A Glimpse of the Future:
India's Potential in Passive Investing

"The future depends on what you do today."[1]

\- Mahatma Gandhi

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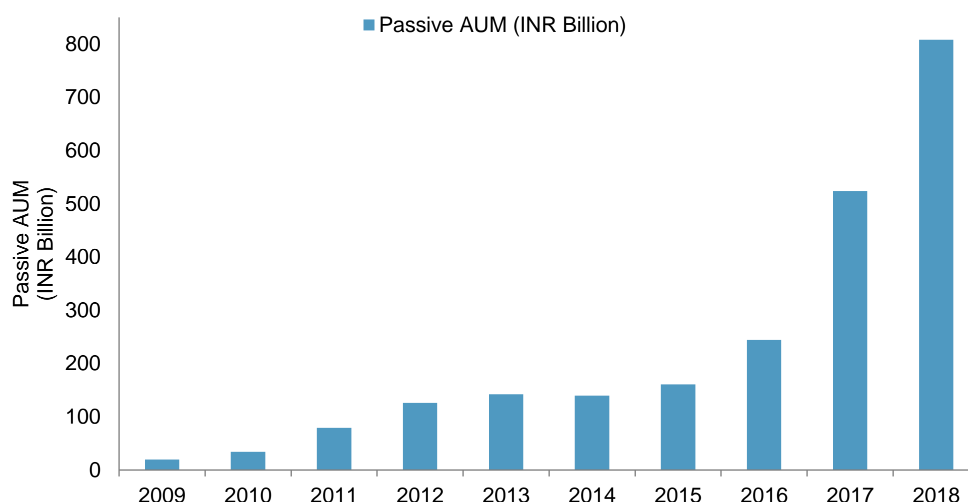
EXECUTIVE SUMMARY

Fifty years ago, there were no index funds; all assets were managed actively. The subsequent shift of assets from active to passive management in U.S. and European markets may count as one of the most important developments in modern financial history. Our intent in this paper is to explore how and why this transformation took place in the U.S., why a similar transformation is beginning in India, and how India can look to the U.S. as an example of passive investing's future growth potential.

The rise of passive management in the U.S. and Europe was the consequence of active performance shortfalls.[2] **In India, we observe the same shortfalls coupled with unique local factors,** which can be attributed to three sources: cost, increased regulatory oversight and government initiatives, and the skewness of stock returns.

Exhibit 1: Approximately INR 800 Billion of Index-Linked Products Exist in Indian Markets



Source: S&P Dow Jones Indices LLC, AMFI, and CRISIL. Data as of March 31, 2018. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

[1] Shriver, Mark, "The Future Depends on What You Do Today," *Huffington Post,* Aug. 12, 2015.

[2] Ganti, Anu R. and Craig J. Lazzara, "Shooting the Messenger," *S&P Dow Jones Indices*, December 2017.

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As of March 2018, about 3.8% of assets in the Indian market were managed passively.

At the end of March 2018, the size of the Indian mutual fund industry was INR 21.36 trillion (approximately USD 300 billion), of which **about 3.8% of assets were managed passively** (see Exhibit 1).[3] At this passive AUM share, a 100 bps cost differential (between active and passive) **results in annual savings of INR 8 billion (approximately USD 115 million) for Indian investors and asset owners.**

THE RISE OF PASSIVE MANAGEMENT IN THE U.S. AND ITS EVOLUTION IN INDIA

The U.S. has seen strong growth in passive investing due to headwinds for active management...

The U.S. has witnessed a significant growth in passive investing due to headwinds for active management in the following areas: cost, the professionalization of investment management, market efficiency, and the skewness of returns.[4]

…such as cost, the professionalization of investment management, market efficiency, and the skewness of returns.

Underperformance by active managers is not a new phenomenon and has been documented as early as 1932 by Alfred Cowles. It still holds true, as seen in the S&P Indices Versus Active® (SPIVA®) U.S. Mid-Year 2018 Scorecard results (see Exhibit 2). S&P Dow Jones Indices has been the de facto scorekeeper of the ongoing active versus passive debate since the first publication of the SPIVA U.S. Scorecard in 2002. Over the years, we have expanded the scorecard's coverage to Australia, Canada, Europe, India, Japan, Latin America, and South Africa. **The results have been almost uniformly discouraging for the advocates of active management.**

Exhibit 2: The Majority of Active Managers Underperformed Passive Benchmarks

FUND CATEGORY	COMPARISON INDEX	PERCENTAGE OF UNDERPERFORMING U.S. EQUITY FUNDS		
		1-YEAR (%)	5-YEAR (%)	10-YEAR (%)
All Large-Cap Funds	S&P 500®	63	76	89
All Mid-Cap Funds	S&P MidCap 400®	54	82	93
All Small-Cap Funds	S&P SmallCap 600®	73	93	93

Source: S&P Dow Jones Indices LLC, CRSP. Data as of June 30, 2018. The fund returns used are net of fees. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

The evidence, over many years, is clear: a large proportion of active funds underperform their respective benchmarks over different time horizons. This is not unusual—in fact, **over the history of the global SPIVA database, underperformance is far more common than outperformance.**

Underperformance by active managers is not a new phenomenon.

One of the reasons most active managers fail most of the time is the institutionalization of the industry. In the 1970s, U.S. financial markets

[3] "Digital evolution," *CRISIL*, August 2018.

[4] Ganti and Lazzara, *op. cit.*

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came to be dominated by professional investors, as opposed to retail investors. "Contrary to their oft articulated goal of outperforming the market averages, **investment managers are not beating the market: The market is beating them**."[5] Professionals competing against professionals made the investing game much harder, as relative skill determines outperformance and underperformance. The desire to have the ability to buy the market, as opposed to trying to beat it, led to the birth of the first S&P 500 index fund.

Another disadvantage is that active managers' costs are much higher than those of passive options.

Another disadvantage for active managers is that their costs are much higher than those of passive options. The average expense ratio for active U.S. equity mutual fund managers in 2016 was 0.82%, compared with only 0.09% for their passive competitors.[6] The efficiency and depth of the U.S. market also makes outperformance for active managers challenging. The positive skewness of returns also contributes; it is a concept we will discuss later, in which holding more stocks increases the likelihood of outperformance, an automatic advantage for passive investment options.[7]

In India, we observe similar trends. As seen in Exhibit 3, most active managers underperformed their benchmarks, which is consistent with the results seen in the U.S.[8]

Exhibit 3: The Majority of Active Managers Underperformed Passive Benchmarks

FUND CATEGORY	COMPARISON INDEX	PERCENTAGE OF UNDERPERFORMING INDIAN EQUITY FUNDS		
		1-YEAR (%)	5-YEAR (%)	10-YEAR (%)
Indian Equity Large-Cap	S&P BSE 100	88	48	63
Indian ELSS	S&P BSE 200	84	28	43
Indian Equity Mid-/Small-Cap	S&P BSE 400 MidSmallCap Index	62	53	51

Source: S&P Dow Jones Indices LLC, Morningstar, and Association of Mutual Funds in India. Data as of June 30, 2018. The fund returns used are net of fees. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Although passive investing is still in its nascent stage in India, it is experiencing momentum thanks to local influences.

While professionalization and market efficiency are less relevant in India, Indian active managers face the same cost and skewness disadvantages compared to their passive competitors. Although passive investing is still in its nascent stage in India, it is experiencing notable momentum thanks to local influences. Government investment by the Employees' Provident Fund Organisation (EPFO) is a key tailwind behind this, driving growth in Indian equity ETFs.[9] Another significant driver is the push from the

[5] Ellis, Charles D., "The Loser's Game," *Financial Analysts Journal*, July/August 1975.

[6] Collins, Sean and James Duvall, "Trends in the Expenses and Fees of Funds, 2016," *ICI Research Perspective*, Vol. 23, No. 3, May 2017.

[7] Edwards, Tim and Craig J. Lazzara, "Fooled by Conviction," *S&P Dow Jones Indices*, July 2016. See also Livnat, Joshua, Gavin Smith, and Martin B. Tarlie, "Modified IR As a Predictor of Fund Performance," October 2015, for evidence that among comparably skillful active managers, greater diversification is an indicator of better future performance.

[8] Jain, Akash, "SPIVA India Mid-Year 2018 Scorecard," *S&P Dow Jones Indices*, October 2018.

[9] *CRISIL*, *op. cit.*

Securities and Exchange Board of India (SEBI) to drive costs down for investors and increase transparency.[10]

The next section of our paper asks why active managers have a difficult time delivering outperformance in the Indian market, analogous to what we have seen occur in the U.S. market.

Lower cost is the simplest explanation for the success of passive management.

THE EXPLANATION: WHY INDEXING WORKS IN INDIA

Three arguments help explain why active managers face challenges in India.

Cost

Lower cost is the simplest explanation for the success of passive management. Imagine a market in which all assets are actively managed, and then a passive alternative is inserted. This passive alternative buys a pro rata slice of every company in the market, which means their portfolio, in aggregate, will be identical to the *aggregate* portfolio of the active managers. Before costs, therefore, the passive and active portfolios will have the same return.

Active managers' costs are inherently higher than those of passive managers.

However, active managers' costs—for research, trading, management fees, etc.—are inherently higher than those of passive managers. Thus, "properly measured, the average actively managed dollar must underperform the average passively managed dollar, net of costs. Empirical analyses that appear to refute this principle are guilty of improper measurement."[11]

Approximating the difference between the costs of active funds versus passive products, an Indian investor can potentially save upwards of 100 bps investing via the passive route.

To illustrate the importance of costs, consider the total expense ratio (TER) for Indian equity mutual funds. By April 2019, TERs for Indian active equity funds are expected to range between 105 bps and 225 bps.[12] In addition, the TER for index funds and ETFs will be prohibited from exceeding 1%, though in reality, the expense ratios for many passive ETF options are much lower, dropping to as low as 7 bps for large-cap ETFs based on the S&P BSE SENSEX.[13] Approximating the difference between the cost of active management (165 bps) versus passive products (53.5 bps) as the midpoint of their respective ranges, an Indian investor can potentially save upwards of 100 bps investing via the passive route. **This offers Indian investors an automatic advantage when they choose a passive manager over an active one.**

[10] Krishnan, Aarati, "Making mutual funds less pricey," *The Hindu Business Line*, Sept. 21, 2018.

[11] Sharpe, William F., "The Arithmetic of Active Management," *The Financial Analysts' Journal*, Vol. 47, No. 1, January/February 1991, pp. 7-9.

[12] SEBI Board Meeting, Press Release No. 41/2018, Sept. 18, 2018.

[13] Ghosh, Koel, "Index Investing – The Growing Mantra," *Indexology Blog,* April 17, 2018.

The growing popularity of index funds, along with future industry consolidation and economies of scale like we see in the U.S., has the potential to lower the cost of passive vehicles further.

Of course, it would be penny wise and pound foolish for investors to save a few basis points on management fees if those savings caused them to miss an even larger increment of active performance, but, as we have already seen in the SPIVA scorecards, that is not the case. These savings accrue nearly entirely to the benefit of index fund investors.

Increased Regulatory Oversight and Government Initiatives

Five years ago, Indian passive product AUM was largely concentrated around gold ETFs.[14] But changing regulations, evolving market microstructure, and Indian government initiatives have led to the rapid growth of passive investments in the Indian mutual fund industry. Some of the important milestones are as follows.

Since 2013, DIPAM has raised approximately INR 340 billion via multiple tranches through different ETFs.

- 2015: The EPFO started investing in the equity market via large-cap ETFs in August 2015. From 2015 to 2016, it invested 5% of EPFO incremental subscriber's contributions, which was subsequently increased to 15% in 2017-2018. As of June 30, 2018, the total amount invested by EPFO in ETFs was INR 490 billion.[15]
- 2017: The S&P BSE Bharat 22 Index was launched on Aug. 10, 2017.[16] This index is designed to measure the performance of the Indian government's holdings in select listed companies divested by the Department of Investment and Public Asset Management (DIPAM) through an ETF route. Since 2013, DIPAM has raised approximately INR 340 billion via multiple tranches through different ETFs.[17]
- 2017: SEBI introduced standard style and size definitions and required mutual funds to manage only one product offering in each style category.[18] This should further enhance transparency, since investors can more easily compare the performance of fund offerings in each style category.
- 2018: SEBI required that fund managers benchmark the performance of equity funds against total return indices, emphasizing the importance of dividend payments in addition to capital appreciation when evaluating portfolio returns.[19]

[14] *CRISIL*, *op. cit.*

[15] "EPFO invested nearly Rs 50K cr in ETFs till June 30: Govt," *The Times of India*, July 18, 2018.

[16] For more information on this index, please see Akash Jain, and Mahavir Kaswa, "S&P BSE Bharat 22 Index: A benchmark for "Bharat 22" disinvestment program of Government of India," *S&P Dow Jones Indices*, August 2017.

[17] Recent Disinvestment, Department of Investment and Public Asset Management, Financial Year 2018-19.

[18] Categorization and Rationalization of Mutual Fund Schemes, SEBI Circular SEBI/HO/IMD/DF3/CIR/P/2017/114, Oct. 6, 2017.

[19] Benchmarking of Scheme's performance to Total Return Index, SEBI Circular SEBI/HO/IMD/DF3/CIR/P/2018/04, Jan. 4, 2018.

- 2018: SEBI reviewed TERs for open-ended, equity-oriented mutual funds and set caps on expense ratios charged by fund managers.[20]

SEBI's initiatives aim to bring visibility and standardization across the industry…

These initiatives of benchmarking to total return indices, setting caps on TERs, and defining categories and styles are aimed at bringing visibility and standardization across the industry and seek to prevent active managers from using the wrong benchmark or charging excessive fees. Additionally, the Indian government's initiatives have introduced ETFs to a wide range of new investors, highlighting the benefits of low-cost ways to participate in equity markets.

Skewness

The skewness of stock returns is often an underappreciated element in the performance difficulties of active managers. Exhibit 4 is a simple example of skewed returns; we posit a market with five stocks, one of which dramatically outperforms the others.[21] We assume that at the beginning of the year, the stocks' capitalizations are identical, so that the market's return is 18%, driven by the outstanding performance of stock E.

Exhibit 4: Hypothetical Returns in a Five-Stock Market

STOCK	A	B	C	D	E
RETURN (%)	10	10	10	10	50

Source: S&P Dow Jones Indices LLC. Table is provided for illustrative purposes.

… seek to prevent active managers from using the wrong benchmark or charging excessive fees.

We can form portfolios of various sizes from these five stocks (see Exhibit 5). There are, for example, five possible one-stock portfolios, four of which underperform the market as a whole. Alternatively, there are also five possible four-stock portfolios, four of which outperform the market as a whole. Since the market, in this example, is up 18%, the *average* return of the portfolios is always 18%—if the market gives us 18%, it doesn't matter how we slice it up. What changes is the *distribution of returns* across portfolios. **Holding more stocks increases the likelihood of outperformance.**[22]

[20] SEBI Board Meeting, Press Release No. 41/2018, Sept. 18, 2018.

[21] This example is drawn from Heaton, J.B., Nick Polson, and Jan Hendrik Witte, "Why Indexing Works," Oct. 14, 2015.

[22] Edwards, Tim and Craig J. Lazzara, "Fooled by Conviction," *S&P Dow Jones Indices*, July 2016. See also Livnat, Joshua, Gavin Smith, and Martin B. Tarlie, "Modified IR As a Predictor of Fund Performance," October 2015, for evidence that among comparably skillful active managers, greater diversification is an indicator of better future performance.

Real-world returns are positively skewed, and an underappreciated element in the performance difficulties of active managers.

Exhibit 5: More Concentrated Portfolios Are More Likely to Underperform

NUMBER OF STOCKS IN PORTFOLIO	NUMBER OF PORTFOLIOS	MEDIAN RETURN (%)	AVERAGE RETURN (%)	PROBABILITY OF OUTPERFORMANCE (%)
1	5	10	18	20
2	10	10	18	40
3	10	23	18	60
4	5	20	18	80

All portfolios are hypothetical portfolios.
Source: S&P Dow Jones Indices LLC. Table is provided for illustrative purposes.

A manager's picks are more likely to underperform simply because there are more underperformers than outperformers from which to choose.

The intuition here is simple: a manager's picks are more likely to underperform than to outperform simply because there are more underperformers than outperformers from which to choose.[23] If returns are positively skewed, more concentrated portfolios are therefore relatively likely to underperform, while more diversified portfolios are relatively likely to outperform. Since most active managers run fairly concentrated portfolios (at least relative to the universe from which they draw their stock picks), if returns in the real world are positively skewed, that helps us explain active underperformance.

If returns are positively skewed, more concentrated portfolios are relatively likely to underperform, while more diversified portfolios are relatively likely to outperform.

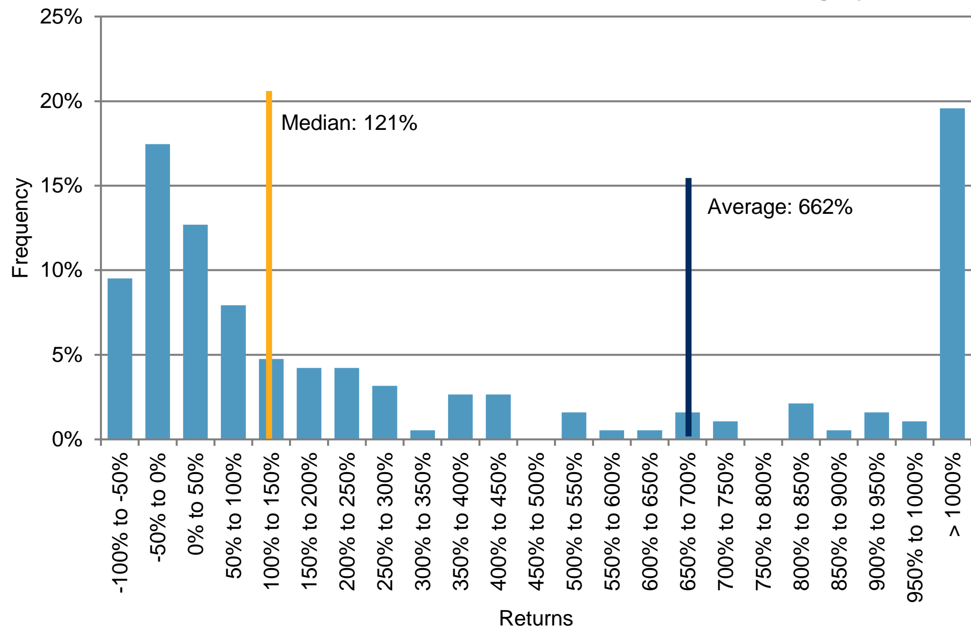
Real-world returns are positively skewed. We might suspect that there is a natural tendency toward skewed equity returns—after all, a stock can only go down by 100%, while it can appreciate by much more than that. This intuition is confirmed by Exhibit 6, which plots the distribution of cumulative returns for the constituent stocks of the S&P BSE 100, which is India's large-cap equity benchmark. The median return was 121%, far less than the average of 662%. Similar results prevailed for the U.S.-based S&P 500, as seen in Exhibit 7.[24] **Active managers in India, like their U.S. counterparts, are challenged by a positively skewed equity market.**

[23] The challenge for stock pickers is exacerbated when the outperformers include the largest stocks in the index. See Chan, Fei Mei and Craig J. Lazzara, "Degrees of Difficulty: Indications of Active Success," *S&P Dow Jones Indices*, May 2018, pp. 8-9.

[24] The average stock outperformed the median in 15 of 18 years for the S&P BSE 100, and we find similar results in other markets as of December 2017. The average stock outperformed the median in 23 of 27 years for the S&P 500, 15 of the last 20 years for the S&P/TSX Composite, 21 of 22 years for the S&P/TOPIX 150, 10 of 17 years for the S&P/ASX 200, 14 of 19 years for the S&P Europe 350, and 21 of 21 years for the S&P Pan Asia ex-Japan & Taiwan BMI. For a longer-term perspective, see Bessembinder, Hendrik, "Do Stocks Outperform Treasury Bills?" *Journal of Financial Economics (JFE),* November 2017.

The median return of S&P BSE 100 members was far less than the average…

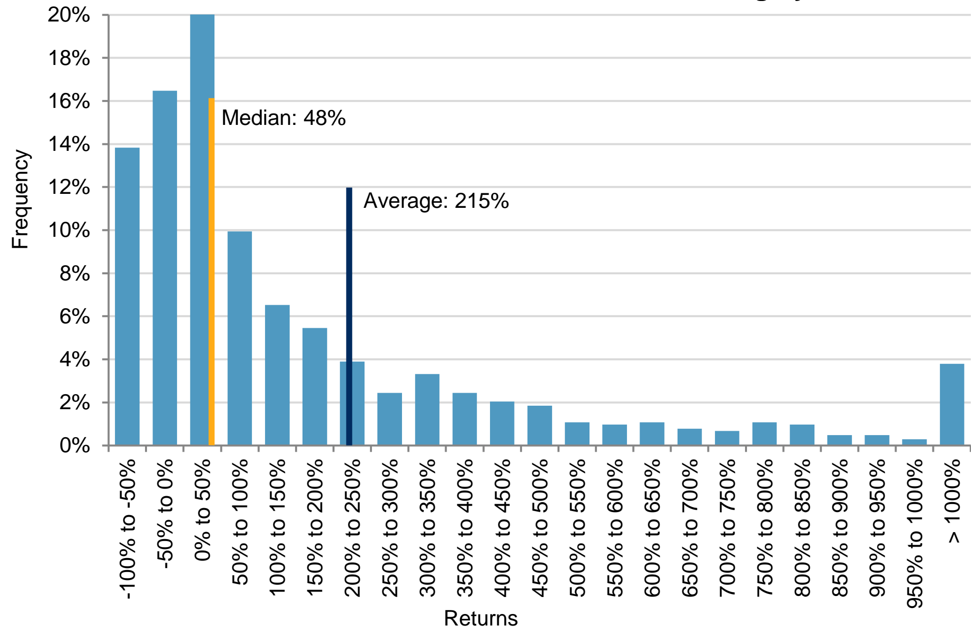
Exhibit 6: Constituent Returns for S&P BSE 100 Members Are Highly Skewed



Source: S&P Dow Jones Indices LLC, Factset. Data from Dec 31, 1999, to Dec. 31, 2017. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

…and similar results prevailed for the S&P 500.

Exhibit 7: Constituent Returns for S&P 500 Members Are Highly Skewed



Active managers in India, like their U.S. counterparts, are challenged by a positively skewed equity market.

Source: S&P Dow Jones Indices LLC, Factset. Data from Oct. 31, 1997, to Oct. 31, 2017. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

WHERE ARE WE NOW?

We conclude by evaluating the adoption of mutual funds in India relative to other global markets and estimating the extent to which asset owners in the Indian market have adopted passive management. Finally, we offer a comparison to the U.S. so that we can attempt to predict India's future passive growth potential.

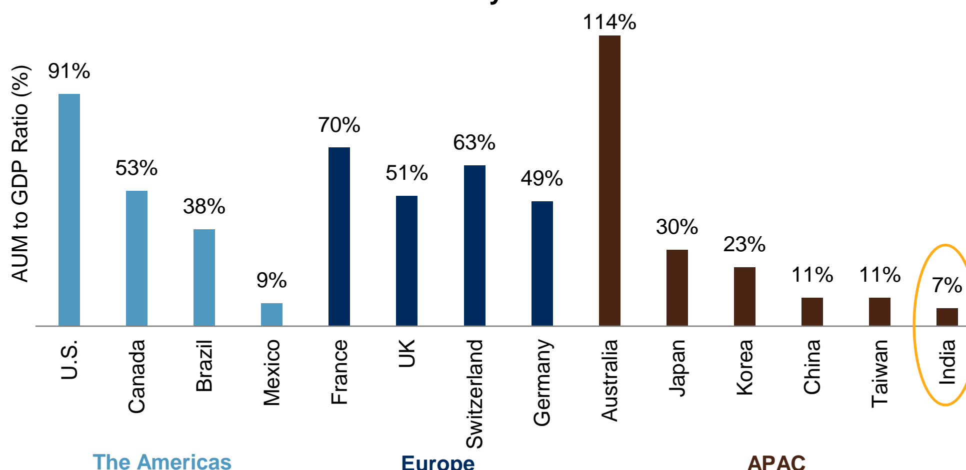
Adoption of Funds Globally Compared With India

As of 2015, while the U.S. had an AUM to GDP ratio of 91%, India's ratio was only 7%...

AUM to GDP is commonly used as a ratio to track the penetration of mutual funds in an economy. Exhibit 8 illustrates that this ratio is low in most markets in Asia when compared with their American and European peers.[25] As of 2015, the U.S. had a ratio of 91%, while India's ratio was only 7%, illustrating that the Indian market has a long way to go before it reaches the stature and depth of the U.S. market. However, as the Indian economy matures and financial literacy improves, we can anticipate higher adoption rates of mutual fund products in India as a long-term savings tool and as a means to create retirement assets. **This has the potential to expand the overall size of the mutual fund industry and simultaneously to raise the share that is passive.**

…illustrating that the Indian market has a long way to go before it reaches the stature and depth of the U.S. market.

Exhibit 8: AUM to GDP Ratio as a Proxy for Penetration of Funds



Source: Ernst & Young, EFAMA, and Oxford Economics. Data as of 2015. Chart is provided for illustrative purposes.

The Rise in Share of Passive AUM

In the U.S., the passive share of equity mutual fund and ETF assets was approximately 45% as of the end of 2017 and has more than doubled from its 20% level at the beginning of 2007.[26] In contrast, India's share was one-tenth of the U.S.'s size, at approximately 4% as of March 2018.[27] While India's passive share is small, the country's domestic mutual fund industry has already seen a healthy double-digit (approximately 20%) growth in AUM over the past nine years (see Exhibit 9), and **the share of passive investment has been steadily growing**. Investment flows into large-cap ETFs by the EPFO, as well as the government of India divestment programs via ETFs, have aided in the strong growth of passive AUM share.

The domestic Indian mutual fund industry has seen healthy growth in AUM. The share of passive investment has been steadily growing and as of March 2018 was close to 4%.

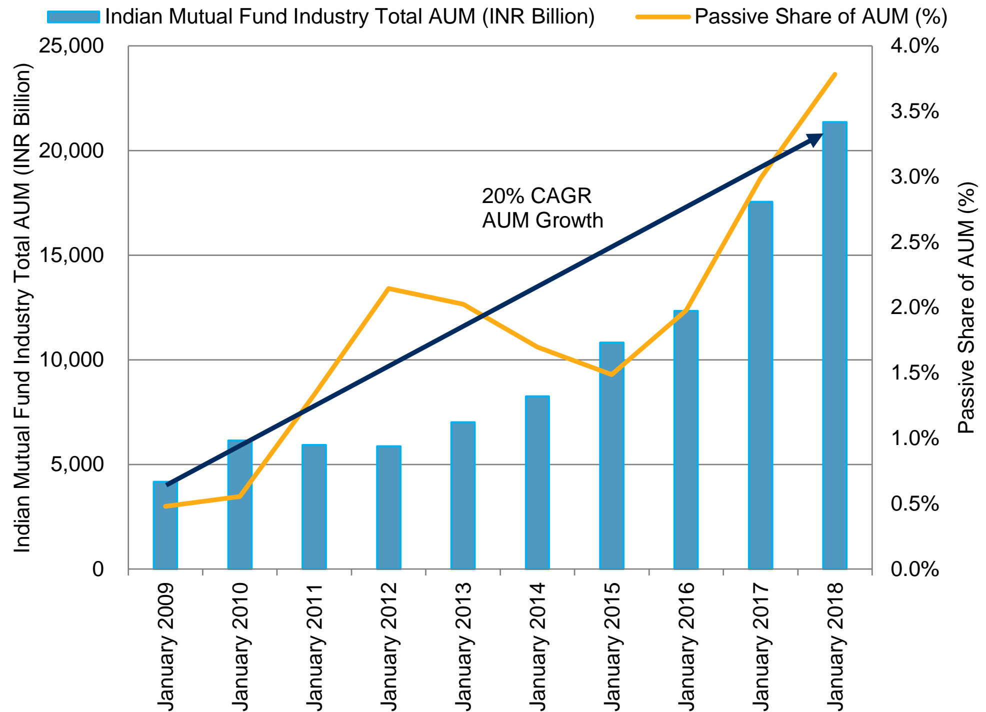
[25] "Mutual Funds: Ready for the next leap," Ernst & Young LLP, 2015, pp.12.

[26] Whyte, Amy, "Passive Investing Rises Still Higher, Morningstar Says," *Institutional Investor*, May 21, 2018.

[27] *CRISIL, op. cit.* The 4% passive share is approximately 90% in equity ETFs, with the remainder in index funds and gold, liquid, and debt ETFs.

Assuming these tailwinds continue, **we foresee passive market share in India to grow at a similar trajectory as in the U.S.**

Exhibit 9: Domestic Indian Mutual Fund Industry AUM Data and the Passive Share of AUM



Source: AMFI, CRISIL. Data as of March 2018. Chart is provided for illustrative purposes.

India is beginning to awaken to the benefits of passive investing…

FINAL THOUGHTS

Globally, if active managers had delivered above-average performance, the passive investment industry would not have developed and would not exist today. Evidence of active underperformance is nearly a century old, and we have suggested some of the reasons—cost, increased regulatory oversight and government initiatives, and skewness—that help explain it. These explanations apply to India no less than to the more developed U.S. market.

…and the Indian market has the potential to mirror the impressive growth seen in the U.S.

India is beginning to awaken to the benefits of passive investing, analogous to the U.S. markets in the 1970s. **The Indian market has the potential to mirror the impressive growth seen in the U.S**, as the market dynamics are similar to those we observed in the U.S., along with additional tailwinds unique to India bolstering passive growth.

Investors in India can benefit from these lessons in passive investing from developed markets and can build wealth through transparent, systematic, and low-cost, index-linked products.

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