MARKET COMMENTARY



3rd Quarter Commentary

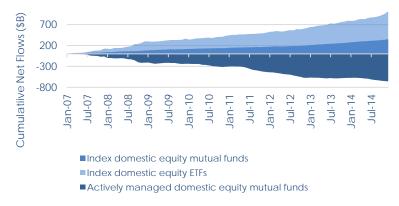
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The Long Road to the Great Mismatch

Well, it might be happening. The Great Flow of Funds, every single year since 2008, into index products like ETFs (drawn, in every single year but one, from actively managed equity strategies) might be approaching its final

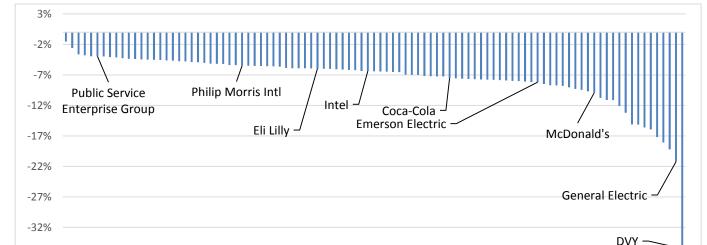
chapter. The chart at right, repeated from last quarter's review, shows the \$1 trillion procession of assets that brought ETFs from about 3% of public stock market value in the U.S. in 2007 to 7.5% in 2014 and, more importantly — and startlingly — from about 23% of daily trading volume to almost 27%.



Source: ICI Fact Book

Thus was created the ETF Divide,

the barrier between those companies included in the major ETF baskets and everything else. Those on the inclusion list receive an automatic daily bid and higher valuations; those not on the list languish on the other side of the divide. This dynamic has been accelerating: the all-time record share of ETF trading volume of 37% was set this August 24th, when the prices of more than a few ETFs departed markedly from their net asset values. This is not supposed to happen, but at least it wasn't boring. Shares of DVY, for example, the iShares Select Dividend ETF, temporarily dropped 35% that morning. However, the NAV of the fund declined by no more than 2.5%, and only 8 of its 99 holdings declined by more than 15%. DVY is no marginal fund; it has \$13 billion of assets under management, and its holdings include the likes of McDonald's and General Electric. It's a sign.



<u>Largest Intra-Day Drop in DVY Constituent Prices: August 24, 2015</u>

Source: iShares, Bloomberg

-37%



This 7-year one-way flow of funds commenced in 2008, the first time equity mutual fund flows turned negative against a surge of ETF inflows. When this procession ends, the distortions upward (high valuations and artificially low volatility) will reverse, accompanied by a contraction in valuation multiples and higher volatility. The favored will come into disfavor. (Bob Dylan couldn't have been thinking of the stock market in 1963 when he penned the final lines of that particular song: "And the first one now / Will later be last / For the times they are a-changin'.") One can't know, of course, in any absolute way; there can only be signs.

Not to belabor past observations, but rather, to be mindful of the foundations for our here and now, three major stimulative factors in U.S. corporate profit growth of the last 30+ years will not be repeated: interest rates cannot repeat their 13% point decline from 1981 (nor their boost to the valuations of real estate, venture capital, stocks and gold); the 25-year mercantile surge by America's blue chip consumer products manufacturers into formerly geopolitically unavailable markets such as China (Communism's dying gift), beginning with the 1990 Shenzen McDonald's, has spent itself; and the 40-year+ era of broadly stimulative government deficit spending – at least at the accustomed rate – is over. How, then, can the S&P 500 earnings grow at the historical corporate profit growth rate of the past 30 years, which – just to keep it real – was all of 4.7%, anyway?

The Great Mismatch

This simply suggests that one should not expect much broad-based sales and earnings growth from the large companies that represent 'the market'. Why confine the discussion to the large, liquid companies? Because the sheer volume of funds that have flowed into index products like ETFs is simply too great to be accommodated by any but the largest. And that creates unwanted and unintended distortions. We illustrated an example last quarter with the huge mismatch between the volume of capital directed from the U.S. to an emerging market like India and the local market's limited capacity. Only 2% or so of the rich breadth of Indian companies – of the more than 4,000 – are liquid enough to accommodate the \$14 billion of AUM represented by merely 4 ETFs with the largest India investments. Result: Americans investing in ETFs comprised of very large – *not* emerging – companies that do not actually provide exposure to India (the majority of their sales being external) or that are excessively priced.

For this quarter's review, an example that should make even more obvious the point that a marketplace cannot escape the reality of supply versus demand, that too much demand for even the very best idea will invalidate it. Then, we'll get to the multiplying signs of excess in our markets.

A Short Sobriety Test

Here's a valuation sobriety test – but we're going to avoid equities, because the value of almost any stock, even one with a P/E of 100, may be legitimately argued. There are too many variables; who is to say what future sales and profit margins might ultimately be? A bond, on the other hand, will be worth 100 (at most) by a given date, and the balance sheet and cash flow data are pretty suggestive of the likelihood of repayment.



So, given that a 10-year U.S. Treasury Note now sells for a 2% yield, is it reasonable that, for the extra credit risk, a 10-year AA- corporate bond like IBM trades at a 3.4% yield to maturity? Most would probably say that the extra percentage point is reasonable. And for a 10-year non-investment grade bond, but from a profitable CCC+ company like Wendy's, would another few points, for 6.3%, be reasonable? As a check, the iShares High Yield Corporate Bond ETF (HYG) yields 6.6%.

So, the sobriety test will consist of major holdings in the iShares Emerging Markets High Yield Bond ETF

Benchmark Yield	YTM	Sobriety Test Yield	YTM
U.S. Treasury 10-Year Note	2.1%	Russian Federation, BB+, 15-year bond	??
IBM Bond, AA-, 10-Year Note	3.4%	Petrobras, BB , 4-year note	??
Wendy's Bond, CCC+, 10-Year Note	6.3%	Lebanese Republic, B-, 6-year note	??
iShares High Yield Corp. Bd ETF	6.6%	iShares Emerging Mkts High Yield Bond ETF	8.6%

(ticker EMHY), and the question for each is: what should the yield to maturity be? Essentially, what price for the extra risk, bearing in mind that the best one can do is to recoup 100¢ on the dollar? Answers will be provided at the end of the test. As a frame of reference, the weighted average maturity of EMHY is 9 years, comparable to the examples above, with a weighted average yield to maturity of 8.6%. These are but two of many similar examples.

First up, 7.5% Russian Federation bonds due March 2030. Along with the sharp decline in oil and gas prices as well as gold, the revenues from which the government needs to balance its budget (which it cannot do), it fired 10,000 government workers this summer to save money. What is the yield of this bond?

Next, the Lebanese Republic 8.25% bonds due April 2021. Guess the yield to maturity. In fairness, it is not an easy country to analyze. The last year for which GDP information is posted on the website of Lebanon's U.S. embassy is 2008. Hezbollah, which functions as a state within a state in the south, is a participant in the Syrian Civil War from the Lebanese side. The Lebanese Republic U.S. Dollar Bonds trade on the Beirut Stock Exchange, but not on most days, for reasons that should be obvious. Lebanon is a nation that could be in civil war at any minute.

Before the answers, some additional data. Russian Federation bonds have the largest weight in EMHY, at 3.6%, and Russian Federation credits total 15.3% of the fund. Lebanon is one of the top 10 allocations, at 2.7%.

How is it possible that Russian Federation 15-year bonds trade at the yield of 10-year IBM bonds? And, really, how does a nation the size of Vermont, on the brink of collapse, cowering in that particular neighborhood, borrow more cheaply than Wendy's?

Answers:	<u>YTM</u>
Russian Federation 7.5% due March 2030	3.66%
Petrobras Global Finance 5.38% due Jan 2021	7.44%
Republic of Lebanon 8.25% due April 2021	5.60%

Would anyone seriously argue that these yields are adequate compensation for the risk assumed? If not, do the prices result from some other factor, such as artificial supply-and-demand pressures? In EMHY, new money is allocated based on float. In other words, the more debt a nation issues, the greater the allocation to its bonds because it has a greater capitalization. That is the mathematical model, and that is entirely logical – to a point.



But somewhere, a robo-advisor has just instructed someone, and an asset allocation committee for a public pension fund has just adjusted its asset allocation model, and both have decided to establish or add to their emerging markets high yield segment. EMHY has \$238 million of AUM. If this one pension fund is \$10 billion (which wouldn't even make the list of the largest 300 global pension funds) and wished to allocate merely ½ of 1% of its portfolio to EMHY, that would be \$50 million, or 20% of the ETF. That's a lot. If the ETF could exercise judgment, perhaps it would allocate that \$50 million other than according to the float-based weightings and other than promptly. But the mathematical model has become the reality – not a good idea. The computer is not permitted to calculate, however realistic that judgment might be, the probability of default, nor is there a "valuation" factor, extreme or otherwise, in its program – those variables simply don't exist. Accordingly, the computer purchases additional Lebanese bonds in the precisely correct ratio. Moreover, if Lebanon issues more bonds in order to stay afloat, their total capitalization increases, and the ETF will assign a yet higher weight to Lebanon and purchase proportionately more. That is how it has a 5.6% yield.

More important than the going-in 5.6% yield, though, is the going-out yield: how will an owner of EMHY get out? What events could occur that might induce that putative robo-adviser or \$10 billion pension fund to sell? And under those circumstances, to whom will EMHY sell those Lebanon bonds? And even if there are sufficient buyers, what yield will they really offer? Money came into this ETF, but can it come out whole?

Now, for the real point. Instead of thinking of this exercise as being about how indexation has so clearly inflated the prices of weird or esoteric bonds, think about it in terms of the more familiar: domestic high-yield bond funds and stock indexes, with their large weightings in Facebook, Amazon, Netflix, Biogen, American Tower, Tesla and, let us not forget, Shake Shack. That is where most of the allocations are, and it is fair to think that they are at risk.

Back to The Great Mismatch

Which brings us back to pondering the strange phenomenon of DVY on August 24th. Let's take the most benign of ETFs, and the very first: the SPDR S&P 500 ETF (SPY). It was established in 1993, and now has \$168 billion of AUM. It is a basic building block in the indexation model of asset allocation, the idea being that if long-term participation in the economic returns of the larger U.S. companies is appropriate for a someone's portfolio, and if, say, 35% is the appropriate allocation, then that position should be held for a long period of time. One needn't try to second-guess interest rates, economic cycles, or presidential cycles. Absent changes in one's planning assumptions (such as retirement age), this position might be rebalanced periodically, say quarterly or annually, if it rises or falls too much. That's the proposition of indexation – participating, not exceeding, not trading.

So, how much trading actually takes place in the S&P 500 companies? The annual share turnover rate of the largest 10 companies averages 115%; that's 0.5% per day. Armed with that information, what do you think is the daily turnover of SPY itself, which is the index product that one neither intends to trade frequently, nor needs to? Poor earnings or a price decline in an IBM, for instance, might be more than offset by good news in Apple. They're in the same basket. That's the point of employing an index.



The daily turnover of SPY is 16.7%. Just to be clear, that means that 100% of its shares are traded every 6 days, and each year that's 4,200%. Investors seem to have liquidity demands for the index instrument that are 35x the daily trading volume of its largest constituents. What if instead of trading the shares of SPY back and forth between each other, which they can because more money is constantly coming into the index, there is, on balance, net selling of SPY? Is there enough underlying liquidity?

And why all of this buying and selling, which has nothing to do with indexation as conceived. It might, though, have something to do with the *business* of selling indexation products. It has been estimated that the various ETF providers collect about \$6 billion per year from management fees. Wall Street! Go figure! But roughly \$9 billion is collected from the market-making spread on all of that trading. So let's compare the profit proposition for Wall Street as between ETFs and mutual funds. Not so many years ago, before the mass market use of ETFs, mutual funds were the instrument for indexation. The Vanguard 500 Index Fund (VFINX) was established in 1976, and now has \$150 billion of AUM. The annualized turnover of its units is only about 30%, or 0.12% per day. Now that makes intuitive sense; that's more turnover than any individual would need, but there are thousands or millions of investors who might own units. Certainly, it makes more sense than 4,200%. The major selling point of ETFs over mutual funds is that whereas a mutual fund is priced and can bought or sold only once a day, at the end of the day, an ETF's holdings are priced every 15 seconds. And an ETF can be traded – and is – every millisecond of the day. That tradeability helps all sorts of players in the financial markets – although it's not obvious what the value of 15-second pricing is for someone with a multi-year or multi-decade allocation to large U.S. companies.¹

When the Music Stops

What would happen if the procession of funds into ETFs stops? Really, what could happen? We might just have an early example. For the 6 ½ years between 2008 and this past August, the iShares Nasdaq Biotechnology ETF (ticker IBB) returned 26.8% per year, versus the S&P's 14.9%. One might think that this reflected the inherent dynamism of sales growth or earnings of these companies. If that were the case, then what about the almost 8 years from IBB's February 2001 inception to year-end 2008? For that period, IBB declined by 27%, or by 4% per year. For the entire stretch of almost 14 years, IBB has returned about 9% per year. Doesn't seem like much for the risk of, in large measure, development stage companies. There are reasons, but this is another discussion.

Let's view the IBB history from the vantage point of the ETF-o-sphere. The overriding goal of investment professionals after 2008 was to reduce volatility. The search was on. What has become one of the primary measures of such risk, a statistic provided on every financial website's snapshot or risk profile of an ETF, is something known as Beta, or β . β simply indicates whether a stock or fund is more volatile than the S&P 500 or less so. If a stock is 20% more volatile than the S&P 500, it has a Beta of 1.20; if 20% less volatile, a Beta of 0.80. Over time, depending on a security's trading pattern relative to the market, its Beta will change. ETFs have come to be sold on the basis of having a low Beta. And IBB had one of the lowest – a biotech fund!

¹ See Supplement for an example of the role, modest though it might be, of automated asset allocation or robo-adviser services in the high turnover rates of so many ETFs.



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IBB won the ETF lottery. While the S&P 500 dropped more than 36% in 2008, IBB declined by only 12%. By 2009, IBB was higher than in 2007, while the market was down 16%. IBB did better and was less volatile. It ultimately attracted a lot of money and it now has \$7.7 billion of AUM.

 3-Year Beta
 5-Year Beta
 10-Year Beta

 0.98
 0.76
 0.67

 Calculated through 8/31/15.

IBB's 10-year Beta, through August 31st, is a remarkably low 0.67 – one-third less volatile than the S&P 500. And it's performed better than the market. Accordingly, it is a very attractive choice for inclusion in all sorts of asset allocation models. But about this Beta business...does IBB's low Beta reflect the fundamentals of the

Annual Net Asset Flows for IBB, in \$ millions			
			1/1/15 -
2012	2013	2014	9/30/15
\$287	\$747	\$994	\$1,383

Source: ETF.com

biotechnology companies within it – which are subject to unusually great discovery, funding and regulatory risks – or is it due to the impact of so much money flowing into it for a succession of years? I can't say if, over the last 30 years, I ever heard anyone refer to this sector as inducing a restful night's sleep. If it's the money flows, then the low Beta is simply a self-referential measure – the Beta is low because the ETF has been popular, and it's been popular because of outperformance and a low Beta. Observe that the 5-year number, though, rose to 0.76. And the 3-year Beta is 0.98. That was through August.

In late September, an unfortunate remark was made. It was by a presidential candidate and it was about the pharmaceutical industry. The remark included the term "price gouging". IBB has since underperformed the S&P 500 by 10%. As a consequence, its 3-year Beta, through September 30th, is now 1.13. Nowadays, with

Annual Net Asset Flows for IBB, in \$ millions				
			1/1/15 -	10/1/15 –
2012	2013	2014	9/30/15	10/8/15
\$287	\$747	\$994	\$1,383	\$(327)

Source: ETF.com

computer-programmed trading and robo-advisers, any fund with a Beta above 1 can be (and is) jettisoned rather peremptorily. There are even momentum ETFs (another discussion for another day), that purchase other ETFs that exhibit the old IBB combo of outperformance and lower volatility, and some combine that with selling short those that are more volatile. They'll even sell short IBB. The mechanism that made IBB the phenomenon that it is, is the same one that might well un-make it. It merely requires that the net inflow of funds cease or begin to reverse. Now see what's happened to one of the favored: IBB lost \$327 million of assets in the first week of this month.

And the same holds true for the market – it is just IBB writ large. The pricing of the representative companies relies on continued inflows to the ETF-o-sphere, which promptly and precisely allocates new dollars to the companies in those baskets, irrespective of their valuations, their sales progress or balance sheet characteristics, irrespective of whether their postal code is 10005 (for Wall Street) or 1100. That's Beirut. In the case of DVY and other ETFs that traded way below their NAVs, the ETF providers concluded that the trading halt rules that regulators established in order to limit market volatility actually contributed to the unusual behavior. On that morning, which was the 2nd most active trading day ever recorded, the Dow Jones Industrial Average dropped more than 1,000 points in the first few minutes, the S&P 500 futures were halted before they opened, and traded



down 7.1% when they did open. The NYSE enacted various "extreme market volatility" rules, which included relieving designated market makers of the obligation to diseminate price indications for various stocks before the market open. Short-sale restrictions were enacted for over 2,000 stocks that traded down 10% or more. 5% price change limits were imposed on S&P 500 eMini Futures. These and other regulatory mechanisms to limit volatility, one effect of which was that 46% of NYSE listed securities did not open within the first 10 minutes of trading, created an awful lot of volatility in some ETF shares – a lot more, it seems, than in the stocks within them.

One of the challenges here is that far more money is in these index instruments than the securities in which they are invested can really bear. The mismatch between the seemingly substantial liquidity of the ETFs — to judge by their trading volume — and the real liquidity of their underlying holdings might become obvious only when the funds stop flowing in. In Wall Street parlance, indexation might be one of the most crowded trades ever. Therefore, one might want to keep an eye on the flow of funds. One place to look is BlackRock. BlackRock has \$4.7 trillion of AUM, of which about 23% is in ETFs; that's roughly half of all the ETF assets in the U.S. Including index funds for institutional clients. 60% of BlackRock's assets are in index.

index funds for institutional clients, 60% of BlackRock's assets are in index products. Accordingly, if one is interested in the continued propensity of investors to place more funds in ETFs, BlackRock might be a good indicator.

The accompanying table displays the net flow of funds into BlackRock, by quarter, for the past 2 ½ years. It's almost metronomic: more or less \$15 to \$30 billion per quarter. There were only two anomalous figures. In the 2nd quarter of 2013, BlackRock received only \$5.5 billion of net inflows to its index products. On the other hand, the firm overall had net outflows; therefore, the index products accounted for more than 100% of the net flows.

	Net Index	BlackRock
\$ bill.	AUM Flows	Flows
Q1 2013	\$40.3	102%
Q2 2013	5.5	204%
Q3 2013	16.9	67%
Q4 2013	29.8	55%
Q1 2014	25.3	95%
Q2 2014	14.1	36%
Q3 2014	23.7	61%
Q4 2014	63.8	73%
Q1 2015	38.9	55%
Q2 2015	-20.0	174%

The other anomaly occurred in this past June quarter: a net outflow of \$20 billion from the BlackRock index products, even as, overall, the firm had net outflows of only \$7 billion. We can't know if that's the beginning of a pattern or merely happenstance. Within that \$20 billion of index product outflow, institutional asset flows were negative \$30 billion, while \$10 billion came into the ETFs. From what we've reviewed so far, it is to be hoped it's not a pattern – not for BlackRock's sake, but for everyone else in this crowded trade². As the saying goes, once everyone's in, there's only one place to go. We might know a bit more tomorrow, when BlackRock files its September quarter financial statements.

As for ourselves, we are in the research business, and believe you should do some modicum of research before undertaking an investment. Think about the last time we had a really active mortgage origination business—that was 2006-2007—when there was no income verification on loans. How did that work out? Now people are buying

² Subsequent to this writing, BlackRock's Q3 2015 results were announced. During the third quarter, BlackRock recorded net inflows of \$23.3 billion into its ETFs, and outflows of \$0.7 billion from its institutional index assets.

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baskets of securities without research, which is the equivalent, in a mortgage, of lending without income verification. We just don't want to participate in practices like that.

For the better part of this year, we have been gradually reducing or eliminating various positions that have become less attractive. In some cases it was simply a matter of a position that had become both very large and more expensive than when first acquired, or a company that had realized the larger part of a recovery or growth phase, or which might otherwise have ceased to represent the same opportunity or margin of safety. And while there are a few positions to which we have added, such as one of the precious metals royalty companies like Franco Nevada or Silver Wheaton, the cash balances have been building, and that is by intent. Depending on the strategy, cash could now be 20% or more of a typical account.

You can be assured, though, that other than for statistical relative-performance purposes of the type that are important to institutional investors and consultants, 20% or even 30% cash will not radically improve your mood if the market declines by 25% — your portfolio will still be down by some 20%, and it will be much discomfiting. Because that's not the purpose of the cash. The cash is for afterwards. Great fortunes have been made on leverage and on having liquidity during market dislocations. Those are the purchases that benefit a portfolio for the succeeding 5 or 10 years. But those opportunities are mirages without the tactical flexibility of available cash. That will also be when the Carl Icahns, Wilbur Rosses and Warren Buffetts of the world will be getting out their checkbooks.

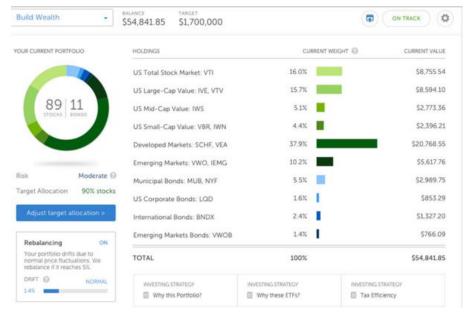


Supplement: The Robo-Adviser Role in Turnover

As popular as the ETF mode of investing is, perhaps the fastest growing segment of the asset management business, enabled by and centered upon ETFs, is the robo-adviser, also known as an online or automated investment adviser. It is essentially a software program that calculates a portfolio mix, by asset class and sector, based on inputs such as age, annual income, and self-defined risk tolerance. It is done entirely online without human intervention, and the portfolio is automatically rebalanced when the various segments differ by more than a designated degree from the established weightings. It is estimated that robo-adviser sites are gathering additional assets at about a 60% annual rate. The process is appealing for younger investors who are accustomed to digital interactions. Below is the sample portfolio that appears on the website of one popular robo-adviser.

For this \$55,000 portfolio, the roboadviser has selected 15 ETFs covering a range of U.S., developed market and emerging market stocks, as well as developed and emerging markets bonds. The aggregate number of U.S. stock positions in the 6 U.S. focused ETFs is 7,117; clearly there is much overlap. There are 2,558 positions across the two developed market stock ETFs.

This sample portfolio will rebalance if the portfolio drifts more than 1.4% from its target weights. Consider, then, a scenario: the U.S. ETFs decline by 5%, the



developed markets ETFs (e.g., Spain, Switzerland, Germany, South Korea, et al) decline by 8%, the emerging markets rise by 5%, and the bond ETFs are flat. Doesn't seem like all that much happened, really. The entire portfolio will have declined by only about 4.5%. However, the weight of the developed market ETFs will have declined from the optimal 37.90% to 36.46%. That exceeds the 1.40% drift tolerance; ergo, the portfolio will be rebalanced.

If my figures are correct, rebalancing to the original weights would require, among other transactions, purchasing \$54 worth of Vanguard Total Stock Market ETF, \$17 of iShares Russell Mid-Cap Value ETF, and \$7 of iShares Russell 2000 Value ETF. This, perhaps, contributes to the 4,200% annual turnover of ETFs like the SPDR S&P 500 ETF. Interestingly, even though in this example the price of the Vanguard Emerging Markets Government Bond ETF didn't change, \$34 worth would be sold in the rebalancing. So it is possible that one day, the prices of Lebanon Republic, Russian Federation and Petrobras bonds suffer a dramatic, newsworthy decline in the absence, to the puzzlement of observers, of any obvious geopolitical, finance or economic news. One can see how an entire infrastructure and process has been set up to increase trading volumes.

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The S&P 500 Index represents an unmanaged, broad-based basket of stocks. It is typically used as a proxy for overall market performance. Index returns assume that dividends are reinvested and do not include the effect of management fees or expenses. You cannot invest directly in an index. This report mentions several exchange traded funds, which are investable products owned by the respective managers mentioned herein. For additional information about such products, you should consult the specific exchange traded fund prospectus. Comparisons of exchange traded funds to indexes is imperfect in that exchange traded funds have fees and expenses and indexes do not.

The Beta (6) of an investment is a measure of the risk arising from exposure to general market movements as opposed to idiosyncratic factors.

The iShares Nasdaq Biotechnology ETF seeks to track the investment results of an index composed of biotechnology and pharmaceutical equities listed on the NASDAQ. Performance shown is net of fees and expenses. You should read the IBB ETF Prospectus carefully for additional information.

The SPDR® S&P 500® ETF Trust seeks to provide investment results that, before expenses, correspond generally to the price and yield performance of the S&P 500® Index. Performance shown is net of fees and expenses. You should read the SPY ETF Prospectus carefully for additional information.

The Vanguard 500 Index Fund invests in 500 of the largest U.S. companies, which span many different industries and account for about three-fourths of the U.S. stock market's value. You should read the fund's Prospectus carefully for additional information.

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