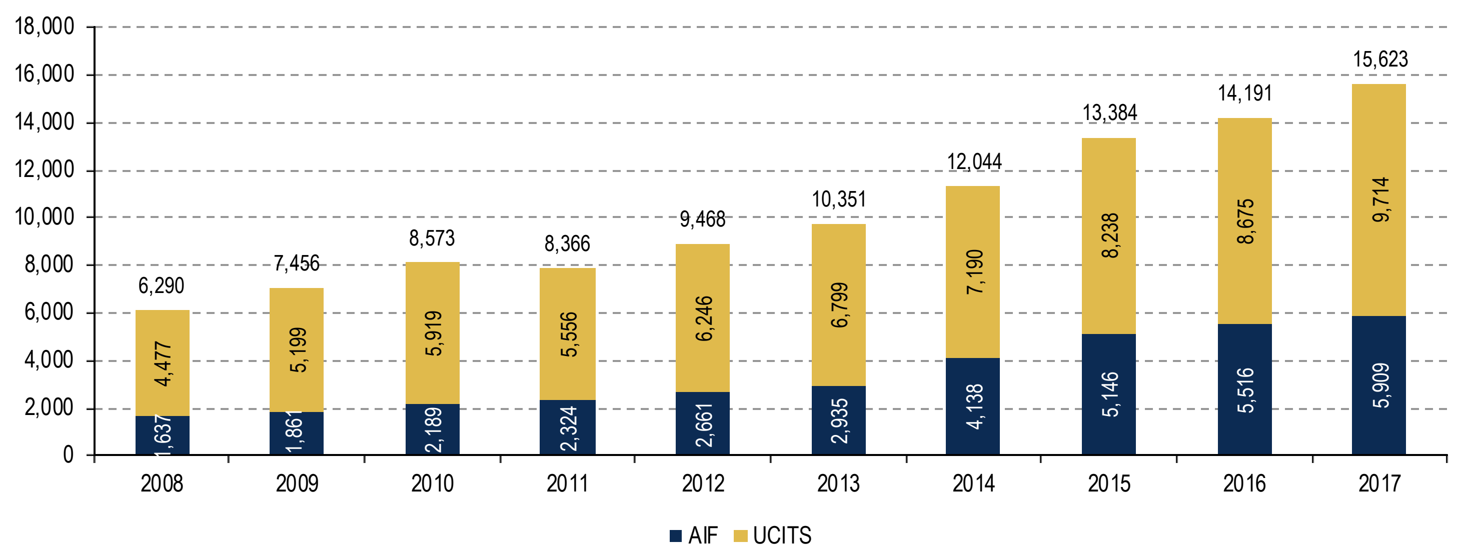
Chart 50: UCITS AUM Mix by Country of Domicile



Source: European Fund and Asset Management Industry. As of 2017

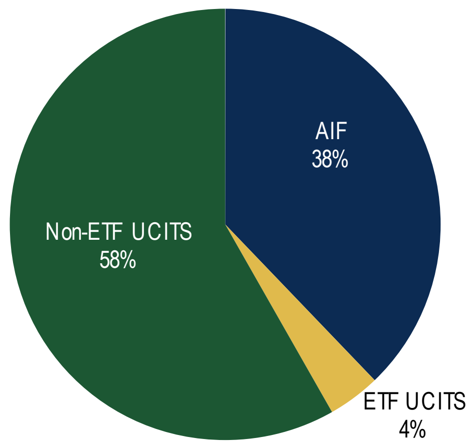
In addition to UCITS funds (which include ETFs) there exists AIFs, or alternative investment funds which are funds that are not covered by the European Directive on UCITS. These include hedge funds, venture capital, private equity, real estate and other exotic funds, although there are some investments outside AIFs as well. Overall the EU fund market stood at ~$20T at the end of 2017, fairly in line with the US fund market. In terms of the EU fund market, AIFs are roughly 40% and have had a 14% 10 year CAGR vs just 8% for UCITS funds (Charts 51-52). However, when comparing to the U.S., most of the comparable AIF products would be in separate accounts.

Chart 51: European Fund Market in millions of Euros



Source: European Fund and Asset Management Industry

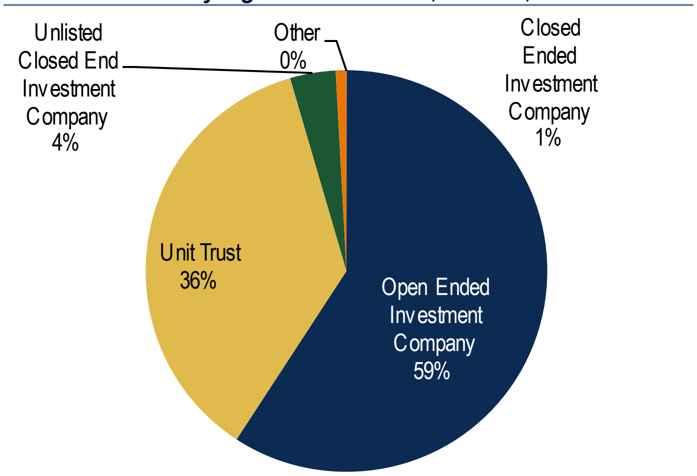
Chart 52: European Fund Mix



Source: European Fund and Asset Management Industry. As of 2017

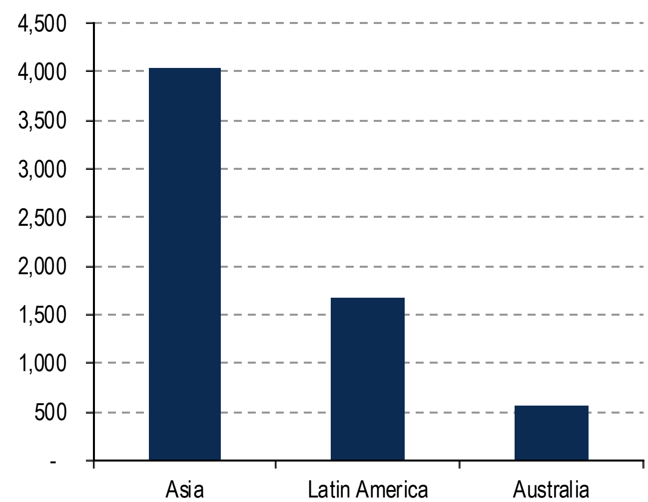
Outside of Europe, in regions such as Asia, Australia, and Latin America, there exists a similar pooled investment vehicle market (~$6T at the end of 2017 according to Strategic Insight Simfund). The open end fund vehicle (includes ETFs) is the most prominent followed by unit trusts and closed end funds (listed and unlisted) while other negligible vehicles also exist (property syndicate, SICAV, collateralized debt instrument, structured products, etc.). With respect to these regions, Asia's fund market is the largest followed by Latin America and Australia (Charts 53-54).

Chart 53: Fund Mix by Legal Structure in Asia, Australia, and LatAm



Source: Strategic Insight Simfund. As of 2017

Chart 54: AUM by Region ($B)

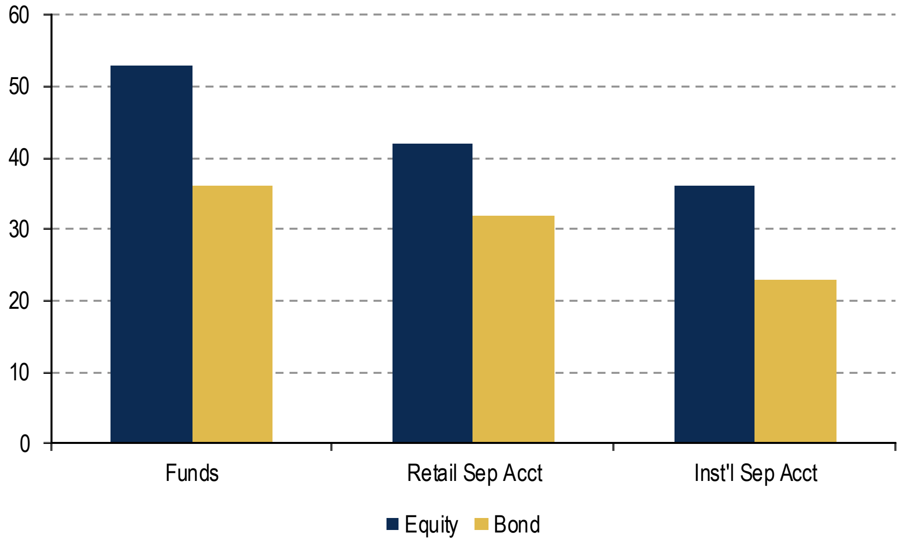


Source: Strategic Insight Simfund. As of 2017

Separate Accounts

Investment management services provided directly to institutions and some high net worth individuals tend to be in the form of separate accounts (approx. $20T in institutional sep accounts in the US vs $1T in retail sep accounts). In order to qualify for a separate account there are typically high minimum investments which is attractive to an asset management firm given scale and lower costs. The investor benefits from this structure since they are able to get a mandate that is customized to their goals and tax situation, at a more competitive price point (Chart 55).

Chart 55: Weighted Average Active Advisory Fee Rates (bps)



Source: Cerulli, Callan, Strategic Insight Simfund, and BofA Merrill Lynch Global Research.

In addition to separate accounts, there is a growing popularity within model-based separate accounts which generally do not carry as high investment minimums and therefore make the mass appeal and marketability greater, though at a lower fee. The largest institutional separate account managers in the world include BlackRock, Vanguard, and State Street while the largest retail separate account firms are BlackRock, Legg Mason, and Eaton Vance (Exhibits 6-7).

Exhibit 6: Top 20 Institutional Managers Globally

Firm name	AUM ($B)
BlackRock Inc.	3,883
Vanguard Group Inc.	3,101
State Street Global Advisors	2,103
BNY Mellon Investment Management	1,655
Legal & General Investment Management	1,291
Fidelity Investments	1,197
J.P. Morgan Asset Management	1,082
Amundi	1,081
Wellington Management Group LLP	1,079
Prudential Financial	1,034
Pacific Investment Management Co. LLC	897
Nuveen	891
Northern Trust Asset Management	760
The Goldman Sachs Group Inc.	712
Legg Mason Inc.	643
Aberdeen Standard Investments	640
AXA Investment Managers	631
Dimensional Fund Advisors LP	577
The Capital Group Cos. Inc.	576
UBS Asset Management	554

Source: Pensions and Investments. As of 12/31/17

Exhibit 7: Top 20 Retail Separate Account Managers in the US

Manager	Total AUM ($B)	Traditional Separate Accounts	Model-Based Separate Accounts
Blackrock	89.0	52.6	36.4
Legg Mason	74.5	25.8	48.7
Eaton Vance	70.3	64.7	5.6
Nuveen Investments	52.4	44.5	7.9
Wells Fargo Advisors	41.8	40.8	1.0
GW&K Investment Management	33.9	32.1	1.8
Federated Investors	27.3	6.2	21.1
NGAM Advisors	23.6	9.7	13.9
Lazard Asset Management	21.5	7.3	14.2
UBS Asset Management	18.3	15.1	3.2
Raymond James	15.9	8.5	7.4
Delaware Investments	15.5	6.8	8.7
PIMCO	13.5	10.4	3.2
JPMorgan Asset Management	13.1	4.6	8.4
Lord, Abbet & Co.	11.7	10.1	1.6
MFS Investment Mgmt	11.5	-	-
Congress Asset Mgmt	10.5	-	-
Neuberger Berman	9.9	-	-
Columbia Management	9.3	-	-
Harding Loevner	8.4	-	-

Source: Cerulli. As of 12/31/17. *Traditional separate accounts include dual contract.

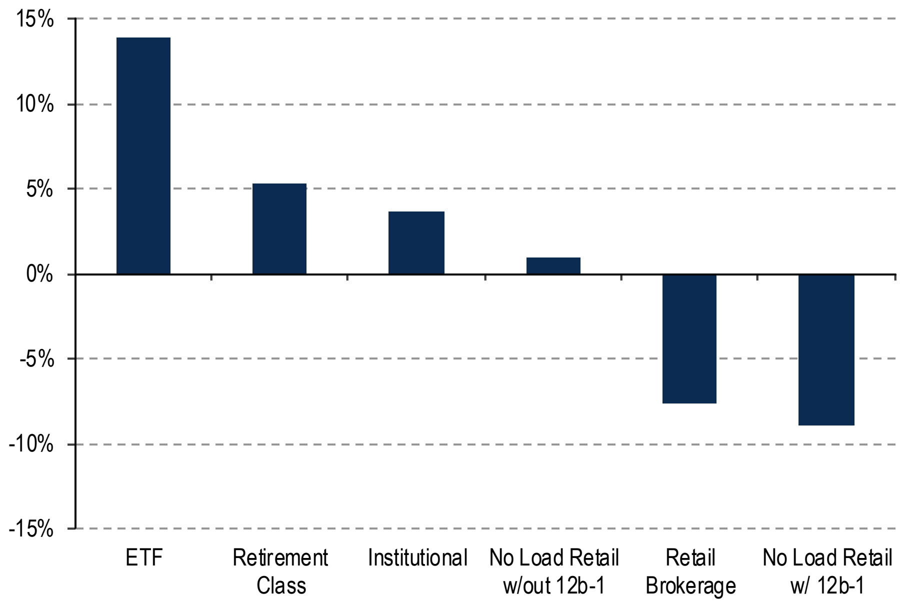
Multiple distribution channels

For asset managers, distribution in many cases is equally important to having a product line-up and strong performance. Distribution encompasses a range of capabilities, from the packaging of strategies into vehicles/share classes that meet investor requirements, to a comprehensive sales and marketing effort, to intermediary and end-client support. Key elements include geographic reach of products and personnel, coverage of different channels including market segments, strength of intermediary and consultant relationships, and depth of advisor and retail client support.

Market segments include the various intermediaries on the retail side (wirehouse brokers, supermarkets, regionals and independents, RIAs, etc.), retirement (401(k) plan sponsors, insurance, etc.), and institutional clients (pension funds, foundations, endowments, sovereigns, etc.) in the U.S. and non U.S. markets.

Distribution of asset management products is evolving, particularly in the retail channel, given regulations, focus on fees, product alternatives, among other factors. The shift from commission based accounts to fee based accounts in the wealth management industry along with the heightened scrutiny around fees in the fund industry is driving more sales of funds without accompanying distribution fees such as sales loads, 12b-1 fees, and/or other commission types. It is clear that funds with distribution fees are seeing challenges; in the last 3 years, the only two share class types with outflows are those that have some sort of distribution fee attached (Chart 56).

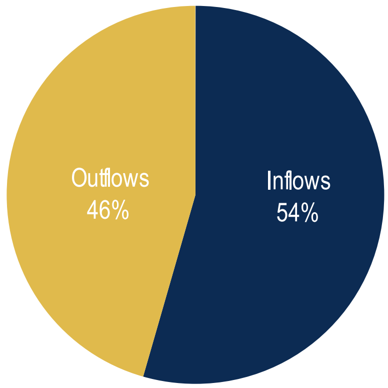
Chart 56: 3 Year Average Organic Growth by Share Class Type



Source: Strategic Insight Simfund. As of 5/31/18. Note: Retail Brokerage - shares carrying sales commissions and primarily utilized within transaction-based platforms of broker dealers (A, B, C, etc.), Institutional - institutionally priced share classes typically utilized by institutions and, increasingly, within retail fee-based advisory programs, No Load Retail w/out 12b-1 - retail no load share classes without 12b-1 fees; typically utilized within fee-based advisory programs or, in some cases, sold directly to investors, No Load Retail w/12b-1 - retail no load share classes which carry 12b-1 fees, Retirement - share classes that are sold primarily to qualified retirement plans or retirement savings programs, ETF - includes all exchange traded products (active and passive ETFs; open-end and UIT ETFs; ETNs).

It is vital for asset management firms to not only have good performance, but strong distribution as well, i.e. the right products/vehicles, strong distribution staff with favorable relationships, scale, customer service/support, etc. This is evident, as close to half of top rated funds by Morningstar had outflows in 2017, in part due to the lack of distribution capabilities (Chart 57).

Chart 57: Percentage of 4 & 5 Star Rated Funds by Morningstar with Outflows/Inflows



Source: Strategic Insight Simfund. As of 2017.

Four major distribution channels

We consider there to be four major distribution channels for US firms including retail, institutional, retirement, and the international market more broadly. The retirement channel is somewhat of a hybrid between retail and institutional where platform wins are more institutional like in nature, though the ultimate clients are not the institutions or plan sponsors but the participants or individuals of the firm.

There are also sub-advisory relationships which can be in any channel. For example if an asset manager/investment advisor has a client that would like a portion of its assets invested in emerging markets, but the asset manager lacks relevant expertise, they could hire another asset manager that specializes in emerging markets as a subadvisor and split the advisory fee charged to the client on those assets managed by the subadvisor. The largest subadvisor is Wellington with ~$600B of its AUM coming from sub-advisory relationships at the end of 2017 according to Pensions and Investments. The largest user of subadvisors is Vanguard, allocating more than $600B to subadvisors (Tables 10-11).

Table 10: 20 Largest Subadvisors

Firm	AUM ($B)
Wellington	599
Geode Capital Management	338
BlackRock Inc.	290
Principal Global Inv estors	246
Pacific Inv estment Mgmt	215
BNY Mellon Inv estment Mgmt	202
T. Row e Price Associates Inc.	149
Legal & General Inv Mgmt	135
State Street Global Adv isors	131
Fidelity Inv estments	124
Loomis, Sayles & Co. LP	122
Legg Mason Inc.	101
J.P. Morgan Asset Management	100
PRIMECAP Management Co.	94
AllianceBernstein LP	87
New York Life Inv estments	82
MFS Inv estment Management Inc.	69
Prudential Financial	69
The Goldman Sachs Group Inc.	64
Boston Partners	55

Source: Pensions & Investments. As of 2017

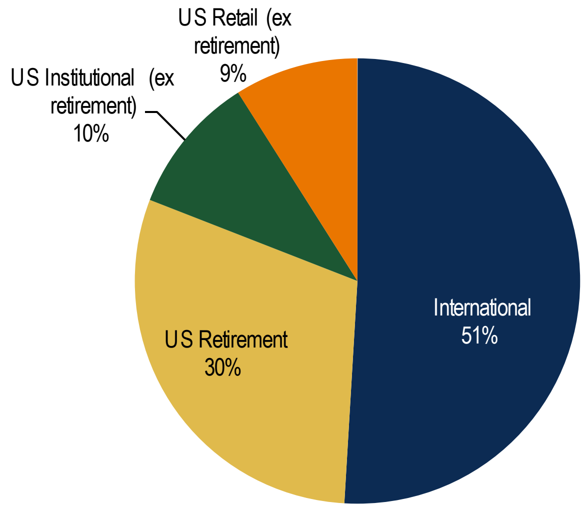
Table 11: 20 Largest Users of Subadvisors

Firm	AUM ($B)
Vanguard Group Inc.	618
The Goldman Sachs Group Inc.	251
Prudential Financial	238
SEI Inv estments	232
Mercer	227
Manulife Financial	216
MassMutual	186
Fidelity Inv estments	157
Russell Inv estments	134
Willis Tow ers Watson	115
Nuv een	78
Northern Trust Asset Management	71
Nationw ide	70
Harbor Capital Adv isors Inc.	70
Nomura Asset Management Co. Ltd.	66
MetLife Inc.	64
DWS Group GmbH & Co. KGaA	59
Columbia Threadneedle Inv estments	54
Aberdeen Standard Inv estments	50
PNC Financial Services Group Inc.	50

Source: Pensions & Investments. As of 2017

The largest of these four channels for US firms is international followed by retirement (~70% of the retirement market we consider to be retail which includes IRAs, all DC plans, and annuities while DB plans make up the rest which we consider institutional), institutional ex retirement (insurance general accounts, foundations, endowments, etc) and the retail ex retirement channel (direct and intermediary) (Chart 58).

Chart 58: Distribution Channel AUM Mix – Total $84T

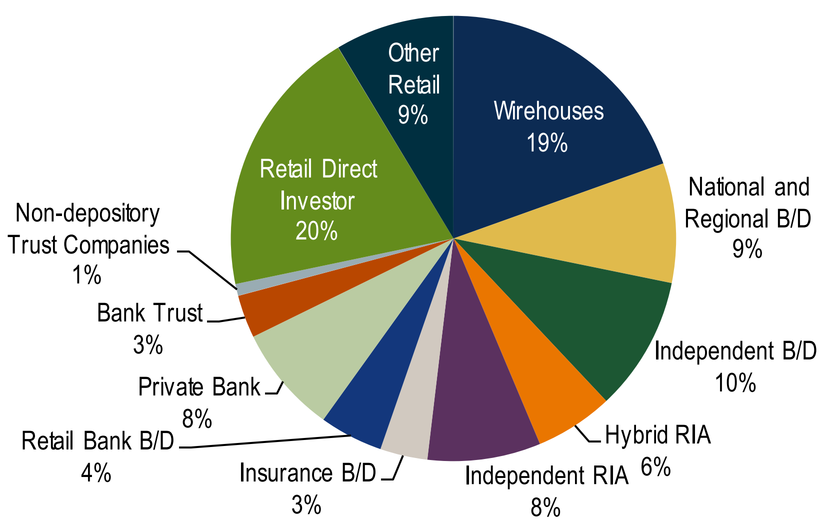


Source: Cerulli, ICI and BofA Merrill Lynch Global Research. As of 2016.

Retail channel: Driven by intermediaries with a focus on relative performance

In the US retail channel, individuals purchase funds either directly from a fund sponsor (~20% of the market) or via intermediaries, such as full-service brokers, RIAs, online brokers / fund supermarkets, employer-sponsored retirement programs, and insurance companies among several others (Chart 59).

Chart 59: US Retail Channel Breakdown

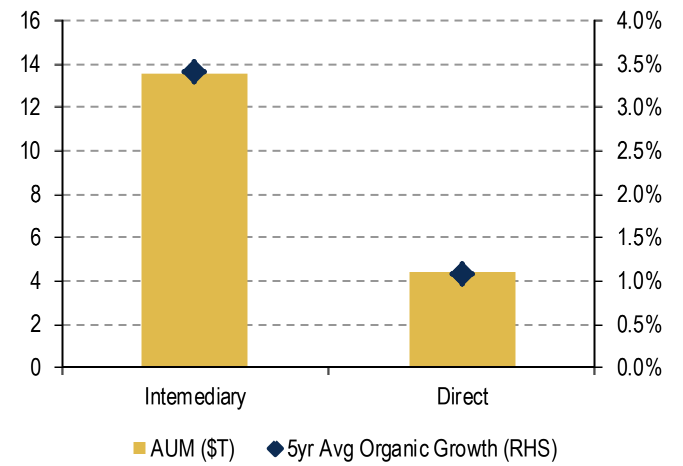


Source: Cerulli. As of 2016

For non-directed purchases, intermediaries actively select or remove funds on behalf of their clients based on fund performance, fees, and fund sponsor service capabilities among other things. The majority of the retail market is intermediated and has achieved a higher growth rate relative to the direct portion of the market (Chart 60). A few characteristics are generally attached to the retail channel that include higher fee rates, lower sales size, distribution revenue largely offset by related expenses, and more volatile flow trends (though fewer lumpy wins and redemptions).

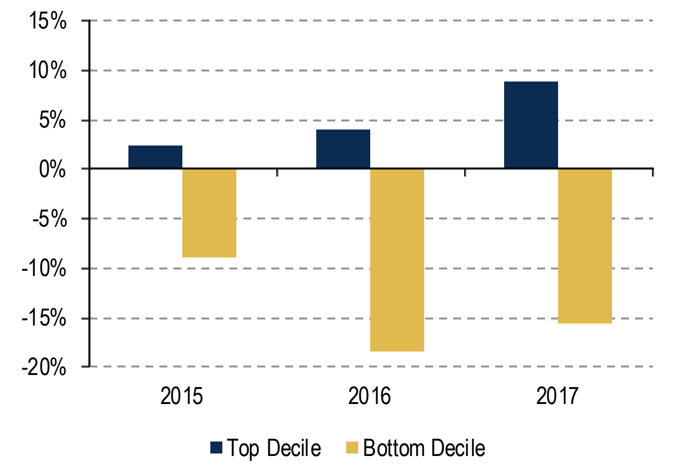
An important focus for retail investors and their intermediaries is relative investment performance which are aggregated and published by data providers such as Morningstar (1/3/5 year track records are primary consideration with emphasis on 3yr). Morningstar performance rankings along with their peers' (Lipper, eVestment, etc.) tend to correlate with flows, i.e. funds that rank well according to Morningstar are more likely to achieve stronger organic growth vs those that do not (Chart 61).

Chart 60: AUM and Organic Growth by Retail Distribution Channel



Source: Strategic Insight Simfund. AUM is as of 12/31/17. Data excludes money market funds.

Chart 61: Organic Growth by Morningstar's 3yr Percentile Rank



Source: Strategic Insight Simfund

The US retail market is fairly concentrated and dominated by just a few firms. Vanguard's >$4T AUM is nearly a quarter of the market and the top 20 managers collectively make up nearly 75% of the market. With respect to organic asset gathers, the strongest managers have been on the relatively smaller side which makes sense given the law of large numbers, although what is still quite impressive is that even being the largest firm, Vanguard has achieved a robust organic growth rate driven by its stewardship in indexing, a secular trend within retail as well as in institutional. The top retail managers by AUM and trailing organic growth are shown below (Tables 12-15).

Table 12: Top 20 Long Term US Retail Managers

Manager	2017 AUM ($B)	Market Share	5yr avg aog	3yr avg aog	2017 aog
The Vanguard Group	4,322	24%	9%	9%	10%
BlackRock	1,617	9%	11%	12%	17%
American Funds	1,525	8%	0%	1%	1%
Fidelity	1,473	8%	-1%	-1%	0%
State Street	646	4%	5%	4%	5%
T Rowe Price	592	3%	1%	-1%	-2%
Dimensional Fund Adv	396	2%	10%	8%	9%
Franklin Templeton	389	2%	-5%	-9%	-8%
PIMCO LLC	363	2%	-8%	-2%	14%
JPMorgan Funds	301	2%	4%	-1%	-3%
MFS	227	1%	5%	1%	1%
Dodge & Cox	217	1%	3%	-1%	2%
Oppenheimer	204	1%	-1%	-5%	-2%
Invesco	183	1%	-1%	-2%	-3%
Schwab	180	1%	16%	17%	23%
InvescoPowerShares	176	1%	6%	5%	7%
Columbia Threadneedle	155	1%	-8%	-8%	-8%
John Hancock	148	1%	4%	0%	-2%
Principal Funds	138	1%	3%	1%	-1%
Nuveen	135	1%	2%	2%	5%
Total/Avg	13,388	75%	3%	2%	3%

Source: Strategic Insight Simfund. All data as of 12/31/17.Data includes active and passive.

Table 13: Top 20 US Retail Managers by 5yr Avg LT aog

Manager	5yr avg aog	3yr avg aog	2017 aog	2017 AUM ($B)
Robeco Invst Funds	46%	8%	5%	12
Causeway Capital	41%	15%	17%	14
Robert W Baird	41%	34%	28%	43
Glenmede Trust	31%	27%	1%	13
AQR Capital Mgmt	29%	31%	9%	38
First Tr Adv	29%	11%	19%	61
Harding Loevner	26%	24%	25%	23
Edgewood Mgmt	22%	27%	30%	11
ALPS Advisors Inc	21%	11%	12%	17
PRIMECAP Mgmt	20%	10%	12%	29
Direxion/Rafferty	20%	15%	4%	13
WisdomTree	18%	3%	0%	47
TCW / MetWest	16%	9%	-1%	107
Guggenheim Invsmts	16%	11%	27%	33
Schwab	16%	17%	23%	180
Parnassus	16%	13%	7%	26
Diamond Hill Cap	13%	10%	6%	16
Credit Suisse	13%	6%	3%	10
DoubleLine Capital	13%	15%	5%	80
AIG Funds	13%	6%	-5%	18
Total/Avg	23%	15%	11%	793

Source: Strategic Insight Simfund. All data as of 12/31/17.Data includes active and passive. Only managers with >$10B of AUM at the end of 2017 were considered.

Table 14: Top 20 Active Long Term US Retail Managers

Manager	2017 AUM ($B)	Market Share	5yr avg aog	3yr avg aog	2017 aog
Capital Group	1,671	13%	0%	0%	1%
Fidelity Investments	1,166	9%	-4%	-5%	-6%
Vanguard	996	8%	1%	2%	2%
T Rowe Price	565	4%	1%	-1%	-1%
Franklin Templeton	412	3%	-5%	-9%	-8%
Dimensional	390	3%	10%	8%	9%
PIMCO	375	3%	-8%	-2%	14%
TIAA	305	2%	-4%	-4%	-4%
JP Morgan	297	2%	4%	-1%	-3%
BlackRock	268	2%	1%	-3%	-2%
PGIM	259	2%	-1%	-1%	-3%
MFS	249	2%	3%	0%	0%
Dodge & Cox	217	2%	3%	-1%	2%
OppenheimerFunds	211	2%	-1%	-5%	-2%
Ameriprise Financial	207	2%	-8%	-8%	-8%
Manulife Financial	193	1%	-1%	-4%	-5%
Invesco	190	1%	-2%	-3%	-3%
Natixis	172	1%	0%	-6%	3%
Legg Mason	139	1%	-3%	-3%	1%
Prudential Plc	138	1%	7%	3%	1%
Total/Avg	8,420	65%	0%	-2%	-1%

Source: Strategic Insight Simfund. All data as of 12/31/17.

Table 15: Top 20 Active US Retail Managers by 5yr Avg LT aog

Manager	5yr avg aog	3yr avg aog	2017 aog	2017 AUM ($B)
Robeco Group	46%	8%	4%	12
Causeway Capital	41%	15%	17%	14
Robert W Baird	41%	34%	28%	43
Glenmede Trust	31%	27%	1%	13
AQR	29%	31%	9%	38
Harding Loevner	26%	24%	25%	23
First Tr Adv	23%	29%	39%	21
Edgewood Mgmt	22%	27%	30%	11
PRIMECAP Mgmt	20%	10%	12%	29
Rydex Advisors LLC	20%	26%	40%	30
TCW	16%	9%	-1%	107
Parnassus	16%	13%	7%	26
Diamond Hill Cap	13%	10%	6%	16
DoubleLine Capital	12%	15%	5%	80
Dimensional Fund Advisors	10%	8%	9%	390
Lincoln Natl Inv	8%	1%	-2%	35
Lazard	7%	5%	-3%	36
Prudential Plc	7%	3%	1%	138
Tweedy Browne	4%	-2%	-2%	12
JP Morgan	4%	-1%	-3%	297
Avg/Total	20%	15%	11%	1,373

Source: Strategic Insight Simfund. All data as of 12/31/17. Only managers with >$10B of AUM at the end of 2017 were considered

The Robo-Advisor; a small but growing channel within retail

The term "Robo-Advisor" has gained traction in recent years, yet it can be confusing given that it is commonly used to describe several wealth mgmt. models (see Robo-Advisors – half man, half machine). The general term actually spans a broad spectrum that covers everything from low cost, online asset allocators to human-assisted virtual advisors engaged in the entire financial planning process.

The target client base for these "Robo" advisors is typically younger millennials who are tech savvy investors that are looking for simple low cost financial advice, as well as investors with less complex financial situations that are looking for a low cost option.

Typically, these clients are in the lower wealth tier that either have less complex needs or are not in a current advisory offering. The target client base is mainly made up of mass market (assets<$250K) and mass affluent (assets between $250K and $1M) investors, though pockets above these tiers are also possible.

Asset manager products are the building blocks for the automated investment portfolios that are generated and delivered to clients on these platforms. The Robo-Advisor's software automatically generates a diversified investment portfolio typically comprised of multiple low-cost ETFs or mutual funds (although some allocations may include stocks, bonds, cash, etc.) based upon the client's return and risk profile which is determined through a series of questions that the user answers at account opening.

These platforms can serve as a means of direct distribution for asset management firms as well as an ancillary service to the existing advisors they work with. For example, BlackRock's Aladdin for Wealth is technology enabled software with strong risk management capabilities that BlackRock equips advisors with. The idea is that the relationships that BlackRock builds with these advisors will bear fruit for many years to come and increases the likelihood the advisors will use BlackRock's products even though Aladdin for Wealth does not strictly advise purchasing BlackRock ETFs or model portfolios, although they are available on the platform. Many asset/wealth manager firms have either built robo-advisory capabilities or have purchased them over the years (BlackRock acquired FutureAdvisor, Invesco acquired Jemstep, Legg Mason acquired Financial Guard, etc.). The largest robo by 2017 assets is Vanguard Personal Advisor Services (Exhibits 8-9).

Exhibit 8: Public Firms with Robos

Asset Manager	Robo-affiliate
BlackRock	FutureAdvisor, Aladdin for Wealth, & Scalable
Franklin Resources	Bambu
Eaton Vance	SigFig
Invesco	Jemstep
Legg Mason	Financial Guard
T. Rowe Price	ActivePlus Portfolios
WisdomTree	AdvisorEngine

Source: Company websites, filings, and BofA Merrill Lynch Global Research

Exhibit 9: Top Robo-Advisors by AUM

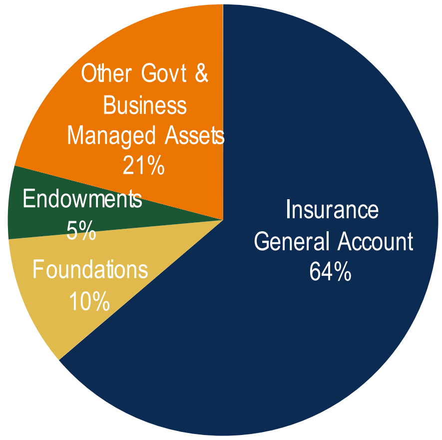
Robo-Advisor	AUM ($B)
Vanguard Personal Advisor Services	96.9
Schwab Intelligent Portfolios	27.0
Merrill Edge Guided Investing Portfolios*	16.8
Betterment	13.5
Wealthfront	10.2
Personal Capital	6.4
Blooom	2.4
Financial Guard	1.5
TD Ameritrade Essential Portfolios	1.4
FutureAdvisor	1.2
Other	44.7

Source: SEC filings, Company websites, and BofA Merrill Lynch Global Research. As of 12/31/17. * As of 9/30/17.

Institutional channel: A lengthier process with consultants

The institutional channel encompasses a range of client types such as insurance general accounts, foundations, endowments, and other government and private business managed assets (Chart 62).

Chart 62: US Institutional Client AUM Mix



Source: Cerulli. Data does not include retirement assets. As of 2016

Institutional investors typically employ asset managers through separate account arrangements, though they may also hold institutional-class mutual fund shares or ETFs. The sales process is more extensive, with investors typically using professional third party consultants to screen and select managers for portions of their investment allocation. The process can include a formal response to a request for proposal (RFP) and then a bid presentation by final candidates.

After a mandate is awarded, funding can also be a lengthier process, which can create large backlogs for institutionally oriented asset managers. While the backlog is somewhat of a helpful indicator of future asset and revenue growth for the asset managers, redemptions or lost mandates typically come without warning. In addition, if performance falters or the client plans to shift its allocation, the asset manager may become aware of watch list status for its funds or the firm overall.

In general there are a few characteristics associated with the institutional channel; lower fee rates, large/lumpy sales size, and more sticky flow trends as institutions tend to not be as reactionary as retail investors and for the most part stick to long term asset allocation plans. The three-year trailing record tends to be the most important measure for institutional investors. The largest institutional asset managers and investment consultants are shown below (Tables 16-17).

Table 16: Top 20 US Institutional Asset Managers

Firm	AUM ($B)
Vanguard Group Inc.	3,101
BlackRock Inc.	2,048
State Street Global Advisors	1,235
Fidelity Investments	1,197
Nuveen	873
Wellington Management Group LLP	846
BNY Mellon Investment Management	714
Prudential Financial	699
J.P. Morgan Asset Management	696
Northern Trust Asset Management	591
The Capital Group Cos. Inc.	550
Pacific Investment Management Co. LLC	528
Dimensional Fund Advisors LP	495
T. Rowe Price Associates Inc.	477
Legg Mason Inc.	460
Wells Fargo Asset Management	369
The Goldman Sachs Group Inc.	369
Invesco	355
Geode Capital Management	351
Principal Global Investors	347

Source: Pensions & Investments. As of 12/31/17. AUM includes retirement data

Table 17: Top 20 Investment Consultants

Firm	AUA ($B)
Mercer	10,951
Aon Hewitt Investment Consulting Inc.	3,722
Cambridge Associates	2,500
Russell Investments	2,400
Callan LLC	2,213
Willis Towers Watson Investment Services	2,200
RVK Inc.	2,101
Nomura Securities Co. Ltd.	1,894
Pension Consulting Alliance LLC	1,259
Meketa Investment Group Inc.	1,022
NEPC LLC	984
Wilshire Associates Inc.	948
Pavilion Advisory Group, including Pavilion Alternatives	685
Rocaton Investment Advisors LLC	533
Segal Marco Advisors	493
PPCmetrics AG	420
Verus	344
Hamilton Lane Advisors LLC	314
Morgan Stanley, including Graystone Consulting	279
CAPTRUST Financial Advisors	234

Source: Pensions & Investments. As of 6/30/17. AUA = Assets Under Advisement

A trend within the institutional channel is OCIO (outsourced chief investment officer) where an institution will transfer day to day responsibility of managing investments to an OCIO who can either be an asset manager or investment consultant that will choose an asset manager for the institution to manage a sleeve(s) of the portfolio or in some cases the entire portfolio. The OCIO is more attractive to smaller institutions that lack internal resources to manage an investment portfolio. As of March 2017, OCIO AUM totaled $1.5T (~7% of US institutional market) up significantly from $0.6T 7 years ago representing over a 13% CAGR compared to low to mid-single digit growth for the institutional channel as a whole according to Cerulli.

Thus it is becoming increasingly important for asset managers to create and sustain relationships with OCIOs since they can provide ongoing growth, i.e. if a firm gets approved and selected by an OCIO for a particular mandate it is likely that as the OCIO grows its client base they will continue to allocate incremental dollars to the approved asset manager. That said, OCIOs often aggregate client assets across their books and use total AUM to hit certain breakpoints with the asset manager and thus incremental wins awarded by an OCIO often come in at lower fee rates. Mercer, Russell Investments, and Northern Trust are the top 3 OCIOs according to Pensions and Investments (Table 18).

Table 18: Top 20 OCIO Managers

Firm	AUA ($B)
Mercer	158
Russell Investments	124
Northern Trust Asset Management	118
Cambridge Associates	110
Aon Hewitt Investment Consulting Inc.	103
BlackRock Inc.	102
The Goldman Sachs Group Inc.	99
SEI Investments	96
Willis Towers Watson Investment Services	81
State Street Global Advisors	80
Wells Fargo & Co.	78
J.P. Morgan Asset & Wealth Management	41
Alan D Biller & Associates Inc.	37
Vanguard Group Inc.	35
Strategic Investment Group	34
Bank of America Merrill Lynch	32
Segal Marco Advisors	26
Morgan Stanley	22
Verus	21
P-Solve	21

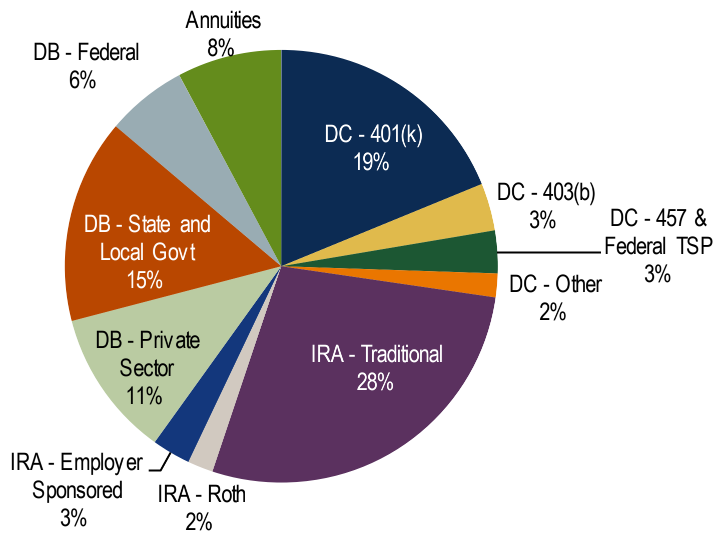
Source: Pensions & Investments. As of 3/31/17.

Retirement channel: The shift from DB to DC

The US retirement channel is sometimes viewed as retail and sometimes viewed as institutional, depending on the product being used and/or the client being serviced (a corporation or the consumer). According to ICI, the US retirement market stood at $28T at the end of 2017, up 11% vs 2016. IRAs are the single largest component of the retirement market or roughly one third with the vast majority of assets in traditional IRAs as opposed to Roth IRAs and employer sponsored IRAs. DB plans are a close second, followed by DC plans with annuities held outside retirement plans being the smallest part of the market (Chart 63).

An underlying long term trend within the retirement market is the shift away from DB plans in favor of DC plans. DC and IRA assets (includes rollovers from DC) accounted for less than half of retirement AUM in 2000, but at the end of 2017 that figure has grown to 60% at the expense of DB. The DC market also happens to be dominated by the top firms, with the top 20 controlling nearly 80% of the market relative to the DB market where the top 20 firms control roughly one third of the market (Tables 19-20).

Chart 63: Retirement AUM Mix by Client Type



Source: ICI. As of 2017. TSP = Thrift Savings Plan.

Table 19: Top 20 DB Managers

Firm	AUM ($B)	Mkt Share
BlackRock Inc.	593	7%
State Street Global Advisors	416	5%
Pacific Investment Management Co. LLC	216	2%
BNY Mellon Investment Management	211	2%
Prudential Financial	204	2%
J.P. Morgan Asset Management	165	2%
NISA Investment Advisors LLC	138	2%
The Goldman Sachs Group Inc.	118	1%
Northern Trust Asset Management	117	1%
Legg Mason Inc.	97	1%
Wellington Management Group LLP	90	1%
LSV Asset Management	73	1%
Loomis, Sayles & Co. LP	69	1%
Parametric Portfolio Associates	67	1%
AQR Capital Management LLC	61	1%
Legal & General Investment Management	58	1%
Dodge & Cox	57	1%
Dimensional Fund Advisors LP	55	1%
Baillie Gifford Overseas Ltd.	53	1%
Fidelity Investments	49	1%
Total	2,906	32%

Source: Pensions and Investments. As of 12/31/17.

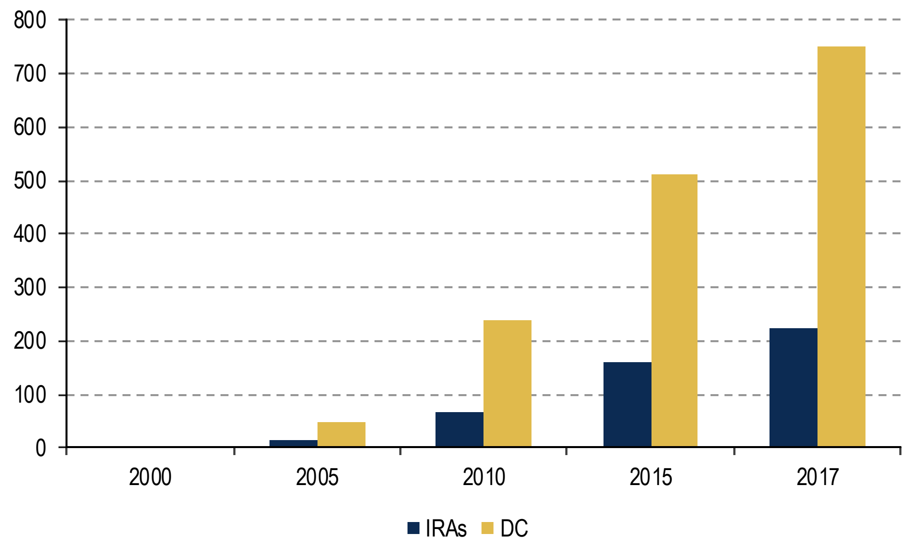
Table 20: Top 20 DC Managers

Firm	AUM ($B)	Mkt Share
Vanguard Group Inc.	1,143	15%
BlackRock Inc.	855	11%
Fidelity Investments	715	9%
Nuveen	533	7%
T. Rowe Price Associates Inc.	403	5%
The Capital Group Cos. Inc.	373	5%
State Street Global Advisors	333	4%
Prudential Financial	226	3%
J.P. Morgan Asset Management	203	3%
Northern Trust Asset Management	172	2%
MassMutual	152	2%
Wells Fargo Asset Management	125	2%
Pacific Investment Management Co. LLC	115	1%
Principal Global Investors	105	1%
Dodge & Cox	102	1%
Invesco	95	1%
Geode Capital Management	94	1%
Voya Investment Management	89	1%
BNY Mellon Investment Management	83	1%
The Goldman Sachs Group Inc.	80	1%
Total	5,997	77%

Source: Pensions and Investments. As of 12/31/17.

As mentioned previously, target date funds are growing in popularity within the retirement markets, particularly in IRAs and DC plans driven by the simplicity and effectiveness of the products as well as it being a common default option for most plans. At the end of 2000 less than $10B of target date mutual fund assets were held in retirement accounts vs nearly $1T at the end of 2017 (Chart 64).

Chart 64: Target Date Mutual Fund Assets ($B)

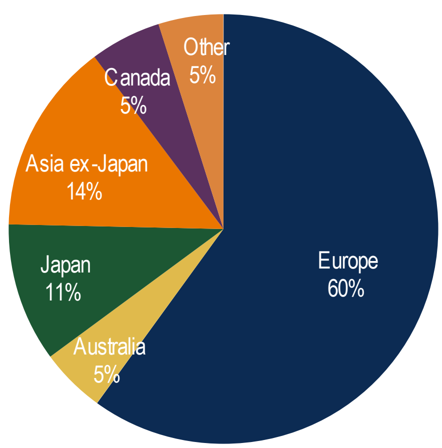


Source: ICI

International: The most significant opportunity for US firms

The international channel is the largest of all four primary channels and represents the most opportunity for domestic asset managers given their relative lack of penetration as well as the higher growth rates in developing nations, particularly in Asia. However, given different cultures, processes, procedures, and regulations, attaining attractive distribution can be challenging and costly. The largest international market is by far Europe followed by Asia ex Japan, Japan, Canada, and Australia (Chart 65).

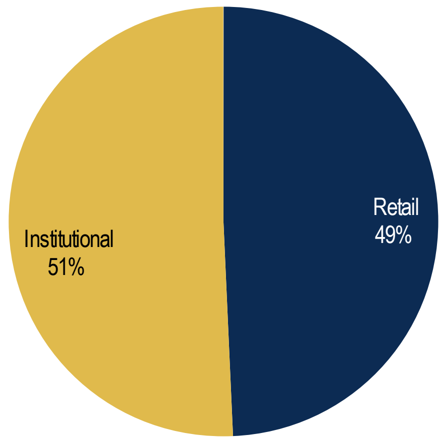
Chart 65: International AUM Mix



Source: Cerulli. As of 12/31/16. Total AUM is approximately $43T.

Similar to the US, there exists two main client types overseas; an individual (retail/funds) and an institution with a fairly even split of AUM between the two (Chart 66). However, retail distribution is more of a challenge internationally in our opinion given various countries each with varying firms, vehicles, practices, processes, laws, and regulations. While there are similar international challenges for institutional distribution we find that the process is more similar to US than retail.

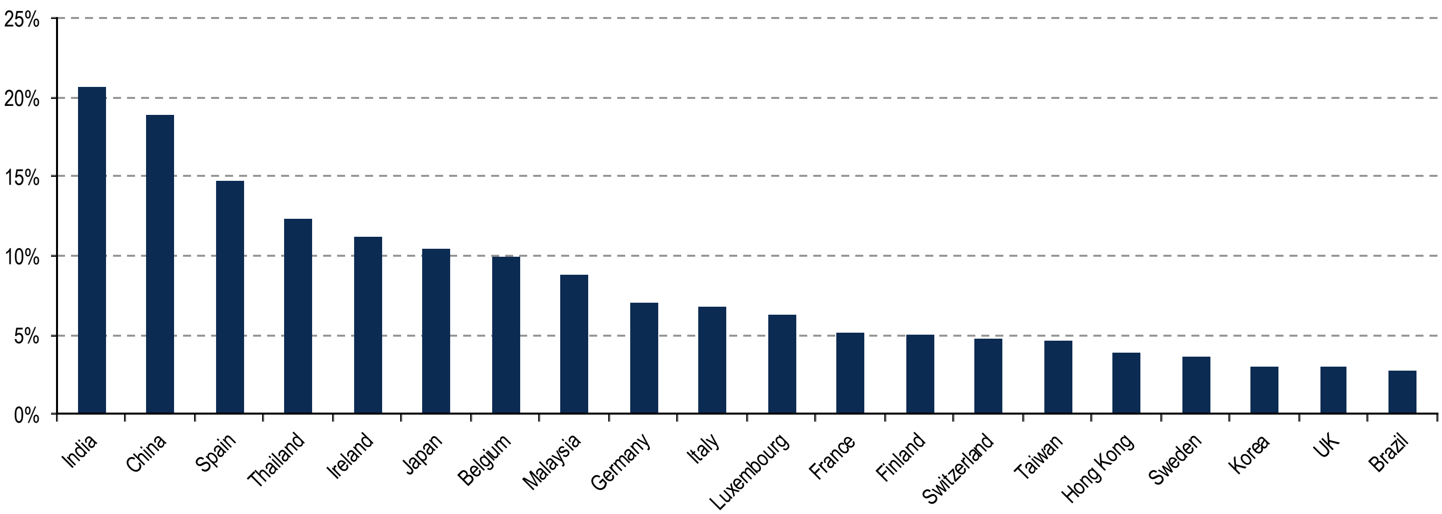
Chart 66: Overseas Client Mix



Source: Cerulli and ICI. As of 12/31/16. Total AUM is approximately $43T

In international markets, depending upon the country, US firms will have either their own independent operations or they will partner with local firms to access distribution. Importantly for US firms, the non-US market contains the fastest growing nations including India, China, Spain, Thailand, and Ireland, each with double digit organic growth rates over the last three years (Chart 67).

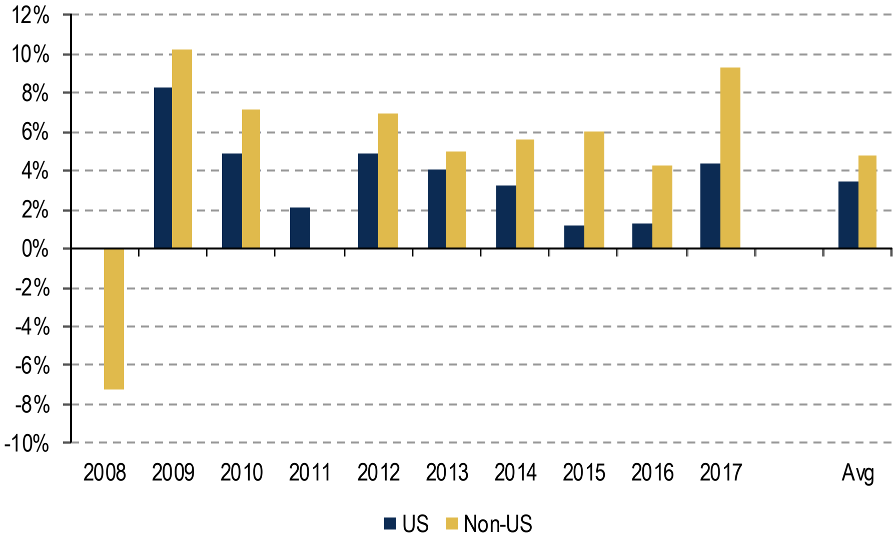
Chart 67: Fastest Growth Non-US Fund Markets (Average 3 year Organic Growth)



Source: Strategic Insight Simfund. As of 12/31/17.

In addition to having some of the fastest growing fund markets, the international market in general has seen superior growth to the United States over the past decade. In 8 of the last 10 full calendar years, the non-US fund market has achieved stronger organic growth including in the past six years (Chart 68).

Chart 68: Annual Organic Fund Growth



Source: Strategic Insight Simfund and BofA Merrill Lynch Global Research

BlackRock is the largest non-US fund manager with over $800B of assets at the end of 2017. Interestingly however, the top 20 firms internationally only make up 34% of the market vs 75% for the US which highlights the greater fragmentation and increased competition within the non-US retail market. The top 20 fastest growing asset managers abroad include CIB Fund Management, ABC-CA Fund Management and AQR, achieving an average organic growth rate above 100% in the past 5 years (as of 2017), again illustrating the growth opportunities in the non-US fund market (Tables 21-24).

Table 21: Top 20 Long Term Non-US Retail Managers

Manager	2017 AUM ($B)	Market Share	5yr avg aog	3yr avg aog	2017 aog
Blackrock	809	6%	10%	10%	14%
Amundi	338	2%	11%	11%	18%
UBS	323	2%	6%	6%	10%
Deutsche AWM	277	2%	5%	5%	10%
Credit Suisse	257	2%	4%	6%	9%
JP Morgan	237	2%	9%	2%	8%
Fidelity International	233	2%	3%	3%	-1%
Schroders	219	2%	2%	-1%	3%
Nomura	218	2%	10%	13%	11%
Vanguard	202	1%	16%	13%	16%
PIMCO	188	1%	8%	24%	64%
Allianz	186	1%	8%	9%	15%
Union Investment	175	1%	11%	12%	13%
Invesco	172	1%	8%	6%	12%
Nordea	166	1%	11%	10%	2%
Eurizon Capital	166	1%	17%	18%	20%
Standard Life Aberdeen	161	1%	-2%	-6%	-9%
Banco do Brasil	158	1%	-2%	-1%	8%
Itau	153	1%	0%	7%	19%
Pictet	151	1%	5%	7%	9%
Total/Avg	4,791	34%	7%	8%	12%

Source: Strategic Insight Simfund. All data as of 12/31/17. Data includes active and passive. Non-US pertains to domicile

Table 22: Top 20 Non-US Retail Managers by 5yr Avg LT aog

Manager	5yr avg aog	3yr avg aog	2017 aog	2017 AUM ($B)
CIB Fund Management	221%	205%	11%	11
ABC-CA Fund Management	78%	126%	354%	16
AQR	75%	70%	111%	14
Northern Trust	57%	65%	32%	26
Lombarda China	48%	44%	0%	10
Fundsmith LLP	47%	39%	27%	20
CaixaBank	43%	10%	-9%	39
Lindsell Train Ltd	43%	43%	41%	12
Kutxabank S.A.	41%	11%	8%	10
Grupo Banco Sabadell	41%	31%	47%	11
China Merchants Group	37%	61%	-9%	26
BOC International	34%	52%	41%	35
Magellan Financial Group	32%	13%	-8%	13
Ibercaja	30%	29%	21%	13
Flossbach von Storch AG	30%	30%	24%	28
SBI Funds Management	29%	49%	43%	28
BBL AMC	28%	18%	11%	18
J. Safra Asset Management Ltd	27%	37%	62%	35
Kotak Mahindra	26%	41%	27%	18
TMB Asset	26%	34%	43%	12
Total/Avg	50%	50%	44%	394

Source: Strategic Insight Simfund. All data as of 12/31/17. Data includes active and passive. Only managers with >$10B of AUM at the end of 2017 were considered. Non-US pertains to domicile.

Table 23: Top 20 Active Long Term Non-US Retail Managers

Manager	2017 AUM ($B)	Market Share	5yr avg aog	3yr avg aog	2017 aog
Amundi	267	2%	9%	7%	10%
BlackRock	257	2%	8%	7%	10%
JP Morgan	234	2%	9%	2%	8%
Fidelity International	224	2%	2%	2%	-2%
Schroders	221	2%	2%	0%	3%
Deutsche AWM	195	2%	4%	2%	5%
UBS	186	2%	3%	2%	7%
PIMCO	186	2%	8%	24%	64%
Allianz	185	2%	9%	9%	15%
Credit Suisse	181	2%	3%	6%	11%
Union Investment	175	1%	11%	12%	13%
Invesco	169	1%	8%	6%	13%
Eurizon Capital	167	1%	17%	18%	20%
Banco do Brasil	164	1%	-2%	-1%	7%
Itau	162	1%	1%	8%	20%
Nordea	161	1%	11%	10%	2%
Aberdeen Standard	155	1%	-3%	-7%	-10%
BNY Mellon	155	1%	1%	0%	8%
Franklin Templeton	141	1%	-4%	-9%	3%
M&G Investments	131	1%	4%	1%	18%
Total/Avg	3,717	32%	5%	5%	11%

Source: Strategic Insight Simfund. All data as of 12/31/17.

Table 24: Top 20 Active Non-US Retail Managers by 5yr Avg LT aog

Manager	5yr avg aog	3yr avg aog	2017 aog	2017 AUM ($B)
ABC-CA Fund Mgmt	85%	135%	370%	15
AQR	76%	71%	115%	15
Lombarda China	48%	44%	1%	10
Fundsmith LLP	47%	39%	27%	20
CaixaBank	44%	10%	-9%	38
Lindsell Train Ltd	43%	43%	41%	12
Kutxabank S.A.	42%	11%	8%	10
China Merchants Group	37%	62%	-13%	24
Magellan Financial Group	32%	13%	-8%	13
Ibercaja	30%	29%	21%	13
BOC International	30%	45%	35%	35
Flossbach von Storch AG	30%	30%	24%	28
TMB Asset	29%	40%	52%	11
Kotak Mahindra	28%	41%	30%	17
BBL AMC	28%	18%	11%	18
CCB Principal	28%	69%	-13%	21
J. Safra Asset Mgmt	27%	37%	62%	35
Polar Capital Partners	25%	1%	34%	12
MDO Mgmt Company	25%	13%	29%	17
SBI Funds Management	25%	38%	44%	19
Avg/Total	38%	40%	43%	382

Source: Strategic Insight Simfund. All data as of 12/31/17. Only managers with >$10B of AUM at the end of 2017 were considered. Non-US pertains to domicile

Increasing regulations

Rules and oversight are on the rise

Today, the asset management industry is facing more regulatory complexity than ever before with MiFID II in Europe (post Retail Distribution Review or RDR), enhanced SEC oversight of Investment Companies and Advisers, the SEC's proposals around best interest standard rules, and changes to the money market industry among other things.

EU's MiFID II

Markets in Financial Instruments Directive II or "MiFID II" is an EU regulation that creates broad changes across the financial industry that went into effect on January 3, 2018. Despite the rule being contained to the EU, many U.S. firms do business in the region and therefore can also be subject to the rules.

Asset managers face change under MiFID II with the key area being "unbundling" which changes how asset managers pay for research. EU asset managers are now required to pay separately for research instead of dealing commissions. They can do this by paying directly out of their profit and loss statement or through a devoted ring-fenced client-research payment account. In addition to external research costs, the sector also faces increased legal, administrative, and other regulatory costs to ensure compliance with the new rules.

It appears that many U.S. based asset managers have decided to ring fence their European segment given announcements from the companies and pay hard dollars out of pocket for external research consumed in Europe for competitive reasons. It is very early in the implementation process and consumption/pricing trends are unclear and are likely to evolve over time, but given relevant AUMs and a 1-3 basis point of AUM price for research assumption, we estimate the unbundled cost of research will be immaterial for most US firms, though those with relatively more AUM exposed to the EU (IVZ & JHG), we expect a 1-2% headwind on operating expenses (see note) which was validated by JHG through their guidance of $19M of MiFID related costs in 2018 or ~2% of our 2018E expense estimate.

If firms elect to adopt one global approach for research consumption vs ring-fencing Europe, which we generally expect to happen eventually given administrative and operational efficiencies as well as for competitive reasons, then the related research costs would be more material to the firms. Ultimately, we view this regulation as one that will increase costs and likely be another reason for firms in the industry to increase scale/consolidate to mitigate any overhead related to complying with the new rules.

Additionally, Retail Distribution Review in the UK, commonly referred to as RDR is a set of rules enforced by the Financial Conduct Authority (FCA) that has been in place since 2013 to introduce more transparency and fairness in the investment industry. The RDR rules stipulate that financial advisers are no longer permitted to receive commissions from fund companies for recommending their investment products.

Investors will now have to agree on upfront fees with their financial advisers to ensure that the investment products recommended by the advisers are unbiased and transparent. The rule also requires financial advisers to be split into two distinct categories, independent and restricted, which limits the scope of recommendations an adviser can provide. Independent advisers can recommend any type of investment products whereas restricted advisers specialize in just one investment area. This piece of regulation further illustrates the push for increased transparency and fairness to clients within the investment management industry, a trend we expect to continue globally.

SEC's Increased Oversight of the Fund Industry

In an attempt to modernize oversight of investment companies and advisers, ensure orderly redemptions, mitigate potential runs on mutual funds, and contain potential systemic risk, the SEC has proposed and adopted several new regulations that will amend both the Investment Company Act of 1940 and the Investment Advisers Act of 1940 (see Note on proposals and Note on final rules).

Investment Company Reporting Modernization

In October 2016, the SEC introduced new forms; N-PORT and N-CEN that will replace existing forms (N-Q & N-SAR) and be required monthly and annually respectively. Although form N-PORT is required monthly, only information reported for the third month of each fund's fiscal quarter on Form N-PORT would be publicly available and such information would not be available until 60 days after the end of the third month of each fund's fiscal quarter, thereby protecting a fund from front running or copycatting.

The forms will include new and enhanced disclosures on pricing of investments, performance, securities lending, counterparty exposure, derivatives (disclosure on derivatives are required to be shown prominently in financial statements and not just in the footnotes), whether or not the fund relied on exemptive relief, whether or not the fund receives financial support from affiliates, disclosure of NAV errors, inclusion of auditors' reports on internal control, and whether or not the certified accountant issued an opinion other than an unqualified one, among several other identifying items. Both new forms will be filed in a structured data format (XML) which will facilitate data analysis which can be used to identify and mitigate potential risks.

In terms of timing, funds will be required to begin filing form N-PORT by April 30th, 2019, though fund complexes with <$1B will be granted an additional year. Form N-CEN carried a compliance date of June 1, 2018. Based on SEC projections, the new rules could cost the industry ~$600M in year 1 costs and ongoing annuals costs of ~$400M.

Amendments to Form ADV and Investment Advisers Act

In May of 2015, the Commission called for amendments to Form ADV and the Investment Advisers Act requiring more detailed information on advisers, particularly on their separately managed account (SMA) businesses as well as stricter recordkeeping requirements relating to performance calculations. On August 25th, 2016, the SEC adopted certain amendments proposed in May regarding Form ADV with a compliance date of October 1st, 2017. As of that date any adviser filing an initial form ADV or amendments to existing Form ADV will be required to adhere to new disclosures.

The SEC requires registered advisers to disclose aggregate level data on separately managed accounts including types of assets held (broken out into 12 broad asset classes expressed as percentages of regulatory AUM), the use of derivatives, and borrowings within these accounts.

Additional information from advisers will also be required on Form ADV going forward including regulatory AUM attributable to each type of client, number of clients they provide advice to but do not have AUM, the approximates percentage of AUM attributable to non US clients, information on custodians, information on social media sites/pages controlled by the adviser, additional information on large branch offices and chief compliance officers, among other items.

Amendments to the Books and Records Rules have also been adopted with these new rules that now require advisers to create and maintain detailed records of performance calculations present in any written communication circulated by the adviser to any person (previous rule was for communication distributed to ten or more persons). Also in the new rule, the SEC codifies umbrella registration, whereby a group of related advisers that are separate legal entities, but operate and appear to investors as a single operation may file a single Form ADV as opposed to multiple.

Based on SEC estimates we expect incremental costs related to this rule to be negligible for the public asset managers and expect smaller less sophisticated managers to face relatively small aggregate costs.

Open-End Fund Liquidity Risk Management Programs & Swing Pricing

In October 2016, the SEC voted to adopt certain new rules it had proposed back in September 2015 relating to open end fund liquidity risk and the use of swing pricing by mutual funds. Mutual funds and ETFs are now required to establish a written, board approved/reviewed risk management program that classifies investment into different liquidity categories, cap illiquid investments to 15%, and establish a minimum % for highly liquid investments. The SEC will also allow mutual funds, not ETFs, to use swing pricing which is the process of adjusting NAV to pass on trading costs to the purchasing/redeeming shareholder.

The final rule requires investments be grouped into four liquidity categories, highly liquid (3 biz days or less), moderately liquid (3-7 cal days), less liquid (7 cal days or less), and illiquid (>7 cal days). The SEC has also removed the prohibition of a fund purchasing assets other than highly liquid securities if the fund falls below its minimum highly liquid % threshold, instead a fund would alert its board, file Form N-LIQUID (also used when illiquid threshold is breached) with the SEC alerting them of the predicament, and develop a plan to restore the minimum. While ETFs will need to adhere to the liquidity risk program requirements they will be exempt from classifying investments into liquidity buckets and complying with a highly liquid investment minimum. However, ETFs that redeem more than a de minimis amount in cash will not be exempt.

Based on SEC projections, this could cost the industry ~$2B in year 1 costs and ongoing annual costs of ~$0.3B. In terms of timing, the compliance date for implementing the liquidity classifications and related elements is June 1, 2019 for larger fund families and for smaller ones (<$1B), they will be granted an additional 6 months. All other requirements of the final rule that include adopting a liquidity risk management program and capping illiquid investments to 15% will go into effect on Dec 1, 2018 for larger fund groups and June 1, 2019 for smaller ones.

Use of Derivatives by Registered Investment Companies and BDCs proposal

On Dec 11th 2015, the SEC proposed new rules designed to curtail a fund's ability to obtain leverage via derivatives and certain other transactions. The proposal calls for aggregate exposure limitations of either 150% or 300% of fund assets, depending upon which approach (exposure-based or risk-based) the fund adopts.

Based on SEC projections, this could cost the industry (funds exposed) $110K - $750K in year 1 costs and ongoing annual costs of $65K - $500K per fund with a majority of funds at the low end (given scale). A final rule is still pending.

Under the proposal a fund would be required to comply with one of two portfolio limitations designed to limit the amount of leverage a fund may obtain through derivatives and certain other financial transactions.

- Exposure-based portfolio limit: Aggregate exposure, calculated as the aggregate notional amount of derivative transactions together with its obligations under financial commitments (reverse repo agreements, short sale borrowing or any firm or standby commitment agreement), cannot exceed 150% of the fund's net assets.
- Risk-based portfolio limit: Aggregate exposure is allowed up to 300% of a fund's net assets, provided that the fund satisfies a risk-based test (based on VaR) that is designed to determine whether the fund's derivatives transactions, in aggregate, result in a portfolio that is subject to less market risk than if the fund did not use derivatives.

Put simply if derivatives subject the fund to less market risk, then it can have total aggregate exposure of 300% and if it can't prove that, then its limit is 150%.

The program would need to be verified, approved and reviewed by the fund's management and board of directors. The proposal would also require enhanced disclosure on Form N-PORT and Form N-CEN surrounding derivatives.

The SEC's Division of Economic and Risk Analysis (DERA) conducted a study in which they hand collected data from filings on a random sample representing 10% of the industry. Results showed 68% of funds (53% of AUM) had zero exposure to derivatives and 89% (90% of AUM) had derivative exposure less than 50% (the threshold for requiring a derivatives risk program).

Adviser Business Continuity and Transition Plans proposal

On June 28th, 2016 the SEC proposed a rule requiring SEC registered investment advisers to adopt and implement a formal written business continuity and transition plan. The plan must address operational risks and clearly identify the advisers' reliance upon third parties to operate including custodians, administrators, transfer agents, etc.

Given that most advisers already have BCPs (allowed to leverage existing plans) in place and each plan will vary depending upon the specific advisers business characteristics, it is tough to discern total industry costs related to adopting, implementing, and maintaining sufficient BCPs. In terms of timing, the industry is still awaiting a final rule with specified compliance dates. Furthermore, in a recent SEC agenda, this proposed rule was classified as inactive.

SEC's investment advice best interest proposal

On April 18th, 2018 the SEC voted to propose a package of rules and interpretations related to investment advice, which provides for safety, quality, transparency, & consistency, while preserving access to various types of advice and products (see note). The SEC proposed a best interest obligation that would apply to broker dealers (BD) making investment recommendations to retail customers. A BD will satisfy its best interest obligation to clients through certain enhanced disclosures, demonstration of great care, and the identification, communication, and mitigation of any and all conflicts of interest that may exists.

The SEC is also looking to provide a simple relationship disclosure document (Form CRS, 4 pages max) that would provide investors with information about the type of relationships and services the firm offers, the legal standards of conduct, the fees and costs associated with those services, specified conflicts of interest, and whether the firm and its financial professionals currently have reportable legal or disciplinary events. In addition, the SEC is proposing amendments to Form ADV and to restrict the use of "advisor" or "adviser" by broker dealers to minimize confusion.

A motivating factor behind the SEC's proposal for a best interest standard was to fill a void which was created in March of 2018 after the 5th circuit court of appeals ruled that the Department of Labor had exceeded its authority in promulgating its Fiduciary Rule. The DOL's Fiduciary Rule was published in April of 2016 and required that financial professionals providing advice on retirement investment accounts (including 401(k)s & IRAs) be subject to a fiduciary standard, requiring the "best interest" of their clients rather than "suitable" recommendations (see note on proposal and final rule).

The DOL rule was intended to remove potential conflicts of interest in product selection. It restricted intermediaries from receiving compensation that varies with the investment choice (can't be compensated differently from one product vs another) or from recommending proprietary products absent an exemption known as the best interest contract exemption (BICE).

Regarding the proposals laid forth by the SEC, the public comment period expired in August 2018 and subsequently we expect final rules are likely in early 2019. In general we view these rules as currently proposed as less onerous (relative to the DOL's Fiduciary Rule) on asset management firms given a greater degree of flexibility and interpretation.

Money market reform

In January of 2010, the SEC adopted amendments to the rule under the Investment Company Act of 1940 that governs money market funds. The objective of the new rules was to improve and ensure liquidity as well as enhance disclosure. The SEC introduced daily and weekly liquidity requirements for funds. Funds need to hold at least 10% of its investments in cash or other securities that are convertible to cash within a day. Additionally, funds need to hold at least 30% of its assets in securities that are easily convertible to cash within a week.

Furthermore, the rules imposed quality and maturity limits to fund investments. Funds can invest no more than 3% of its assets in Second Tier securities (used to be 5%) and must have a maximum weighted average life of 120 days (no such limit prior). Other similar restrictive constraints on investable securities were also put in motion by the new rules as well as requirements for stress testing.

In July of 2014, the SEC went a step further in transforming money market fund governance by adopting additional amendments also designed to enhance liquidity and limit the risk of investor runs in money market funds (see note on proposal and note from our rates team). The new rules require a floating net asset value (NAV) for institutional prime money market funds (retail funds can still be offered as stable value or fixed NAVs equal to $1.00), getting rid of the stable value proposition that once was offered by these funds. The SEC is also allowing the funds to impose liquidity fees and redemption gates on its investors to address runs.

In addition, the SEC has adopted amendments designed to make the funds more resilient by increasing portfolio diversification, enhancing stress testing, and improving transparency by requiring additional information be disclosed to the SEC and investors. These rules went into effect in October 2016. However, more recently there have been developments to overturn some of the money fund reform rules, though no action has been finalized (see note).

Treasury Recommendations

In October 2017, the Treasury released regulatory recommendations for the sector. In addition to other things, they recommend that risk management be an activity based regulatory approach versus an entity approach with stress testing. They support robust liquidity management programs and the 15% illiquid cap, but reject highly prescriptive approaches, including the bucketing requirement and think derivative risk management programs are necessary, but believe any portfolio limits should be reviewed. Additionally, they supported the delay of the DOL rule (decreases client choice), think the approval process for ETFs should be easier, and that the US should be the leaders in setting standards/rules given the largest firms are predominantly US firms (see note).

Rising M&A activity

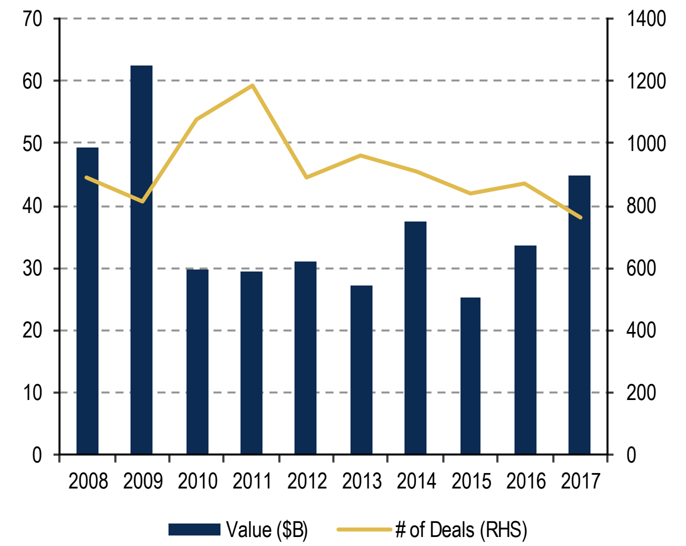
Mergers and acquisitions in the asset management sector tend to be very difficult to pull off but can be accretive if done successfully. An asset manager's greatest asset is its people, and thus it is very important to ensure key personnel are retained when purchasing an asset manager, something much easier said than done. That said, given the industry challenges and lack of growth, retention is somewhat easier vs. the past, which could make deals a bit easier, depending on the location and specific situation.

Another difficult part of pulling off deals is the volatility of AUM. AUM can change rapidly given the volatility of flows and markets which inherently makes deal pricing challenging given AUM is a key input to forecast future cash flow. Furthermore, valuing AUM today is extremely difficult and requires several assumptions around flows, performance, and fee rates which are all difficult to predict given industry changes. Importantly, with markets at or near highs, it's a tough time for many buyers to think its strategically the best time to do a deal. That said, despite these challenges, there can still be a lot of value created in the right asset manager deal.

Because the largest expense at these firms is compensation and there is great room for scale, i.e. one team can manage $1B or $100B, firms that merge strategies and capabilities together can create significant expense synergies by reducing headcount. Additionally integrating marketing, back-office, and distribution efforts also unlocks notable expense savings. On the revenue side there also exists opportunities for upside after a deal as the acquirer can take the target's investment capabilities and immediately increase the channels and regions their products get sold, making the outlook for flows more attractive.

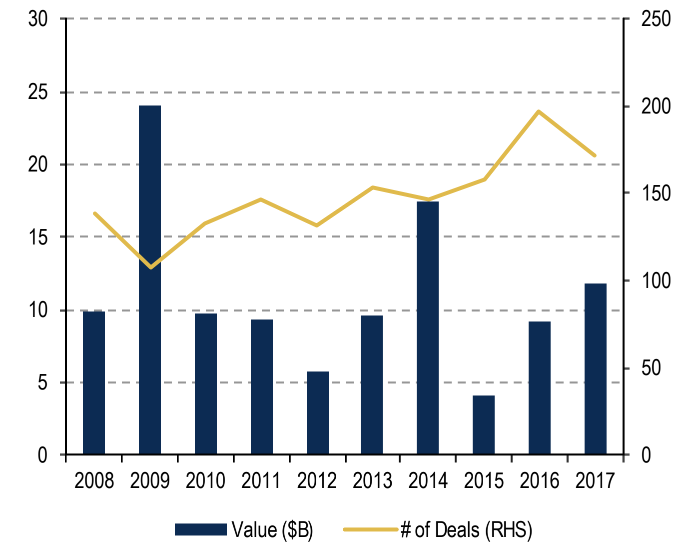
Asset manager M&A is heating up as aggregate deal volume has increased in back to back years by 33% on average with 2017 having the greatest completed transaction value since the global financial crisis. We expect M&A to continue to be healthy and likely increase going forward given increased regulatory complexity and costs, fee pressure, the ever growing threat of passive, and the need for scale (Charts 69-70). We expect more bolt on deals and small/mid-sized deals to increase scale, but larger scale deals are possible if the pressures intensify. While these may make sense strategically, they may not always bode well for the stocks, as we have recently seen, given offsetting dis-synergy risks to the synergies.

Chart 69: Global Asset Manager Completed M&A



Source: Dealogic.

Chart 70: US Asset Manager Completed M&A



Source: Dealogic.

While we haven't seen a deal lately like BlackRock's acquisition of Barclay's Global Investors in 2009, there have been some fairly large deals in recent history including Standard Life's purchase of Aberdeen in 2017, SoftBank's purchase of Fortress in 2017, and Invesco's announced purchase of OppenheimerFunds in October 2018 (Exhibit 10). Furthermore, public firms have been fairly active in the last couple years with Franklin's purchase of Benefit Street Partners, Victory's acquisitions of USAA & Harvest Volatility, and Federated's purchase of Hermes among several others (Exhibit 11). Additionally, ETF deals were abundant in 2017 with IVZ announcing plans to acquire both Source in Europe and Guggenheim (see note) in the US and WETF announced its acquisition of ETF Securities in Europe (see note).

Exhibit 10: Large Notable Asset Manager Deals since the Crisis

Acquirer	Target	Date	Deal Value ($M)	Target AUM ($M)	Deal Value/ AUM (%)
BlackRock, Inc.	Barclays Global Investors	Jun-09	13,500	1,850,000	0.7%
TIAA-CREF	Nuveen	Apr-14	6,250	231,000	2.7%
Invesco	OppenheimerFunds	Oct-18	5,700	246,000	2.3%
Standard Life	Aberdeen	Aug-17	4,634	366,000	1.3%
Credit Agricole (Amundi)	Pioneer	Dec-16	3,734	244,200	1.5%
SoftBank	Fortress	Feb-17	3,265	70,000	4.7%
Henderson Group	Janus Capital	Oct-16	2,668	205,000	1.3%
Royal Bank of Canada	BlueBay Asset Management	Oct-10	1,543	40,000	3.9%
Man Group	GLG Partners	May-10	1,522	23,700	6.4%
Ameriprise	Columbia Management	Sep-09	1,388	190,000	0.7%
Average			4,420	346,590	2.6%

Source: SNL, Company websites, and BofA Merrill Lynch Global Research. Date is announcement date.

Exhibit 11: Notable Recent M&A by Public Firms

Acquirer	Target	Date	Deal Value ($M)	Target AUM ($M)	Deal Value/ AUM (%)
Victory Capital	USAA	Nov-18	850	69,200	1.2%
Franklin Resources	Benefit Street Partners	Oct-18	683	26,000	2.6%
Victory Capital	Harvest Volatility	Sep-18	300	12,000	2.5%
Invesco	OppenheimerFunds	Oct-18	5,700	246,000	2.3%
Federated	Hermes (60% stake)	May-18	342	45,000	1.3%
Virtus	Sustainable Growth Advisers (70% stak	Feb-18	130	11,600	1.6%
Franklin Resources	Edinburgh Partners	Jan-18	NA	10,000	NA
BlackRock	Citibanamex	Nov-17	NA	31,000	NA
WisdomTree	ETF Securities	Nov-17	611	17,600	3.5%
Invesco	Guggenheim ETFs	Sep-17	1,200	37,000	3.2%
Average			1,227	50,540	2.3%

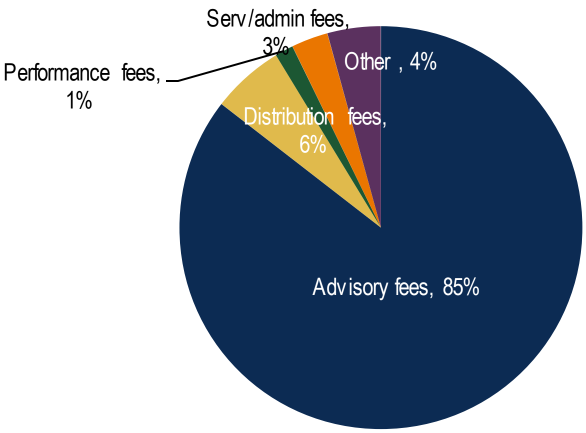
Source: SNL, Company websites, and BofA Merrill Lynch Global Research. Date is announcement date.

Understanding the financials

Revenues and drivers

Asset managers earn revenue mainly from management advisory fees, along with distribution fees, administrative/servicing fees, and incentive performance fees (Chart 71). Some firms may have other revenue depending on ancillary business lines, such as securities lending, investment research, trading, and various types of investment and risk management services. Revenue from seed/co-investment returns is usually considered non-operating income and some firms hedge this exposure.

Chart 71: Average Asset Manager Revenue Mix



Source: Company reports and BofA Merrill Lynch Global Research. Mix represents the public asset manager universe. As of 2017

Advisory fees – the main source of revenue

Advisory fees for mutual funds and other products are generally generated by applying an agreed upon fee rate to the daily average or beginning assets under management (AUM) balance in most cases, though the sponsoring firm or specific clients may arrange for billing based on ending AUM, or billing on different periods such as monthly average. The daily average billing convention tends to smooth the revenue effects of changes in AUM from market movements and net sales / redemptions (net flows).

It also lends some forecasting predictability, as the difference between ending and average AUM in a given period can imply a positive (higher ending than average AUM) or negative (higher average than ending AUM) bias to the next period's revenue growth. Because billing is generally done on a daily basis, the number of days in the period also affects the level of revenue, producing seasonally lower revenue in 1Q and 2Q, then seasonally higher in 3Q and 4Q and once every four years, 1Q sees some lift due to leap year.

AUM is the main driver of advisory fee revenue

Management advisory fees are generated by assets managed in sponsored investment products (SIPs – often generically referred to as funds) and separate accounts (can be on behalf of an individual or an institution). Because of their important role in generating revenue, management and investors refer to managed assets simply as a firm's assets under management or AUM, although they are not controlled by the firm nor recorded on the balance sheet from an accounting perspective. In this aspect, asset managers differ from banks, whose revenue-generating assets are recorded as earning assets on the balance sheet (of course, asset managers have traditional assets that are on the balance sheet such as buildings, technology, and financial assets such as cash and investments, as well as equity interest in non-controlled affiliates and intangibles such as goodwill from acquisitions).

Markets and flows are the key drivers of AUM growth

Since the bulk of revenues for an asset manager are generated directly by AUM, changes in AUM are significant for the revenue outlook. The main sources of AUM growth (excluding acquisitions) are market returns and net new flows. Market returns are any appreciation or depreciation of any fund or separate account managed by the asset manager, which includes beta and alpha for actively managed funds. The biggest driver of AUM growth, market and product performance, is difficult to predict with a great deal of accuracy given market volatility, which makes asset manager revenue forecasts susceptible to sudden and sometimes meaningful corrections.

The standard forecast assumption for equity returns is typically 8%, and 4% for fixed income, suggesting pro forma market change of 6%+ for most managers. Market returns also typically have greater bottom line impact, especially during a given quarter, as they can change more rapidly than organic growth and have minimal immediate incremental cost (or cost savings, in the case of market losses), other than AUM-based distribution expenses.

Net new flows are often expressed as the rate of organic growth (net new flows / beginning AUM or average AUM – in most cases firms use beginning AUM), annualized to determine common-size comparison between different firms and time periods. Organic growth represents the net amount determined by subtracting gross redemptions from gross sales (though there are some nuances among firms with the calculation, see note). While net new flows remain the most important and frequently used indicator for organic growth, trends in gross sales and gross redemptions can indicate the underlying drivers of net flows.

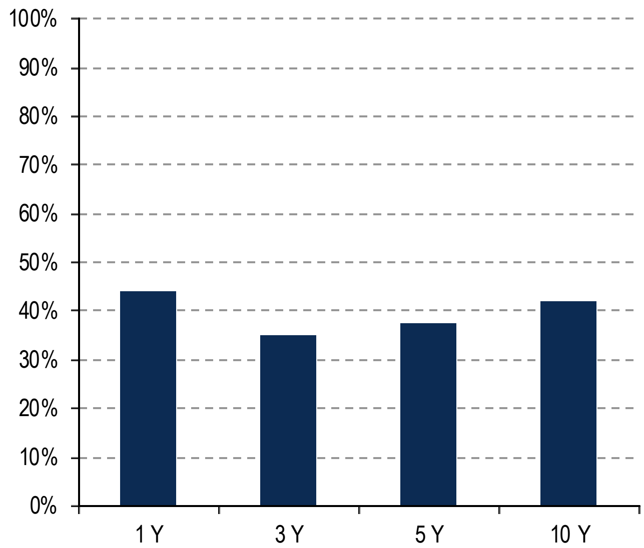
Market returns can impact earnings more in a given period, with high incremental margins, but since market appreciation can result from mere portfolio exposure (even with relative underperformance), there tends to be less multiple benefit from market driven growth. Organic growth (asset and revenue) on the other hand, tends to be the focus of investors since it shows what the firm is generating organically, with above average growth suggesting an increase in market share. In addition, organic growth is perhaps the most important driver of valuation multiples for asset manager stocks.

Performance, distribution, product breadth, and brand drive flows

At the end of the day, an asset manager's core function is to produce investment returns as stated in its mandate, which typically is above a stated benchmark. So not surprisingly, investment performance is a key driver of flows. Performance can be looked at relative to a stated benchmark or relative to a peer group. Both distinctions are important and can determine success or failure.

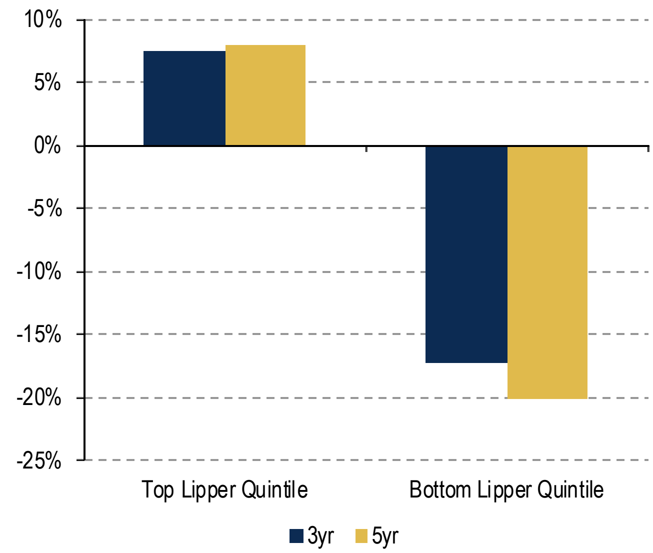
Active equity manager performance has come under a lot of pressure in recent years, as the returns above benchmarks have just not been there (Chart 72). The average investor in active funds has underperformed passive substitutes, net of fees. This dynamic creates a structural challenge for active managers to sell their products. However, for top performing active funds, inflows still exist which demonstrates the importance and benefits of providing value for clients over long time periods (Chart 73).

Chart 72: Percentage of Active Equity Funds Beating Benchmark



Source: Strategic Insight Simfund and BofA Merrill Lynch Global Research. As of 8/31/18.

Chart 73: 2017 Organic Growth by Relative Investment Performance

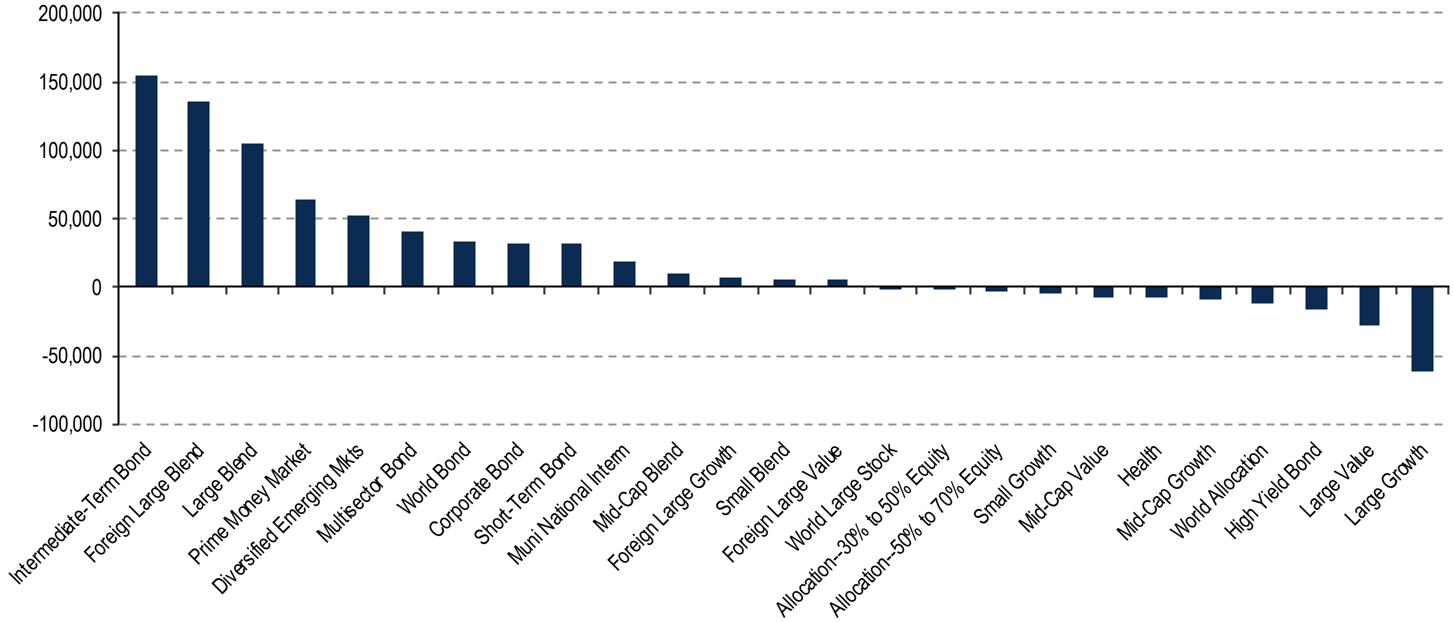


Source: Strategic Insight Simfund. Data only includes actively managed funds.

For asset managers, product and vehicle breadth has always been important for non-niche managers, and in a world where distribution platforms are actively shrinking fund offerings in an effort to simplify the product line-up and consolidate relationships to reduce costs (eliminate due diligence/relationship management/administrative personnel), product breadth, brand, competitive products/fees and a distribution strategy is even more important for flows. Brokers, consultants and other intermediaries more readily provide shelf space and bid opportunities to firms with a robust product line-up, to meet a broader range of client needs. For the firms, a broad range of products increases the likelihood of best-of-breed results in key categories, and ensures that sales representatives have products to suggest for a range of client needs.

Furthermore, in any given year dependent upon the environment, specific asset classes or categories can attract an outsized portion of inflows or outflows and being concentrated in a few categories make one's flow outlook susceptible to large swings (Chart 74).

Chart 74: 2017 Flows ($M) by Morningstar Category



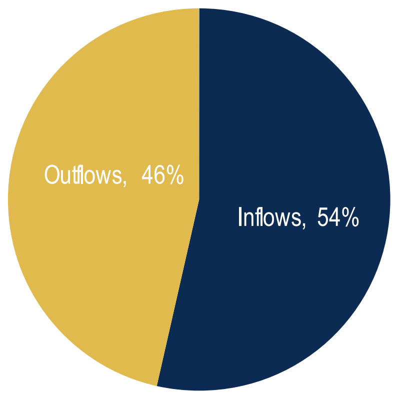
Source: Strategic Insight Simfund and BofA Merrill Lynch Global Research

Brand remains an important driver of relative flows, though it can be difficult to separate from some other features of firms with strong brands, such as deep customer service and support. In recent years, investors have shown a greater preference for "best-of-breed" funds in each category that outperform their competitor funds, vs. a willingness to reallocate within a fund complex managed by a trusted firm, even if the funds have mixed records. That said, having best of breed products and a strong brand tends to be the best combination.

For asset managers, distribution in many cases is equally important to having a well branded product line-up and strong performance and competitive fees. Distribution encompasses a range of capabilities, and has shifted over the years, from the packaging of strategies into vehicles that meet investor requirements, to working with gatekeepers and CIO offices, to a comprehensive sales and marketing effort, to intermediary and end-client support. Key elements include geographic reach of products and personnel, coverage of different channels including market segments, strength of intermediary and consultant relationships, and depth of advisor and retail client support.

Market segments include the various intermediaries on the retail side, the retirement channel, the institutional channel and the international channels. To put the importance of distribution in perspective, despite funds having strong performance, close to half of 4 and 5 star rated funds had outflows in 2017 (Chart 75).

Chart 75: 4 and 5 Star Rated Funds by Morningstar



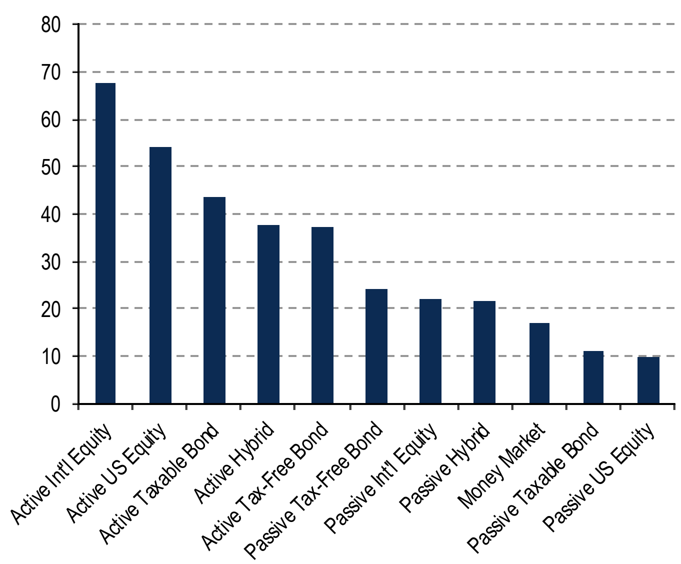
Source: Strategic Insight Simfund. As of 2017

Fee rate is the other core component that drives advisory revenue

Generally, daily average AUM multiplied by an agreed upon advisory fee rate and days produces advisory fee revenue. Fee rates vary by asset class (and within depending upon specific mandates), active/passive, and domicile. In general, equity funds carry higher fee rates, especially international equity, than fixed income, hybrid and money market funds. Actively managed strategies tend to command higher fees than index and passive products (includes ETFs), and the level of portfolio complexity (breadth of fund mandate, specialization in exotic securities or geographies) is often a good indicator of a fund's fee rate relative to others within its asset class. Additionally, fee rates on funds and products sold outside the US tend to be greater than separate accounts and those in the U.S. (Charts 76-78).

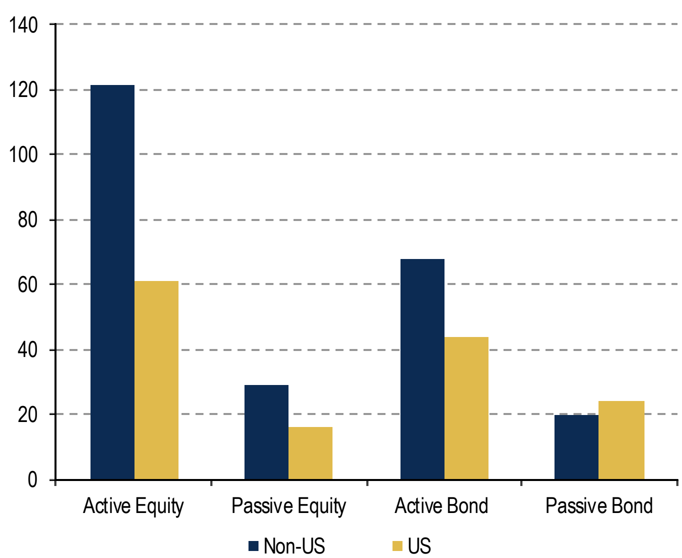
Importantly, given some of the pressures on certain lower fee product categories, as firms have invested in more differentiated higher fee areas, there tends to be a growing focus on organic revenue growth vs. organic asset growth, though not all firms disclose this metric.

Chart 76: Fee Rates (bps) Across Different Mandates in the US



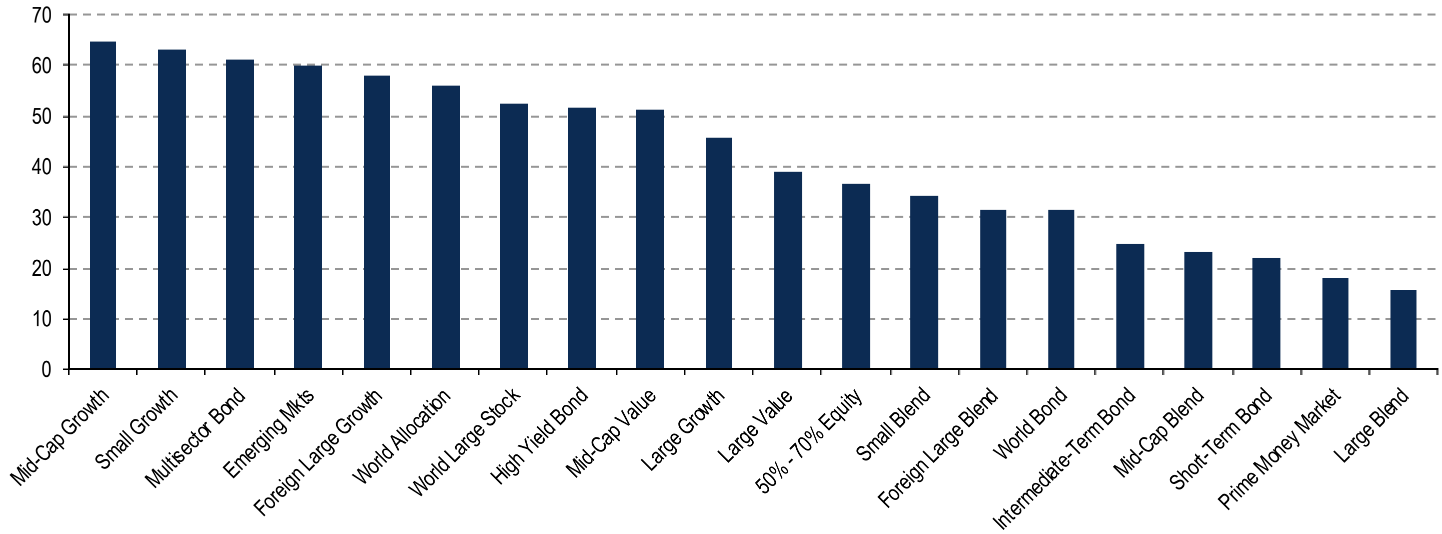
Source: Strategic Insight Simfund. Data is representative of US domiciled funds

Chart 77: Fee Rates (bps) Across Different Markets



Source: Strategic Insight Simfund. Non-US refers to domicile not strategy

Chart 78: Fee Rates (bps) Across Different Strategies



Source: Strategic Insight Simfund

There is also an identifiable distinction between fund fee rates and separate account or institutional fee rates with the latter typically having lower rates as evidenced by BLK's passive equity and fixed income fund fee rates of 28bps and 22bps respectively vs passive institutional rates in equity and fixed income of ~5bps. The differences tend to be driven by the relationship (more assets/clients) and efficiency (lower costs/client).

Because of such dispersion in fee rates, change in AUM mix from market moves (including currency moves) and flows is generally the largest driver of fee rates with price cuts a secondary driver of fee rates. A good example of this can be seen in BLK's fee rate. BlackRock's 2012 effective fee rate was 22.1bps and in 2016 its effective fee rate was 20.2bp or ~10% lower. Nearly 80% of the drop can be attributed to mix (low fee passive/ETFs growing rapidly and developed equities outperforming international), while price cuts accounted for the rest according to BlackRock.

Performance fees: Revenue boost, largely seasonal

The other revenue component driven by managed assets is incentive or performance fees, usually incorporated into separate account arrangements, though some funds have them as well. About half of the public managers have performance fees, with the 2017 revenue contribution averaging about 1%. Similar to a typical hedge fund fee structure, performance fees are contingent upon the returns of a strategy or account portfolio vs. a pre-established benchmark or threshold.

The arrangement may or may not provide for high-water marks, which stipulate the attainment of certain life-to-date returns to be earned, regardless of the returns in a given fee period. When realized, they provide an asset manager with incremental revenue, usually with lower associated expenses and thus higher incremental margin, though portfolio managers typically earn bonus compensation when performance fees are realized.

The level of performance fee assets (usually a modest proportion of the total) and mix of underlying assets determines the amount of performance fees earned by an asset manager in a given period. Most performance fees have annual realizations, usually in the fourth quarter, which tends to give a seasonal boost to revenue, overall fee rate, and margin in years of good market returns and/or performance.

Distribution, administrative and servicing fees: Mostly just passing through

Beyond management advisory and performance fees, mutual funds also charge investors other types of fees, to cover expenses such as distribution and administration/servicing among other smaller fees. The fund usually remits such fees as revenue to the fund sponsor (asset manager), which may pass along certain fees (notably distribution) to other third parties such as brokers, banks, or other intermediaries. However, some of the administration, servicing, and account revenues tend to be earned by the asset manager.

Other revenue: Fund and market related services

Many asset managers offer related services outside of investment management and operate ancillary business lines, such as securities lending, investment research, trading, and various types of investment and risk management services. The capability may have been obtained via acquisition, developed organically as a separate revenue stream, or created as an internal function then marketed to outside clients. The revenue from these services (separately itemized, or captioned as Other Revenue) tends to be small and non-correlated with advisory fee revenue, as it is usually not generated by AUM, thus not subject to flows and fund returns, and may have some separate customers, clients or revenue sources than the core advisory business.

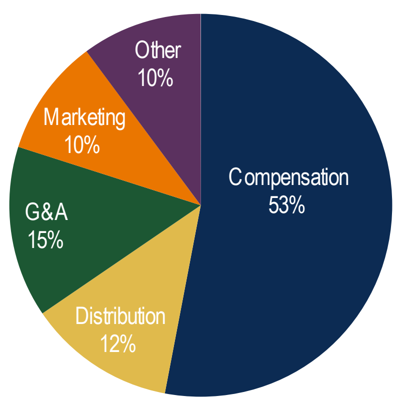
Accounting change for 2018

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09"). The most significant of these changes relates to the presentation of certain distribution costs, which were presented net against revenues (contra-revenue) and now will be presented as a gross expense. Asset managers have begun reporting distribution expense under the new guidance, while some will fully implement in 2019. This will effectively gross up revenue and expenses by the same amount, so the net effect will be null, however for those that focus on GAAP margins, those will look a bit lower given the impact. However, most firms report an adjusted margin where the distribution expense is already netted out and thus these margins will not change.

Expenses and drivers

Asset manager expenses have variable/discretionary components including compensation, distribution, and G&A, as well as fixed (or semi-fixed/discretionary) items such as occupancy and technology (Chart 79).

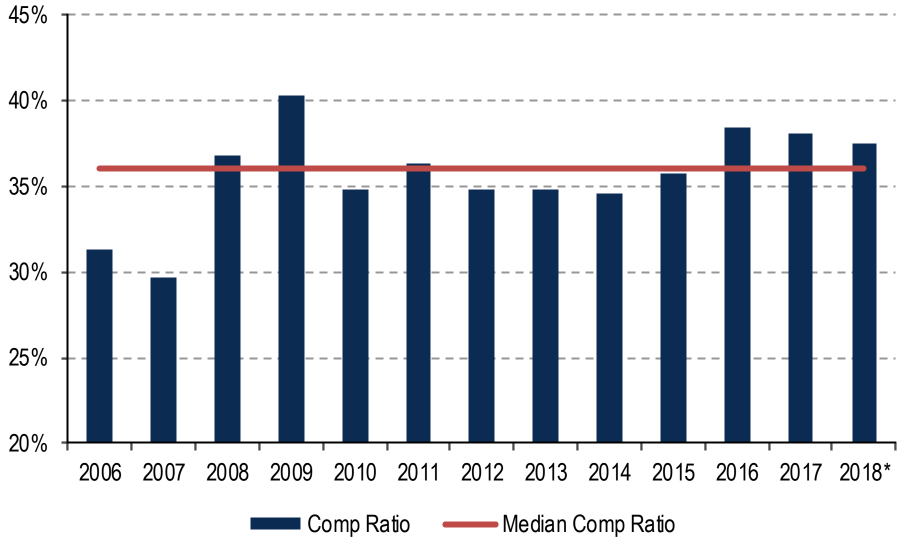
Chart 79: Average Expense Mix



Source: Company reports and BofA Merrill Lynch Global Research. As of 2017

Asset management is very much a talent driven business and therefore it is no surprise that compensation is the largest expense for the firms at just over 50% on average. Over the long term compensation as a percentage of revenue has been in the mid-30s and has the tendency to increase/decrease in tougher/stronger times. Comp ratios were highest in 2009 during the great recession as revenues came under significant pressure leading to higher comp to revenue ratios. Conversely, at the peak just before the recession in 2007, comp to revenue ratios at the firms were the lowest (Chart 80).

Chart 80: Asset Manager Compensation Ratio



Source: Company Reports and BofA Merrill Lynch Global Research. *2018 is through 2Q.

Compensation at most asset managers has base and variable components. Variable compensation for investment professionals is usually driven by relative rather than absolute performance, though when markets are up the bias for compensation is higher. Over the longer term, rising markets can gradually lift base compensation levels as competition increases for recruiting and retaining investment professionals.

Compensation for the sales force often includes commissions or other incentives. Corporate compensation is typically determined by overall firm results, including performance, net flows, earnings growth, and margins. Compensation also increases seasonally in 1Q with annual payroll taxes as well as merit raises at many firms.

Distribution expense can consist of third party payments as well as internal expenses such as sales administration and client support. Third party payments combine pass-through fees, which are billed by mutual funds, remitted to the fund sponsors and passed along to distributor firms, and direct fees paid by the fund sponsor to the distributor.

Distribution expense (along with distribution-related compensation such as sales commissions) is usually driven by both net sales and asset levels, with sales having the greater impact. Distribution expense made up roughly 12% of expenses on average at public asset managers in 2017 (given aforementioned accounting change this number is tracking closer to 15% in 2018).

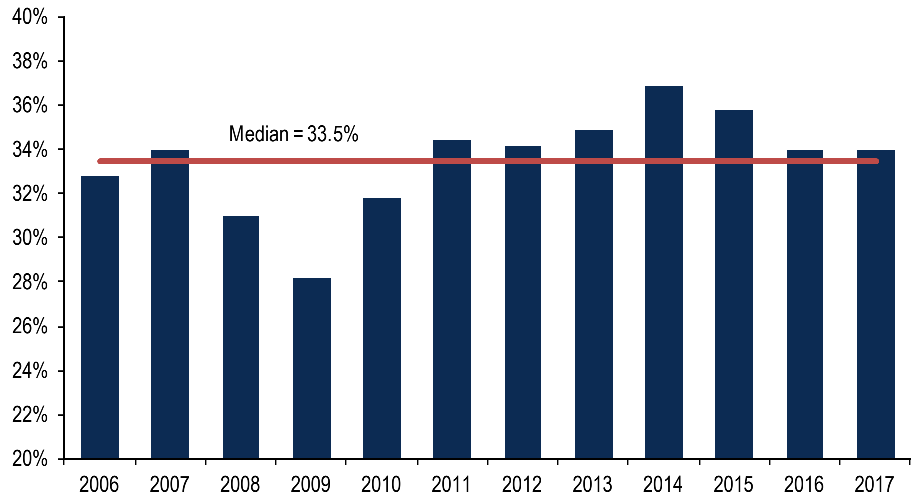
Occupancy and technology expenses tend to be relatively fixed, growing broadly in line with inflation (grouped in "other" above), though technology spend has increasingly become important to asset management firms. Most have ramped up spending in technology (double digit growth rates in tech spend) with a focus on updating systems, creating operating efficiencies, improving/digitizing client experience and distribution, and investing in AI and big data as a potential source of alpha.

G&A and marketing are more subject to management's discretion and typically ebb and flow with revenue. These expenses typically are seasonally high in the fourth quarter as they include annual charity expenses, increased marketing campaigns, as well as year-end corporate events. Additionally, given the unbundling of research payments beginning in 2018, some firms have been including research payments in their G&A line, though as a percentage of total G&A research payments are a fairly small piece for the US firms.

Operating margins

The asset managers are very cyclical and given the mix of fixed and variable costs, tend to see margins rise and fall significantly throughout a cycle ranging from the 20s at the bottom to the 30s at cycle peaks (with some firms in the mid-high 40s). The operating margin of asset managers usually shows positive leverage as AUM grows and vice versa given relatively high incremental margins (Chart 81).

Chart 81: Historical Asset Manager Operating Margin



Source: Company reports and BofA Merrill Lynch Global Research

Non-operating income: Interest income & investment gains

The two main components of non-operating income are interest income/expense (for firms with cash/debt) and investment gains or losses. Interest income / expense is typically steady (ex. significant changes in cash or debt positions), while investment gains can be highly variable, and outsized levels are typically excluded from core earnings forecasts and thus valuation, other than a modest run rate.

Investment gains primarily are driven by seed capital, but can include those on investments held for incentive compensation (employee investments in sponsored funds), which increase both compensation expense and investment gains – an economic pass-through but a reduction in GAAP operating margin. A breakdown of a firm's investment/seed portfolio can theoretically be used to forecast investment gains, given market returns for the underlying asset classes, but these investments are often hedged and the exact returns are unknown until reported.

Among their assets/investments, most asset managers have a distinct category: investments in SIPs or Sponsored Investment Portfolios, also known as "seed capital." When launching a mutual fund, asset managers frequently provide capital to these funds, so that the portfolio manager can build an investment track record prior to the purchase of the fund by clients outside the firm (which provides additional capital to the fund). As long as seed capital represents a majority stake in a given fund, the fund is required to be consolidated on the firm's balance sheet, with capital from outside investors shown as non-controlling interest.

As a fund grows from outside investments and market returns, the asset manager (fund sponsor) typically withdraws some or all of the seed capital, eventually enabling the removal of the fund from its consolidated balance sheet and the classification of the remaining minority stake (if any) with other investments. Other items that can be included in non-operating income include equity investments in affiliates along with related non-controlling interests among other unusual items.

Taxes: Geography, gains, and stock comp drive variation

Asset manager income is generally subject to normal corporate tax rates (with the exception being firms with partnership structures, like AB), but the firm's tax rate can shift by overseas income, investment gains, and stock-based compensation. In 2017 the average tax rate for the public asset managers was ~33%, but given the enacted tax law change, the go forward tax rate for the sector is closer to ~25%.

Overseas tax rates differ from US rates, such that the tax rate at firms with significant international operations partially depends on the mix of international vs. domestic income in a given period. In addition, investment gains are usually taxed at lower capital gains rates, and some firms have operating loss carryforwards that can be applied to such gains. Thus, in periods with elevated investment gains, the effective tax rate tends to be lower, further accentuating the positive earnings effect of strong markets. In addition, those reporting adjusted earnings, tend to have a tax shield and a lower tax rate.

In 2017, the sector adopted an accounting change issued by FASB concerning share based payment transactions. Previously differences in a company's stock price on the grant date and vest date would flow through to the balance sheet and effect other comprehensive income (OCI), but in accordance with the newly adopted accounting guidance this dynamic will be included in GAAP results such that if the company's stock price is higher on the vesting date vs the grant date, the company will record a tax benefit and vice versa. This change increases the volatility of income tax expense, though some exclude this item from adjusted results.

EPS and different reporting

Several firms report adjusted operating income, margins and EPS. Typical adjustments include the exclusions of distribution, non-recurring expenses and non-cash items. The exclusion of distribution (both revenue and expense) tends to lift adjusted operating margin above GAAP, as the bulk of distribution expenses are passed along to third parties (low or negative incremental margin).

Non-recurring items typically excluded from the adjusted margin (and adjusted EPS) include large product launch expenses (such as CEF launches), merger integration costs, restructuring items such as severance, and expenses related to capital actions such as debt refinancing or extinguishment.

Furthermore, firms with a lineage of M&A, i.e. the multi-boutique firms, also adjust for their intangible amortization expenses and go a step further to include the tax benefit related to intangible amortization in a reported adjusted net income (ANI) or economic net income (ENI) per share number. The boutiques adjust for these items because intangible amortization is deal related and provides and earnings stream that is closer to cash flow. These sort of adjustments and the use of ENI or ANI receive lower market multiples, so while earnings may be higher than GAAP earnings, valuation discounts tend to offset (see note).

Balance sheet and capital use

Asset managers tend to have strong cash flow, and given their capital light business model, cash tends to build, leaving management teams with a high class problem of what to do with excess cash. In addition to having relatively little capex needs, most firms within the industry have relatively clean balance sheets with relatively little or no debt (average debt/EBITDA is roughly 1x for the sector), so debt pay-down tends not to be a main use (though multi-boutique managers such as AMG or VCTR who actively seek M&A tend to carry leverage ratios around 2x Debt/EBITDA so to the extent these firms are above their respective targets they will use cash flow to pay debt down). That leaves dividends, repurchases, and reinvestments via seed capital and/or acquisitions as the primary uses of capital.

Dividends are most common as every public asset manager (ex VCTR) pays a dividend with an average yield of >3%. Furthermore, a handful of firms increase their regular dividends annually, illustrated best by BEN and TROW who have increased their dividends for 30+ straight years, a testament to the cash flow power of the industry. In addition to regular dividends, some firms tend to payout additional excess capital in the form of a special.

While less consistent, repurchases are also fairly common across the industry with most firms having a repurchase program either to maintain its share count or reduce it. Over the last five years the sector has averaged a payout ratio right around 100% via regular dividends, special dividends, and repurchases.

Reinvesting in the business is a top priority for all firms. Firms invest in their businesses to spawn future growth by seeding new investment strategies in order to build track records and build assets to make a fund viable for distribution.

Most firms look at acquisition opportunities, though some firms more than others. Over time, deals in the industry have been both large scale and bolt on, while the multi-boutique firms consistently pursue M&A as part of their growth strategy. More recently, acquisitions among the traditional public firms tend to be smaller bolt-on deals to fill product gaps or add some technology capability as we've seen most get into the robo-adviser space with some small deals. However, 2017 marked the completion of the Janus Henderson merger, a larger deal, for the purpose of achieving greater scale, and in 2018 Invesco announced the OppenheimerFunds deal.

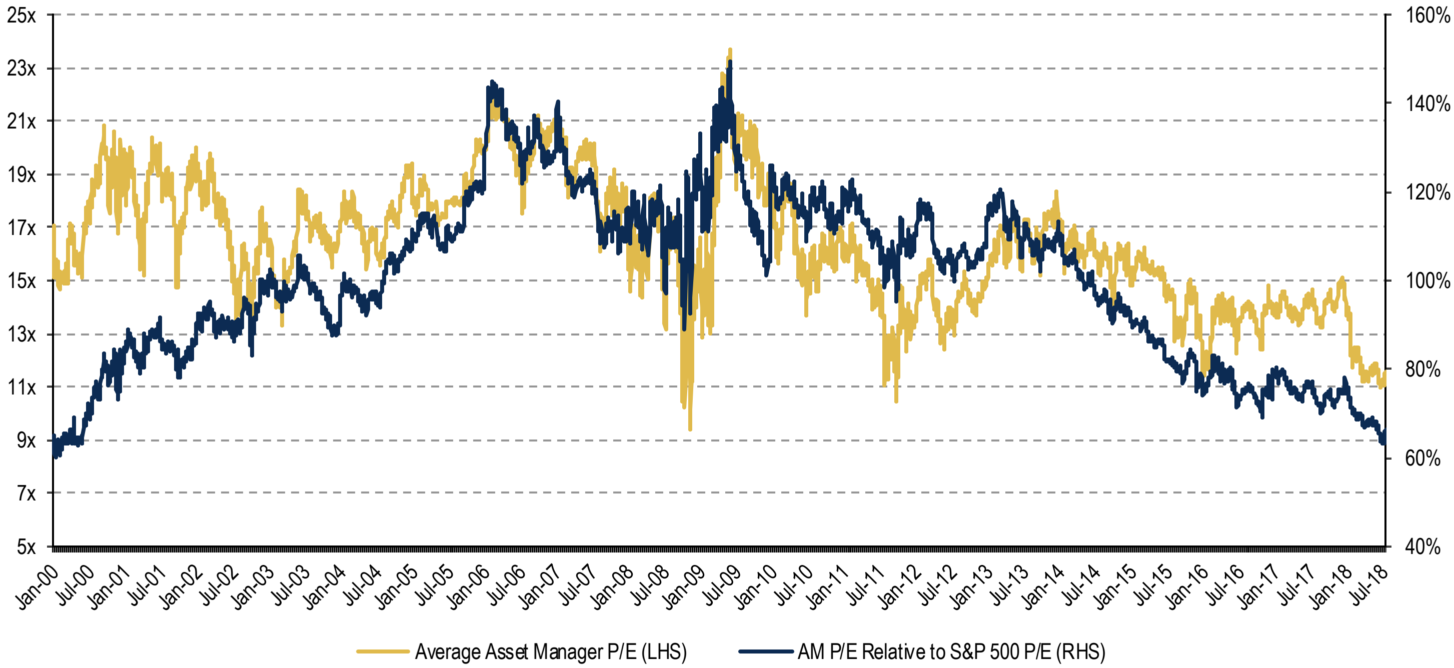
Valuation and stock performance

There are multiple valuation metrics used for the asset management sector, including price/earnings (P/E), relative P/E, P/E cash adjusted, price or enterprise value/assets under management (P/AUM or EV/AUM), EV/EBITDA, and the discounted cash flow method. While each has strengths and weaknesses, the most common metric is P/E and/or cash adjusted P/E while EV/EBITDA also tends to be popular, particularly in M&A.

On a core price/earnings (P/E) basis, the sector historically has traded at a forward multiple of roughly 16.5x, fairly in line with the S&P 500. In environments where markets are rising, the consensus outlook is bullish, and flows or organic growth are ramping up (typically early to mid-cycle), the asset managers tend to see multiple expansion while the opposite environment or later in the cycle when market sentiment peaks, volatility increases, and flows begin to slow, multiples tend to trend lower.

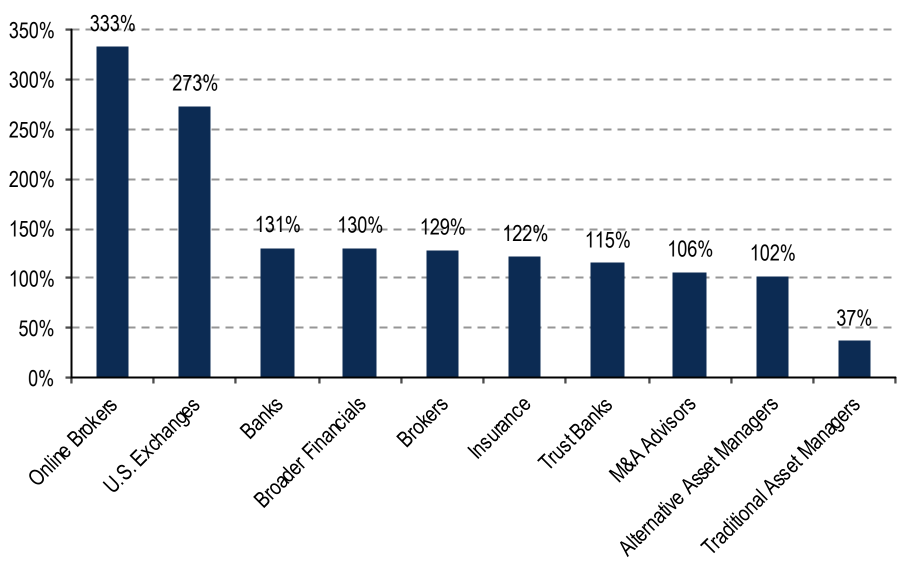
While the sector has historically traded close to the S&P 500, since the beginning of 2013 the sector's absolute/relative multiple has trekked consistently lower as the market has been in the process of re-rating AM earnings lower due to the shift to passive (weighing on active growth rates), fee pressure, and rising regulations/costs. Given this notable multiple contraction in recent history, the traditional asset managers have been the worst sub-sector in financials (Charts 82-83).

Chart 82: Historical Valuation



Source: Bloomberg. P/E = forward 4 quarters.

Chart 83: Cumulative Return (2013 – Sep 2018)



Source: Bloomberg and BofA Merrill Lynch. Online Brokers include AMTD, ETFC, & SCHW. US Exchanges include CBOE, CME, ICE, & NDAQ. Banks return is derived from the KBW Bank Index. Broader financials return is derived from S&P's Financial Index. Brokers include MS & GS. Insurance return is derived from S&P's Insurance Index. Trust Banks include BK, NTRS, & STT. M&A Advisors include EVR, GHL, HLI, LAZ, MC, & PJT. Alternative Asset Managers include APO, ARES, BX, CG, KKR, OAK, & OZM. Traditional Asset Managers include AB, AMG, APAM, BEN, BLK, CNS, EV, FII, IVZ, JHG, LM, TROW, VRTS, WDR, & WETF.

Organic growth = relative valuation driver

When looking at individual firms, the primary factor that tends to drive the differences in valuations is organic growth. This can create as wide as a 10 multiple turn in valuation multiples. Firms that are able to generate strong organic growth tend to trade at higher P/E multiples, all things equal. However, net cash, takeout premiums, liquidity/float dynamics, tax structure, adjustments to earnings and other factors are also important to consider when looking at relative valuation across the space (see note). Consequently, in our view, the organic growth outlook has to improve in order for the sector valuation to improve. While structurally this appears challenging, if cyclically active performance continues to improve, it could aid the outlook over time.

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Important Disclosures

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster*
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

* Ratings dispersions may vary from time to time where BofA Merrill Lynch Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

***INCOME RATINGS*, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend.** *Coverage Cluster* is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Merrill Lynch report referencing the stock.

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