VINITY

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In A Nutshell

The new decade ushered in strong but quickly changed as the COVID-19 outbreak turned into a global pandemic. As panic and fear set in for many, the market lost its footing on which it comfortably stood for the past eleven years. Uncertainty is growing, leading companies to withdraw guidance, and many analysts are delaying updates to their earnings projections. The prudent course of action is to take a step back and assess company prospects once we have a clearer picture. Instead, the market acted on emotion, aggressively selling off in the quickest decline to bear market in history. Unprecedented trading sessions ensued with bloated algorithmic trading strategies taking the market on the worst elevator ride. Governments decided to shut down their economies, seeking to mitigate the spread of the coronavirus and save lives. This will lead to a calculated recession resulting from a global health crisis, not a financial crisis. In the meantime, the $2 trillion relief package will provide important assistance to individuals and businesses affected by something out of their control. The best thing we can do now is exercise patience, recessions and bear markets are a natural part of the business cycle. Historically, patient investors have been rewarded kindly over the long run.

Dorothy, We Are Not In 2019 Anymore

To start the year we believed the bull market, which began in March of 2009, still had more room to run barring a black swan. Our first quarter letter laid out the rationale behind our belief the market could continue higher. Then, our biggest fear materialized. The great bull market, just days after turning eleven, was taken down aggressively by COVID-19. This was truly a black swan, an unpredictable event with extreme consequences.

The new decade began with above-average valuations and a high bar for earnings growth expectations. The economy was in good shape, the consumer was strong, and the Federal Reserve had no plans to deviate from their lower-for-longer interest rate policy. This environment was favorable for stocks, and we believed the earnings growth to justify valuations was attainable. The goldilocks scenario rapidly transformed as the COVID-19 outbreak turned into a global pandemic, changing everyone's daily life, and threatening the lives of millions. The magnitude of the situation amplified at an exponential rate and the information from health officials evolved expeditiously from one day to the next. This, of course, creates uncertainty in which panic and fear become a reality for many. Mr. Market, the prudent and non-reactionary participant we all know, handled uncertainty, panic, and fear in stride. That is some wishful thinking, nevertheless not how this story goes.

The Tower of Terror

The market environment starting around mid-February has been a lot like the Tower of Terror. For those not familiar, it is a ride located at a few Disney Parks and simulates a haunted elevator. The ride includes a series of lifts and drops controlled by a computer, which culminates in a 13-story fall at around 40 miles per hour. We liken this to the experience felt in the market, large up and down swings, controlled by machines, causing fear and uncertainty. We think much of the volatility is a product of algorithmic trading, machines buying and selling at certain price levels based on the interpretation of financial and economic data, without regard for the underlying fundamentals. This, followed by the herd mentality of retail and other market participants, using exchange-traded funds (ETFs) to indiscriminately sell a basket of stocks, exacerbates the market moves.

The daily action in the major averages has not only been unprecedented but irresponsible. Since the Dow Jones Industrial Average reached its all-time high, through the end of the first quarter, over 40% of trading days (14 out of 34) experienced a point change of more than 1,000. This occurred in zero trading days during 2019. The moves in the S&P 500 Index have been equally concerning. The daily percent change (up or down) of the index has been greater than 9.13% (historical annual price return) more times in the 22 trading days of March this year than during the entire previous 70 years. Interestingly enough, before October 19, 1987, there were zero days with a daily percent change of that magnitude. That Monday in the fall of 1987 is known as Black Monday, the largest single-day percent drop for the S&P 500, down just over 20%.

Figure 1.

Dow Jones Industrial Average	
2019 Average Daily Point Change	145
All-Time Closing High	2/12/2020
Time Period	Daily Pt Chg > 1,000
Feb 12, 2020 - Mar 31, 2020	14 Days
Jan 1, 2019 - Dec 31, 2019	0 Days

S&P 500 Index	
70-Year Average Annual Price Return	9.13%
All-Time Closing High	2/19/2020
Time Period	Daily % Chg > 9.13%
Mar 1, 2020 - Mar 31, 2020	4 Days
Jan 1, 1950 - Feb 29, 2020	3 Days

30 Years in The Making

The cause of the Black Monday crash is often attributed to computer program-driven trading models. These models are programmed to place buy or sell orders based on price levels without any regard for fundamental information. The wave of program-driven selling led individual investors to panic and start placing sell orders. This led stocks lower breaching additional price levels on the way down, setting off further program-driven selling. The cycle continued, resulting in huge losses for the day. This was the first test for computer program-driven trading as the concept was still in its infancy at this point. Also, keep in mind, individual investors placing sell orders likely had to phone-in their trade. And, of additional importance, ETFs did not exist yet.

This was merely just the beginning of what has become known as quant hedge funds. Quant strategies employ algorithmic trading models, placing orders based on the machine's interpretation of data. The strategies continue to grow in numbers and complexity. Assets in quant hedge funds reached nearly $1 trillion at the end of 2017, double the level in 2010[1]. The quants accounted for almost 30% of all stock

[1] Financial Times. *Quant hedge funds set to surpass $1tn management mark*, January 8, 2018.

trading at the end of 2018. That is over double the share in 2013 and now accounts for more trading than any other investor group, like retail investors and traditional asset managers[2].

This would not be a perfect storm, though, without pajama traders and ETFs. The first ETF was launched in 1993 but did not gain much traction until the early 2000s. ETFs came in vogue following the financial crisis, with assets under management quadrupling over the past ten years to $4.4 trillion. The rise in popularity of ETFs is due to their low cost, ease of use, and the ability to gain exposure to a broad basket of stocks in one transaction. For example, when you buy a share of an ETF that tracks the S&P 500, you are buying a fraction of each stock in that index. So, when you sell an ETF, you are selling all of the underlying stocks in the index.

The early to mid-1990s is also credited with the birth of online discount brokerages, which effectively brought Wall Street to Main Street. Personal computing technology advanced rapidly during this time, and by 2000 about half of U.S. households had a computer, increasing to almost 90% by 2016[3]. This meant anyone with a computer and an internet connection could instantly become a "professional" at-home trader.

Liquidity & Volatility & Price Dislocation, Oh My!

Enter 2020, a global pandemic rapidly emerges. We now have trading driven by machines' interpretation of a global health crisis. Over the past ten years, we have piled into ETFs giving us the ability to sell large quantities of broad baskets of stocks with the click of a mouse. And, in the fourth quarter of 2019, major online brokerages eliminated trade commissions, increasing the propensity to trade. What could go wrong, now? The chaos that ensued is the equivalent of yelling "fire" in a crowded room…with one exit.

Contrary to popular belief, March Madness was not canceled this year, albeit instead of the basketball court, it played out in the stock market. It was true mayhem out there; the market-wide circuit breaker was triggered in four out of eight trading sessions in mid-March. This results in a fifteen-minute trading halt when the S&P 500 falls 7%, again when the index drops 13%, and after a 20% drop, Mr. Market is asked to go home and try again the following day. Only the first trading halt was triggered in the four trading sessions in March, but that did not stop the index from going eight consecutive trading days with a change of 5% or more.

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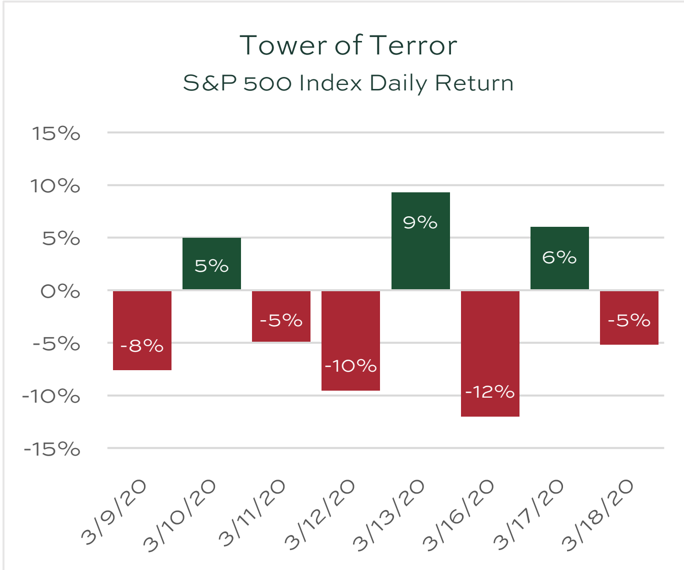
[2] The Wall Street Journal. *Behind the Market Swoon: The Herdlike Behavior of Computerized Trading*, December 25, 2018.
[3] U.S. Census Bureau. 2018. *Computer and Internet Use in the United States: 2016.*

Figure 2.



We believe program-driven trading led markets lower, spooking investors and traders, causing a further wave of selling. The magnitude of the daily swings, with positive and negative days trading blows almost in unison, is indicative of a market led by program-driven trading. While the abundance of data has led to a wide range of inputs for program-driven trading models, a key input the machines lack is common sense. This has been many years in the making; there are now trillions of dollars in investment strategies and investment vehicles that can move at lightning speed with great consequence. We expect volatility in times of market stress to remain elevated above what has been experienced during past periods of market turmoil. Unlike in previous environments where an investor would sell individual securities when the investment thesis changed, all securities are punished through indiscriminate selling of broad baskets of stocks.

ETFs, as an investment vehicle are not bad, we use ETFs in our portfolios as a low-cost, efficient way to gain exposure to certain asset classes. But, due to their size and broad reach, certain uses of ETFs can, in our opinion, be bad. For example, selling an ETF because the chart looks like a squirrel sitting on an elephant's shoulders, is destructive.

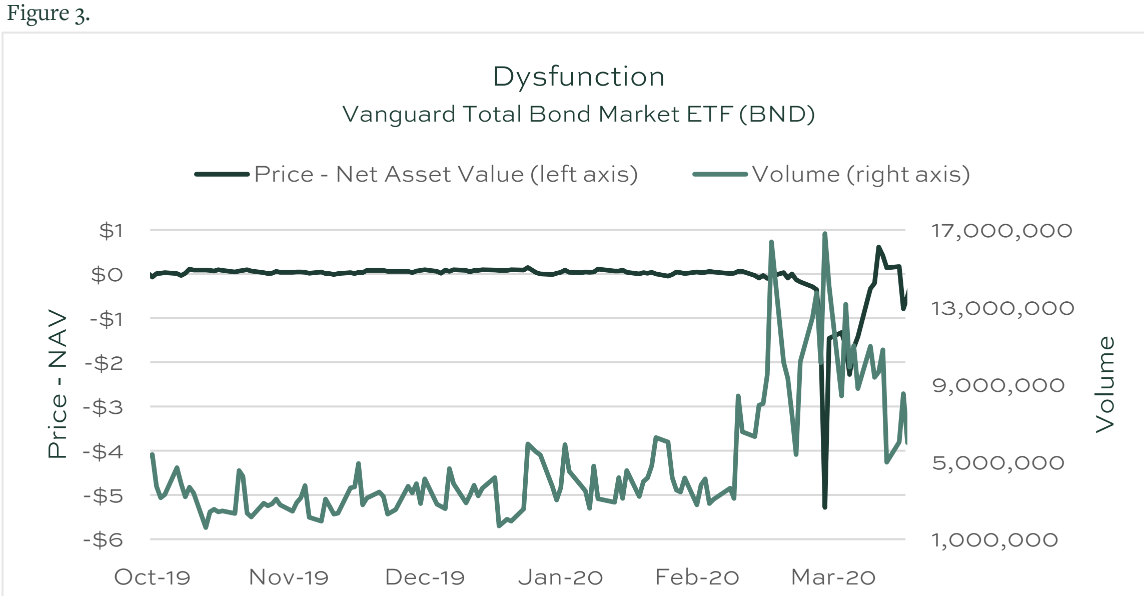
We think the speed and size at which quant strategies trade has led to the liquidity and price dislocation problems experienced in the recent market sell-off. A market functions properly when there is a balance of buyers and sellers. An imbalance of buyers and sellers can lead to a disruption in market liquidity, especially when the volume is heavy and one-sided. When most of the volume from quant strategies is selling, it places downward pressure on the market due to their substantial trading volume. This may spook investors leading additional market participants to sell, and the number of buyers in the market rapidly diminishes. Liquidity dries up, and sellers must keep lowering the price they are willing to accept to entice a buyer to step in and take the other side of the trade. This is a bad situation and often the cause of price dislocation.

Price dislocation occurs when the price of an ETF deviates from its net asset value (NAV), the value of the underlying assets in the ETF. This means you are either paying more than it's worth to buy or receiving less than it's worth to sell. The price and NAV of an ETF typically do not deviate much, indicating the price is reflecting the value of its underlying securities. Smaller ETFs and those tracking indexes with less-liquid securities typically experience the greatest deviation in the two variables when markets go awry.

For example, in the less-liquid bond market, the $50 billion Vanguard Total Bond Market ETF experienced price dislocation on March 12th. Through 2019, the ETF traded at a ten-year average premium to NAV of $0.07. In the wake of the madness, the ETF traded at a $5.28 discount (price was 6.2% below NAV) on six times the average daily volume. To put this in perspective, the ETFs annualized ten-year return is 3.9%, so investors selling that day took a haircut greater than the average return for an entire year. The extreme discount was short-lived, improving to a $1.45 discount the following day, before getting closer to a normalized range about ten days later.

In plain English, everyone rushed for the exit door at the same time, giving up $617 per $10,000 sold just to follow the herd. The point here is that no one made money by panicking. Figure 3 below visualizes the dysfunction in the market. It was calm though mid-February until everyone rushed for the exit causing volume (gray line) to spike and price to plunge well below its NAV (blue line).

Figure 3.



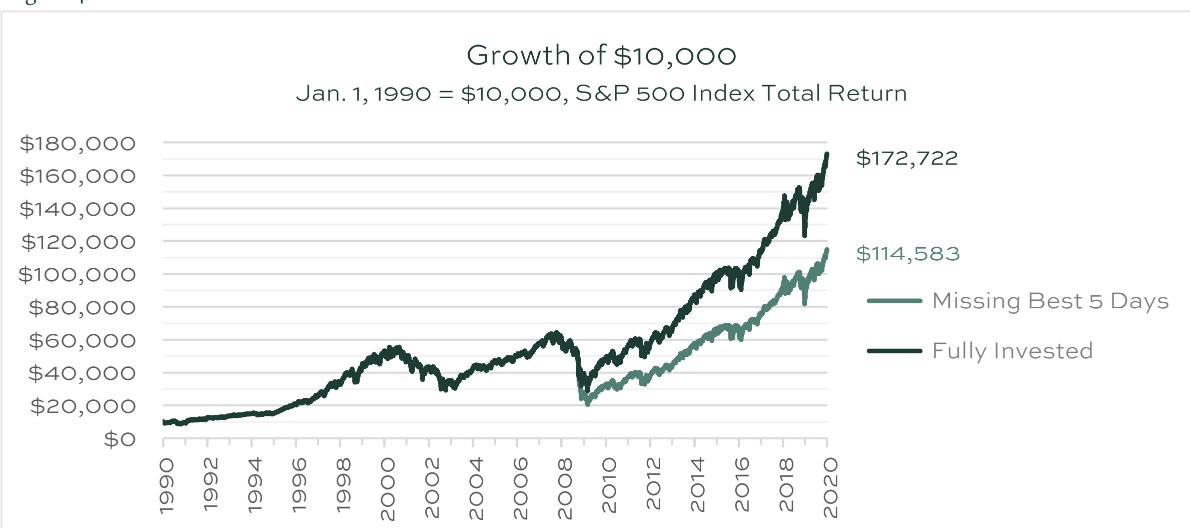
Time in The Market

Trying to time the market is a fool's game. Short-term luck is not a repeatable nor prudent long-term investment strategy. Over long time horizons, the stock market continues to march higher. The S&P 500 has not experienced a rolling 20-year period with negative returns, and more than 90% of rolling 10-year periods have a positive total return. The consequence of missing just a handful of the best performing days is a permanent impairment in long-term portfolio value. $10,000 invested in the S&P 500 at the beginning of 1990 would be worth $172,722 at the end of 2019. If you missed only the best 5 days during that timeframe, the same initial investment would be worth $114,583. Missing only 5 of the 7,560 trading days (0.07% of the total trading days) resulted in a portfolio worth almost $60,000 less. Since 1990, the S&P 500 has produced a positive daily total return 54% of the time, a positive monthly total return 66% of the time, and a positive yearly total return 80% of the time. By staying invested, you are putting the odds in your favor.

There is a better chance of winning a hand of blackjack than avoiding, for example, a down month in the market. As previously stated, the S&P 500 has produced a positive monthly total return 66% of the time. Said differently, the S&P 500 has produced a negative monthly total return 34% of the time. So, there is a 34% chance of avoiding a down month in the market, while the probability of winning any given hand of blackjack is 48%.

To successfully time the market, you must be right twice, when to get out and when to get back in. Due to this ambitious requirement each time there is a market correction, accomplishing this feat over the long run becomes exponentially difficult. Our strategy is straightforward, focus on staying in the market as history has shown this is a winning strategy.

Figure 4.



Social Distancing Recession

The recession already upon us is structurally much different than past recessionary periods. Recessions generally result from things like excessive leverage, extreme valuations, and aggressive Federal Reserve actions. While some pockets of those factors may be present, it is not a systemic problem in the current environment. The economic downturn this year is intentional and calculated. To mitigate the spread of COVID-19 and save lives, governments across the globe decided to shut down their economies. The financial repercussion from this unprecedented action will be a sharp decline in economic activity. Had governments not asked residents to stay home and practice social distancing, the loss of life would most certainly be higher, and the infection's spread much greater. Not shutting down results in a prolonged drawdown in economic activity, while shutting down results in a sharp drop and sharp recovery. Over the long run, we think a short-lived, one-time hit to the economy, produces a better outcome.

The $2 trillion relief package is a necessity, and more funds may be needed later. This will provide relief to consumers and businesses affected as a result of social distancing. In turn, it will limit the extent of the downturn filling a portion of the gap left in GDP. Certain industries will be hit harder than others at the fault of no one (transportation, leisure, and hospitality). Providing relief payments to individuals, a temporary boost in unemployment benefits, and relief for small businesses to help retain employees will get us through to the other side of the crisis, avoiding potentially much greater pain.

Emerging Opportunity

Emerging markets remain our top asset class pick, trading at attractive valuations far better than elsewhere around the globe. At 10.1 times next year's earnings, that is the best bang for your buck. The structural factors behind our thesis for emerging markets remain intact and should persist in the future. Growth of the middle class, especially in China and India, the largest emerging markets, means consumers will have more to spend on goods and services. The growth of technology and the adoption in emerging markets brings another source of growth as these regions undergo upgrade cycles in the coming years.

Figure 5.

Asset Class[4]	Forward P/E[5]
Emerging Markets	10.1
International Developed	12.0
U.S. Large Cap	13.9
U.S. Mid Cap	12.0
U.S. Small Cap	11.0

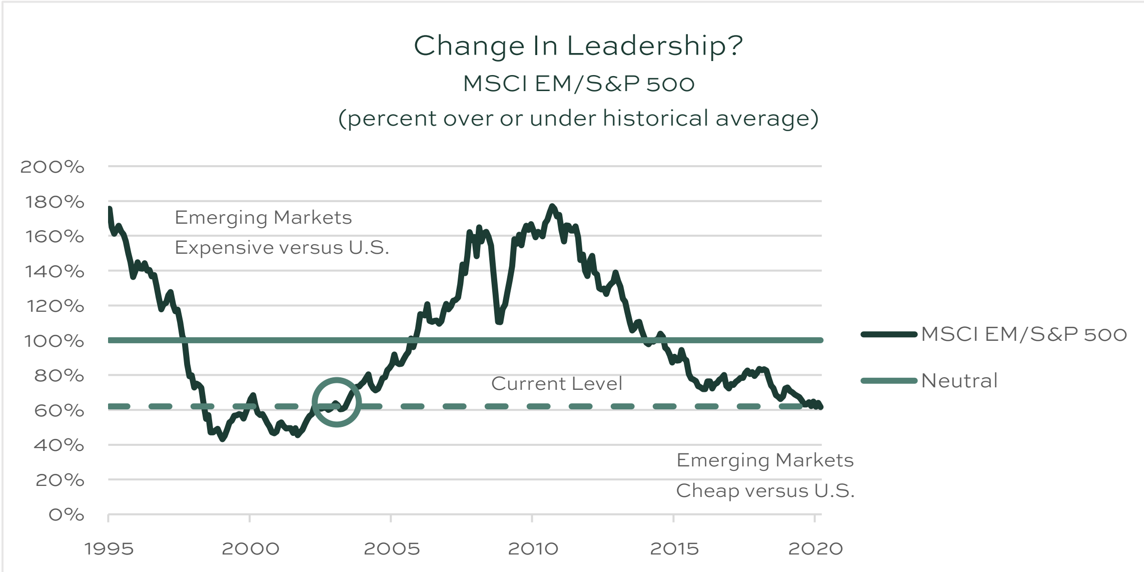
As of 3/31/2020

Emerging markets have experienced a cycle over the past ten years with declining relative performance to U.S. stocks. This is the downward trend of the blue line beginning in 2010 in Figure 6 below, which charts the relationship of the movement in price between the MSCI Emerging Markets Index and the S&P 500 Index. Values below 100% (neutral line) indicate emerging markets are cheap relative to U.S. stocks, while values above 100% indicate emerging markets are expensive relative to U.S. stocks. Another interpretation, when the blue line is declining, U.S. stocks are outperforming emerging markets, and when the line is ascending, emerging markets are outperforming U.S. stocks. The dashed line is the current level of the relationship indicating emerging markets are currently cheap relative to U.S. stocks, trading at 62% of the historical average level. U.S. stocks outperformed emerging markets through the late 1990s up until the burst of the tech bubble. In the following years, emerging markets were the winner until late 2010 when U.S. stocks took the lead and have outperformed to date. We think this trend will reverse moving forward like the experience in the early 2000s.

[4] Asset classes and associated forward P/E ratios represented by ETFs. Emerging Markets: iShares MSCI Emerging Markets ETF (EEM), International Developed: iShares MSCI EAFE ETF (EFA), U.S. Large Cap: iShares Core S&P 500 ETF (IVV), U.S. Mid Cap: iShares S&P Mid-Cap ETF (IJH), U.S. Small Cap: iShares Core S&P Small-Cap ETF (IJR).

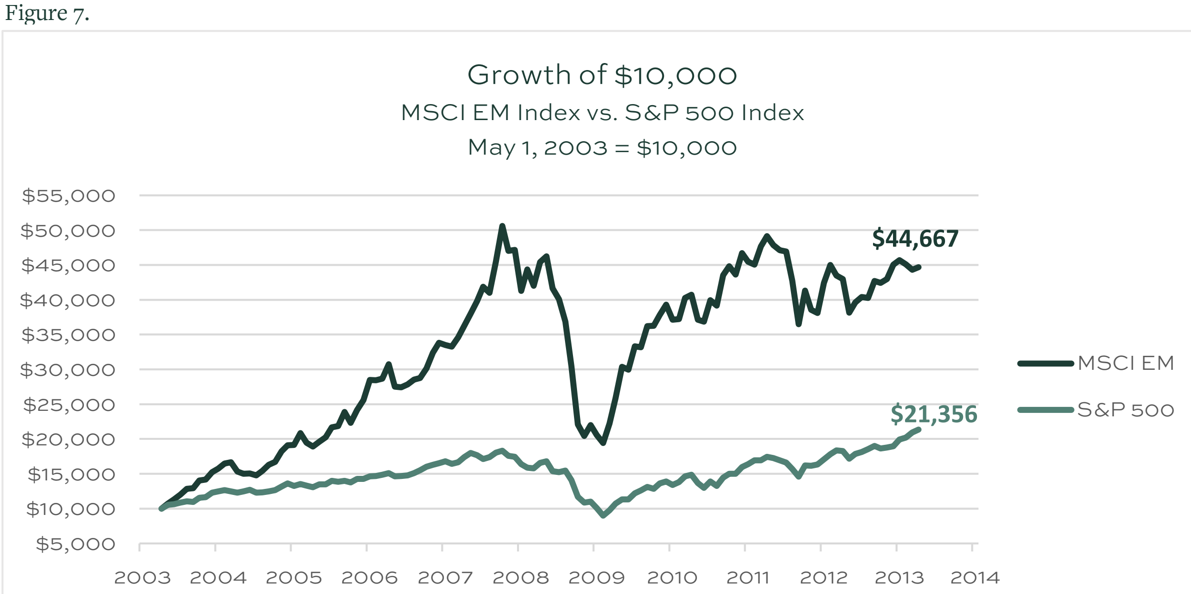
[5] Forward P/E = Price Per Share / Forward Estimate for Earnings Per Share

Figure 6.



The circle in Figure 6 above, highlights the period in May 2003 when there was a leadership change and emerging markets doubled the performance of U.S. stocks over the following ten-years. Figure 7 below charts the growth realized from a $10,000 investment in emerging markets beginning in May of 2003.

Figure 7.



Emerging markets are attractive on many different measures, and we do not think the drought can last. Not only is the valuation favorable, but there are structural changes we believe can lead to a new wave of growth for the asset class.

It Must Be Nice, It Must Be Nice, To Have Substantial Time on Your Side

To borrow a line from Lin-Manuel Miranda's *Hamilton*, the best asset you have right now is time. Historically, patient investors have been rewarded kindly over the long run. Those with shorter time horizons or cash needs are typically in a strategy with more fixed income, providing less risk with less reward. While we never like to see negative values, we must take a step back and remember this is not the first bear market, nor the last. Peaks and troughs are a natural part of the business cycle, and while it can be painful at times, the market has always recovered and reached new highs in the years ahead. As always, we are here for you during the uncertainty to help navigate and reach the other side.

Stay safe; stay healthy. Our thoughts are with you and your families during these challenging times.

Figure 4. You cannot invest directly in the index. Growth of $10,000 missing the best five days assumes a return of 0% on each of the five best days during the period. The best five days between 1/1/1990 and 12/31/2019 are ranked in order of highest return. 10/13/2008: 11.58%; 10/28/2008: 10.79%; 3/23/2009: 7.10%; 11/13/2008: 6.93%; 11/24/2008: 6.47%. **Figure 6.** Relative value is calculated by taking the growth of $1 in the MSCI Emerging Markets Index divided by the growth of $1 in the S&P 500 Index each month. Percent of historical average is calculated by dividing the relative value level by the historical average relative value level each month. **Figure 7.** You cannot invest directly in either index. Growth of $10,000 calculated from 5/1/2003 through 4/30/2013, there is no guarantee future growth will resemble the growth calculated during this period.

The views expressed are through the period ending March 2020 and are subject to change at any time based on market or other conditions. This material does not constitute a recommendation of any particular investment strategy or product. Although the information included is compiled from sources believed to be reliable, its accuracy cannot be guaranteed, and The Vinity Group nor its affiliates assume liability for loss due to reliance on this material and/or such views expressed herein.

Past performance is not indicative of future results. Indexes are unmanaged and you cannot invest directly in the index.

Dow Jones Industrial Average: Price-weighted measure of 30 U.S. blue-chip companies. The index covers all industries except transportation and utilities. **S&P 500 Index:** Measures the performance of U.S. large-cap equities and is comprised of 500 companies across sectors and covers approximately 80% of available market capitalization. **S&P MidCap 400:** Measures the performance of U.S. mid-cap equities and is comprised of 400 companies across sectors. **S&P SmallCap 600:** Measures the performance of U.S. small-cap equities and is comprised of 600 companies across sectors. **MSCI EAFE Index:** Measures the performance of large- and mid-cap equities across 21 developed markets countries, excluding the U.S. and Canada, and covers approximately 85% of the free float-adjusted market capitalization in each country. **MSCI EM Index:** Measures the performance of large- and mid-cap equities across 26 emerging markets countries and covers approximately 85% of the free float-adjusted market capitalization in each country.

Sources: Financial Times, Investment Company Institute, Morningstar, MSCI, S&P Dow Jones Indices, The Wall Street Journal, U.S. Census Bureau, YCharts.

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