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The Behavioral Barbell

The equity barbell was a much-recommended portfolio position in 2020 and was copied in several variations. For financial advisors looking to signal their competence, the barbell label serves as a particularly in-the-know piece of financial jargon. Basically, it means holding two extreme and uncorrelated positions, with as little weighting in the middle as possible.

The original barbell is a position in bond portfolio management. If a bond manager buys and sells the right parts of the yield curve at the right time, he or she can outperform a buy-and-hold portfolio with evenly distributed maturities (a bond ladder). When the manager believes long-term interest rates are higher now than they will be in the near future (meaning the yield curve is relatively steep) he or she may buy bonds at the long end.

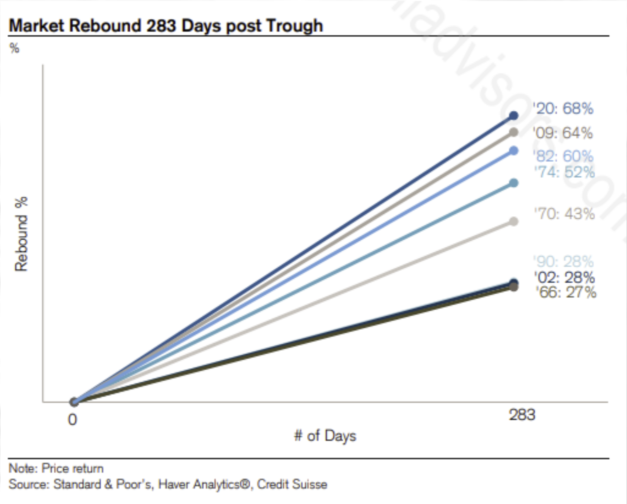
(continue to page 9)

Harpswell's Market Outlook

2020

2020 was a year none of us will soon forget. And if we were told in March that the S&P 500 would be up 18.4% at the end of the year, many of us would have taken the other side of that bet. In fact, as the graph below highlights, the rebound in equity markets was remarkable and its pace surpasses recent rebounds *(see chart below).*

2020 was certainly an extraordinary year for Harpswell (and our clients). It was a year where a depth of experience and a well-balanced temperament paid off. Harpswell came into 2020 with a relatively conservative posture. Market valuations were stretched and an over reliance on monetary policies seemed to be driving them to an exuberant level. While we certainly did not sell everything, we did look for places to limit exposure and tack in a direction that would lend to capital preservation. In March we found ourselves in a good position and opportunistically rebalanced.



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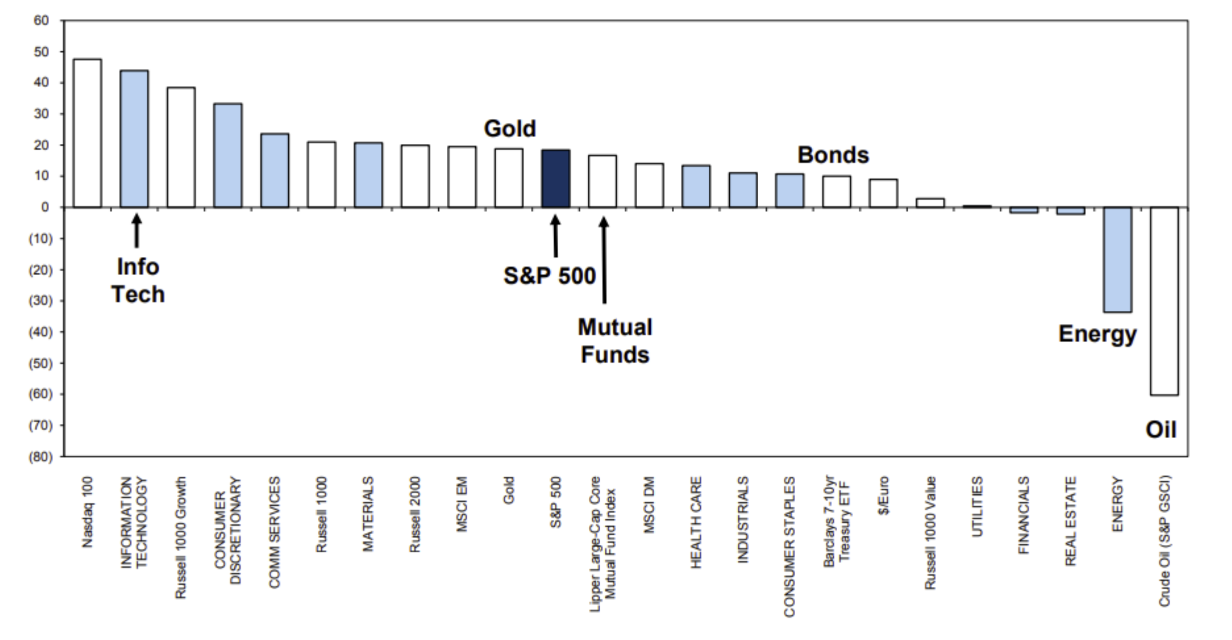
Market Outlook *(continued from cover)*

While some were exiting markets, we were going in the opposite direction. We followed up with a series of additional tactical adjustments such as overweighting exposure to China, then India and finally the United Kingdom (after Brexit). We also were timely in looking to target smaller market cap stocks and in taking off our large cap growth overweight exposure. All-in-all, we were pleased with the opportunities we saw and feel good about the service our clients received.

The market leaders in 2020 were undoubtedly large cap domestic growth stocks, while the laggards were energy and financials (which comprise a large portion of the value segment of the market).



Performance was strikingly bifurcated across two different axes: growth vs. value and large vs. small cap. As the chart below highlights, performance differed dramatically depending on where your exposure lay, and large cap growth was the place to be.

	Value	Blend	Growth
Large	2.8%	18.4%	38.5%
Mid	5.0%	17.1%	35.6%
Small	4.6%	20.0%	34.6%

 (continued from page 2)

FANGS are in the Top, for Now.

The evolution of the service and electronic economy, perpetuated by the repercussions of COVID-19, appears to be a major driver for the growth vs. value bifurcation. One factor that did become a “concern” (more of a yellow flag than a red flag) was the market concentration in the S&P 500. Towards the end of the year, the largest 7 companies comprised 25% of the total market cap for the index. The causes were multifaceted, yet with all 7 companies sharing similar drivers the concentration represents a monolithic risk.

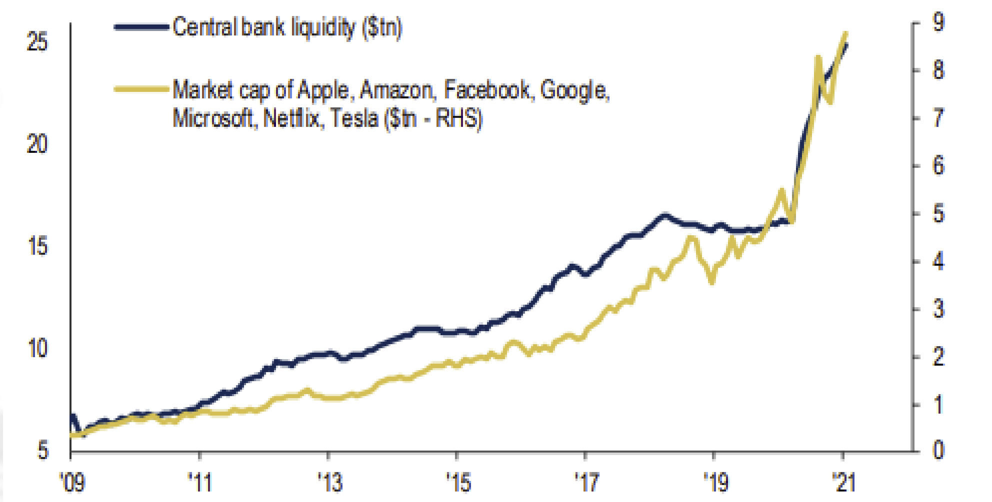
As we have noted in numerous Quarterly Notes, the roster of the largest companies in the world tends to rotate. Furthermore, the shifts in who sits on the top of the list tend to be more thematic and sector oriented than company specific. For example, in the 1980s energy dominated the list as the top companies included Exxon, Standard Oil, Schlumberger, Royal Dutch, Mobil and Atlantic Richfield. In the 1990s, Japan took center stage with NTT, Bank of Tokyo, Industrial Bank of Japan, Sumitomo Mitsui Banking, Fuji Bank and UFJ Bank at the top of the list of largest global companies. In the 2000s, tech dominated (e.g. Tech bubble) with the top companies including Microsoft, Intel, Cisco, Lucent, NTT and Deutsche Telecom. In the 2010s we went back to energy as the top of the list included Exxon, PetroChina, Petrobras, Royal Dutch Shell and BHP. And now we have the FANGs. Historically, the rotation of the top of the list of global companies has been a consistent trend yet we remain open minded as timing such macro shifts is a difficult feat.

Largest Companies by Market Cap by Decade

1980	1990	2000	2010	2020
IBM	Nippon T&T	Microsoft	PetroChina	Microsoft
AT&T	Bank of Tokyo-Mitsubishi	General Electric	Exxon Mobil	Apple
Exxon	Industrial Bank of Japan	NTT DoCoMo	Microsoft	Amazon
Standard Oil	Sumitomo Mitsui Banking	Cisco	ICBC	Alphabet
Schlumberger	Toyota Motors	Walmart	Walmart	Alibaba
Shell	Fuji Bank	Intel	China Construction Bank	Facebook
Mobil	Dai-Ichi Kangyo Bank	Nippon T&T	BHP Bilton	Tencent
Atlantic Richfield	IBM	Exxon Mobil	HSBC	Berkshire Hathaway
General Electric	UFJ Bank	Lucent	Petrobras	Visa
Eastman Kodak	Exxon	Deutsche Telecom	Apple	Johnson & Johnson

Source: @charliebiello **Key:** Directly Consumer Co. | Partial/Indirect Consumer Co. | Not Boring

Market Outlook *(continued from page 3)*



Valuations

The graph below illustrates the current valuations for domestic stocks relative to their respective 20-year average. Growth is clearly more stretched than value and that is understandable for a few reasons. First, we do appear to be in a major transition where disruptive tech stocks have promises of higher growth at the expense of their value-oriented comrades. Second, the low interest rates (theoretically) make the expectations of higher earnings in the distant future to be worth more today. The current value of future earnings is partially dictated by interest rates and with historically low rates, investors are willing to pay up for future growth.

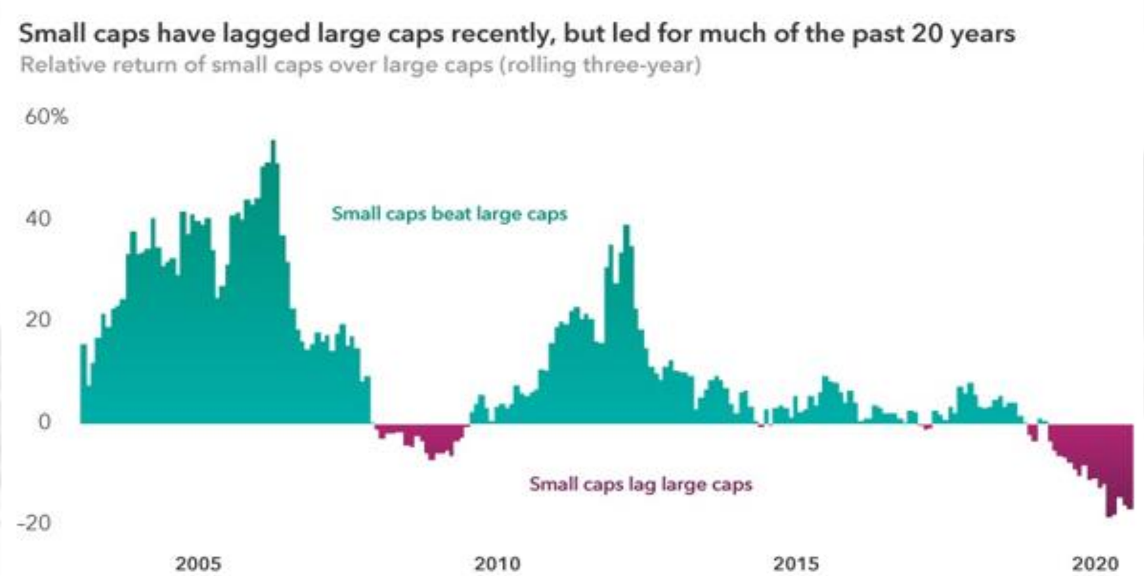
Current P/E as % of 20-year avg. P/E

	Value	Blend	Growth
Large	130.6%	144.8%	168.5%
Mid	127.1%	139.4%	194.6%
Small	107.2%	143.6%	198.5%

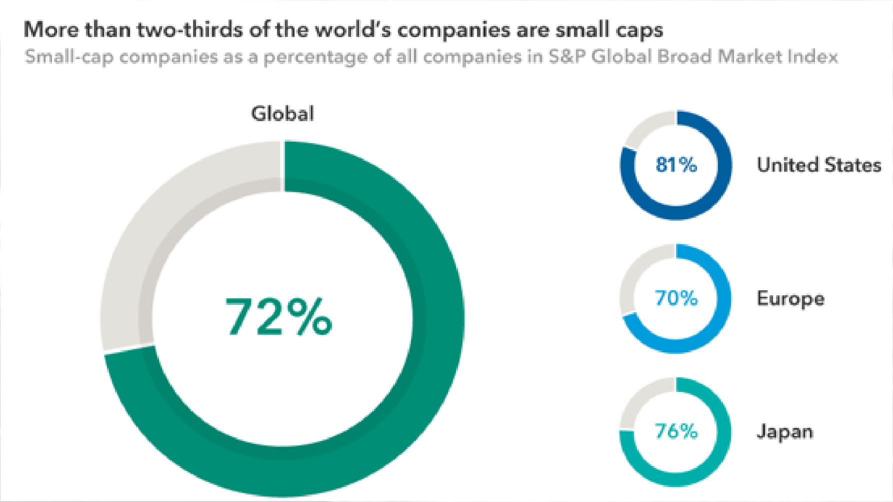
Market Outlook *(continued from page 4)*

Small vs. Large Cap

Historically, small cap stocks have dramatically outperformed their larger peers. Yet, just as value underperformed growth, small stocks have underperformed over the last few years. While it seems like an attractive opportunity, we recognize about 1/3 of small cap stocks do not have earnings and their balance sheets are stretched with a higher proportion of debt, less cash and less access to capital markets.



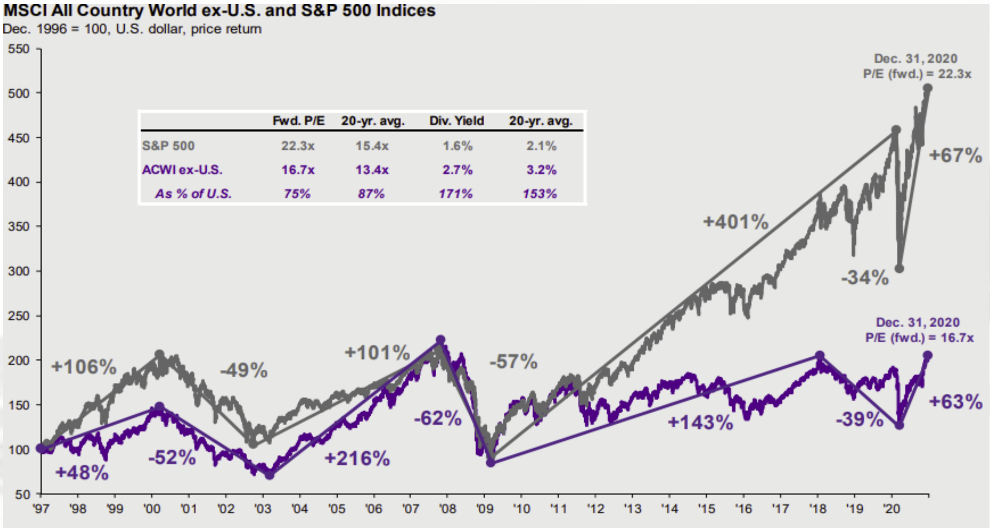
The small cap universe is extensive, as more than two-thirds of global companies are small caps. We are believers in efficient markets, yet we feel there are areas where inefficiencies may exist and persist. Inefficiencies translate into markets where active management may yield excess returns, yet we remain focused on small cap stocks with a balanced posture towards risk.



Market Outlook *(continued from page 5)*

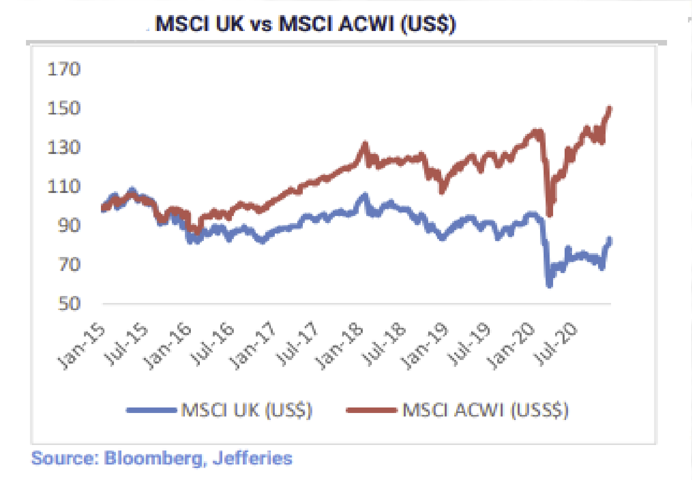
Domestic vs. International

There is also a striking difference between the valuations of domestic stocks versus international stocks. As you can see from the graph below, US stocks trade at a multiple of 22.3 while international stocks are at 16.7x. While international stocks generally trade at a discount to domestic stocks, the current discount is more pronounced.



The United Kingdom

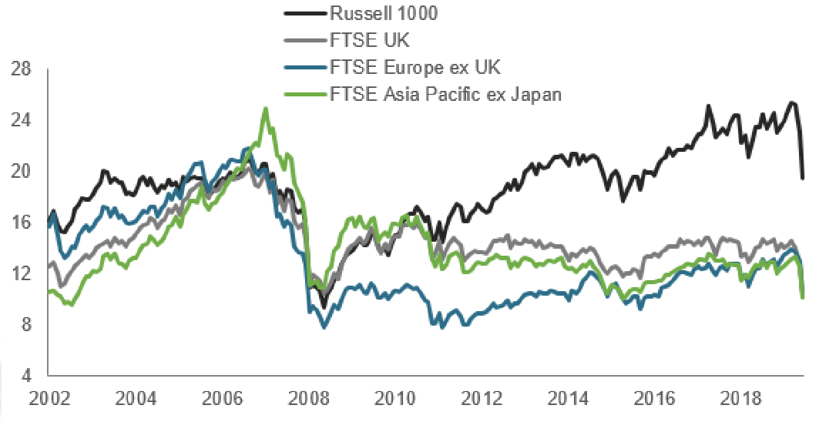
Brexit has been a lingering overhang for UK markets for several years. As the capital markets feared a disruptive exit from the European Union, capital flows into the UK have faded. As a result, the UK has dramatically underperformed global markets. We feel the UK can now exit purgatory and look ahead to policies that are solely based on their own best interests. With that said, they first need to get beyond COVID-19 as they appear to be in a particularly precarious position on that front.



Source: Bloomberg, Jefferies

Market Outlook *(continued from page 6)*

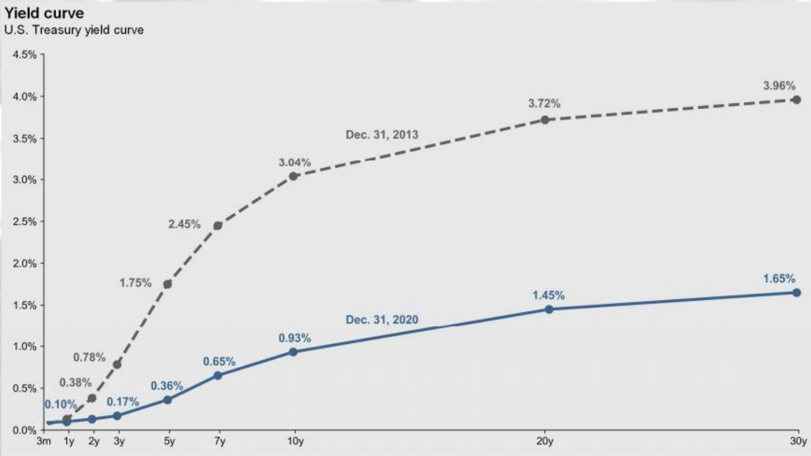
Valuations are aligned with the narrative as the UK trades at a meaningful discount to the EU, US and most global markets. Currently, the UK trades at 14.5 times earning while the EU trades at 17.3 and the US trades at 22.3! Globally, equity markets trade at 20.1 times earnings. As the graph below highlights, for much of the last decade, the UK traded at a premium to the EU and Asia.



The Bond Market

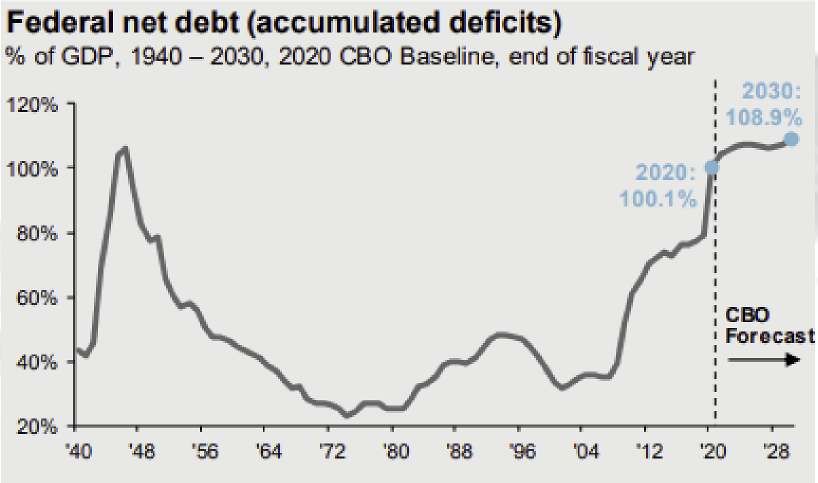
Interest rates have been falling for over 30 years. As it may be counter intuitive, when interest rates fall, the prices on bonds go up and investors realize a premium that drives excess returns. Conversely, when interest rates go up, bond holders lose face value on bonds, as who would pay full- freight for a 2% bond when they can buy one yielding 3%? Thus, as longer-term rates inch up, investors holding the longer dated bonds have lost profits. Harpswell remains vigilantly focused on rates and we are currently positioned to achieve yield at the more conservative (shorter) end of the spectrum. We also favor higher quality bonds.

The good news is the yield curve has a healthy slope with long-term rates exceeding those for shorter term bonds. The curve illustrated below suggests investors are not overly concerned with hiding from stocks and plowing into bonds. It is also a healthy sign for banks as much of their profits come from loaning out on the long end of the curve and paying depositors on the short end.



Epilogue

We feel the markets expect central banks and governments to continue to provide stimulus and ramp it up any time the markets slip 10%. This "buying the dips" mindset has been a sound facet of the 10-year run in the market and is the consensus view going forward. We know the market likes to "whistle by the graveyard" and can certainly shake off impending doom. As the graph below shows, the US Federal debt levels are over 100%! Historically, folks viewed those countries with debt to GDP over 90% to be a banana republic (or at least on their way there). Unfortunately, we feel future GDP expectations are inflated and the debt levels are underestimated.



We have said it before, and we will say it again: the party goes on until there are no more rabbits in the hat (i.e. policy efficacy comes into question). So long as the Fed and the Treasury can pull rabbits out of a hat (e.g., modern monetary theory and colossal budget deficits), the markets will feel there is a floor in place.

We feel there are several canaries in the coal mine and at the top of the list are:

- Mass inflation/deflation
- Strangling interest burden for the government (as rates rise)
- Failed or stressed Treasury auction
- Rapid change in the value of the US dollar
- Continued slowing of money supply velocity.
- New policies that spook markets (e.g., a rise in capital gains, taxes or regulations beyond expectations). *

The Behavioral Barbell *(continued from cover)*

These bonds will experience capital appreciation as long-term rates come down, making the higher coupon rate of the previously issued bonds more valuable than the lower coupon rate of newly issued long-term bonds. At the same time, to form a barbell position, the manager would also hold treasury bills or other cash-equivalents at the short end of the curve. If the yield curve were to move against the manager (steepening on the long end) the manager would have dry powder to deploy at the new, higher rate. The ideal outcome for a barbell, though, would be for the yield curve to flatten, falling on the long end and rising in the short and intermediate maturities. In that case, the manager's long-term bet pays off from capital appreciation, and the short-term liquidity can be re-balanced into intermediate maturities, which now pay higher rates.

The bond market's reputation as the most rational, mathematical asset class therefore lends a particularly high level of authority to any portfolio that is described as a "barbell". In an equity barbell, the manager holds two extreme positions, similar to the bond manager's long-term-plus-short-term bonds, but in this case the extremes have to do with the size, accounting metrics, or cyclicality of the stocks being held. In the large-plus-small equity barbell (where the barbell label first appeared among equity strategists, years ago) the logic was that US large-cap stocks would be levered to global growth, and US small-cap stocks would be levered to domestic growth. The manager could go long a US-led global growth cycle by holding the large-plus-small barbell of US stocks.

When the thesis was realized, the gains from large-caps and small-caps could be re-balanced into the mid-caps, which would be the last to catch up with the two extremes efficiencies.

Naturally, differences in the size factor overlap with differences in accounting metrics and cyclicality, which were the characteristics emphasized in 2020's equity barbells. One of the positions equity strategists recommended was a growth-plus-value barbell. As the equity market recovered from the selloff in March, there was a bid into the perceived safety of growth stocks. Safety in growth stocks came from the idea that, with more economic activity forced into online channels (threatening traditional business models) the big tech companies were more likely to still exist on the other side of the pandemic, regardless of what might happen in the interim. Paradoxically, then, the growth end of the barbell provided the stability, while the value end provided the leverage on the economic re-opening.

Another approach to the equity barbell was to focus more on the economic fundamentals than the accounting characteristics. Some stocks have come to be known as secular growers because they are riding long-term technological and demographic trends in the world economy. In this conception of the barbell, the stable end is made up of secular growth stocks and the opposite end is made up of stocks whose growth fluctuates over the short-term business cycle. These companies do not have to be "value" stocks from an accounting standpoint, and the greatest cyclical fluctuations can often be found in the emerging markets. The combination of the two, then, forms the secular-plus-cyclical equity barbell. Clearly, the large/secular/growth factors tend to overlap, as do the small/cyclical/value factors, causing equity barbells to bear some resemblance to one another.

The Behavioral Barbell *(continued from page 9)*

Neither equity barbells nor bond barbells are meant to be held as permanent portfolio positions. They are put on temporarily and re-balanced as conditions change. However, the before-mentioned authority of the term "barbell" has led to its adoption in some circles of unorthodox, do-it-yourself investors, where it provides an air of legitimacy to purely speculative behavior. In what can generously be termed a "cross-asset" barbell, investors hold one end in cash while the other end is the invested in whatever high-risk, speculative vehicles they can get their hands on, such as levered ETFs, derivatives, newly IPO'd tech stocks and cryptocurrencies (in other words, lottery tickets).

The combination of cash plus lottery tickets has been explored in the financial literature. Milton Friedman and Leonard Savage wrote in 1948 about people's apparently irrational tendency to take high-risk bets with large payoffs, such as buying insurance policies and lottery tickets, while not taking safer bets with smaller payoffs. They explained it in terms of rational expectations theory: people rationally expect to have sharply declining utility from a loss of wealth that would knock them down a peg socioeconomically, and they expect sharply increasing utility from an increase in wealth that would bump them up to a higher socioeconomic bracket. Meanwhile, the prospect of smaller changes in wealth that would leave people within their current stratum are not viewed as adequate compensation for risk taking, so moderately risky bets are not taken.

Hersh Shefrin and Meir Statman revisited the insurance-plus-lottery-ticket portfolio in their writings on behavioral portfolio theory in the 1990s. They re-framed people's behavior in terms of cognitive and emotional biases, rather than rational expectations theory.

Cognitively, investors are engaged in a form of mental accounting, where they designate different sums of money to different purposes, without regard to the fungibility of that money. Emotionally, they have inconsistent risk/reward preferences because they are risk-averse when considering their current level of wealth but risk-seeking when considering aspirational levels of wealth. The resulting “behavioral portfolio” is constructed in layers, where the first layer's goal is to protect the current level of consumption, while the top layer's goal is to get rich quick. There are investment options between status-quo and get-rich-quick that have a higher expected value, but the investor skips over these because of their inconsistent risk-tolerance.

The result is that do-it-yourself investors often end up with a behaviorally constructed portfolio that they might tell their friends, using special in-the-know financial jargon, is a barbell portfolio. And being able to tell your friends about your investments is, apparently, the whole purpose of the exercise in some circles. What's worse than buying lottery tickets, though, is becoming socially and emotionally committed to the lottery tickets themselves. The rational thing to do when a lottery ticket pays off, whether it pays off because of the greater fool theory or because you discovered a true industry-disrupting company before the rest of the market did, is to sell it so you can book a profit and redeploy the funds into another investment with a favorable *forward-looking* risk/return profile. When online communities enter the equation, though, investors may hold onto the lottery ticket (or buy in at the highs) because it grants them a sense of belonging, identity, and prestige. Succeeding with a cross-asset barbell, then, would be one of the hardest investment disciplines out there, because you'd have to push back against the crowd and your own psychology. Most likely, though, the strategy will end in tears. *

ESG 101

ESG, or environmental social and governance, themed investing has grown at an extraordinary pace, especially across the nonprofit universe. The growth is the byproduct of a number of factors. First, the costs (i.e. fee levels) have improved immensely over the last decade. Second, ESG strategies have become more impactful and results oriented. Finally, if it is done well, ESG can yield excess performance over traditional benchmarks.

ESG investing employs a spectrum of strategies in an efforts to yield a positive impact on the environment and society all while raising the bar for good governance. While areas of focus tend to revolve around a finite number of causes, such as pollution, inclusion, equity, governance, and sustainability, some institutions with unique topics dear to them quite often craft custom strategies to reflect their passions. In fact, Harpswell takes a custom approach when working with nonprofits to make sure their ESG investment strategy is aligned with their values.

Types of Sustainable Investing

There are a number of strategies fund managers employ in an effort to maximize impact all while generating attractive returns. Years ago, funds would merely screen out prospective investments with unwanted exposures (such as oil or coal). New strategies have since evolved as a means to improve impact and returns.

Impact investing targets investments aimed at solving social or environmental problems. These investments can be focused on products that help a targeted population or a particular industry challenge. Examples of impact investing could be affordable housing, remote education and hydrogen-based energy. 2020 was a particularly interesting year for impact investing as many of the remote educational themes tended to perform well in light of COVID. In 2021, all eyes will be on energy impact investing as the new Biden Administration's policies may generate a tailwind for them. Harpswell's primary impact fund was up over 40% in 2020 versus 18.4% for the S&P 500.

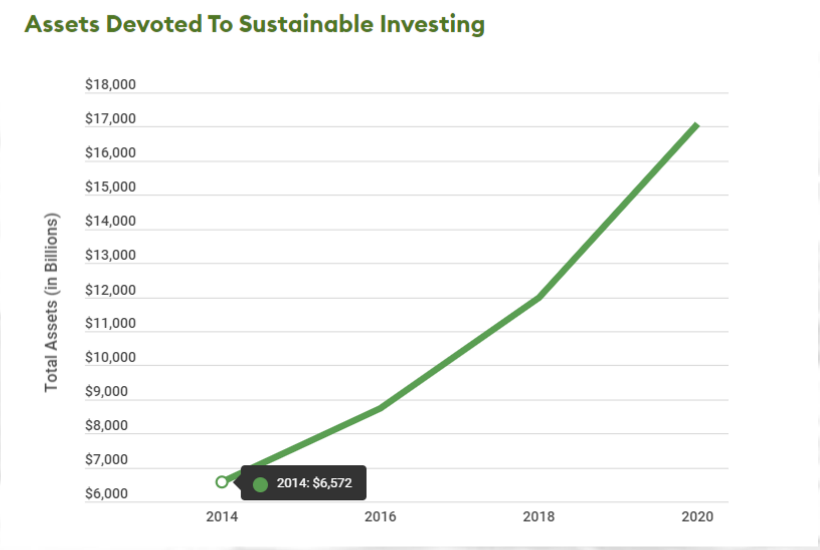
ESG 101 *(continued from page 11)*

Positive screening is an ESG strategy that entails investing in those companies that are leaders among their peers with respect to having a positive impact. Conversely, negative screening, or exclusionary investing, involves avoiding exposure to those companies deemed to be poor ESG citizens. Negative screening was historically the most prevalent form of ESG investing until practitioners recognized the importance of being at the governance table to drive change by voting proxies and electing like-minded board members. The evolution of this thought process gave rise to corporate engagement and shareholder activity strategies. These strategies are proving to be more effective as the number of activists grows and the dollars invested surpasses the threshold where corporate leaders can ignore them. We feel this approach is among the most impactful strategies and we therefore assess our managers with respect to how they vote their proxies.

There are a number of other approaches to ESG investing which employ a hybrid approach to the strategies aforementioned and also embrace newer and groundbreaking tactics which may yield impact and further evolution.

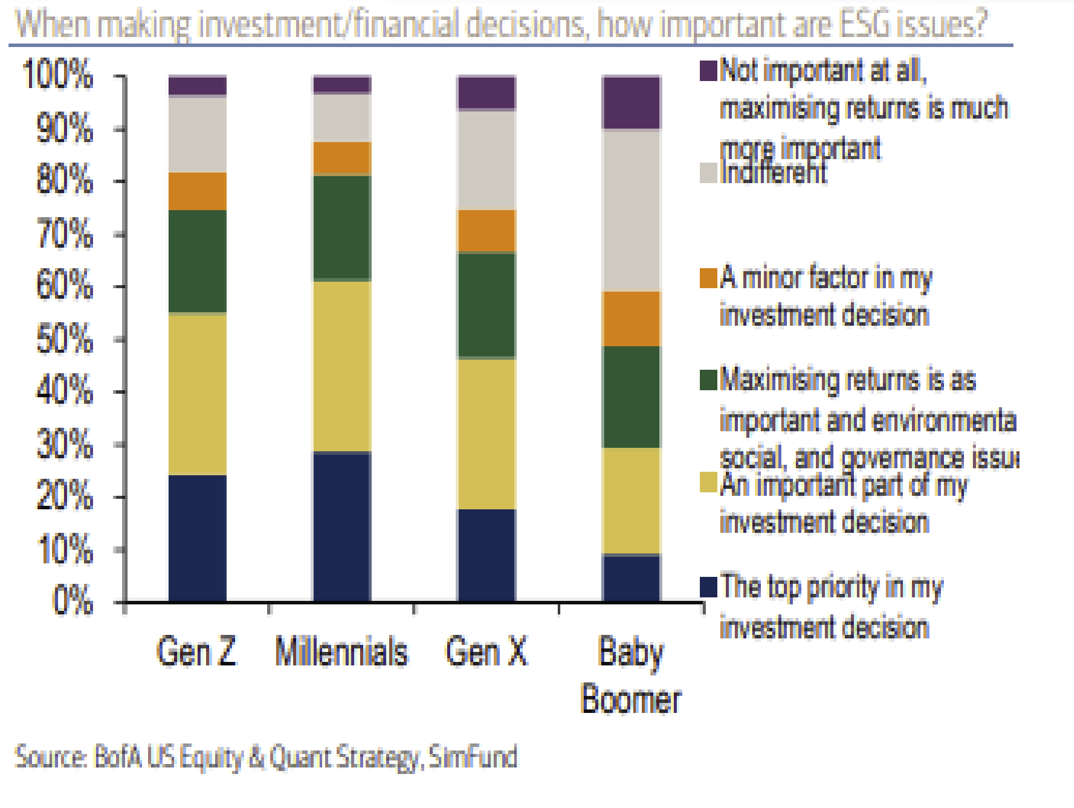
Growth in ESG Investing

The growth in ESG investing is remarkable and one of the most pronounced trends in investments. From just 2014, assets devoted to sustainable investing strategies have grown over 150% from $6.5Trillion to over $17Trillion in 2020. Harpswell expects this trend to continue to grow as strategies' efficacy becomes more apparent and the investment performance yields differentiated return streams.



Who is Driving the Growth in ESG?

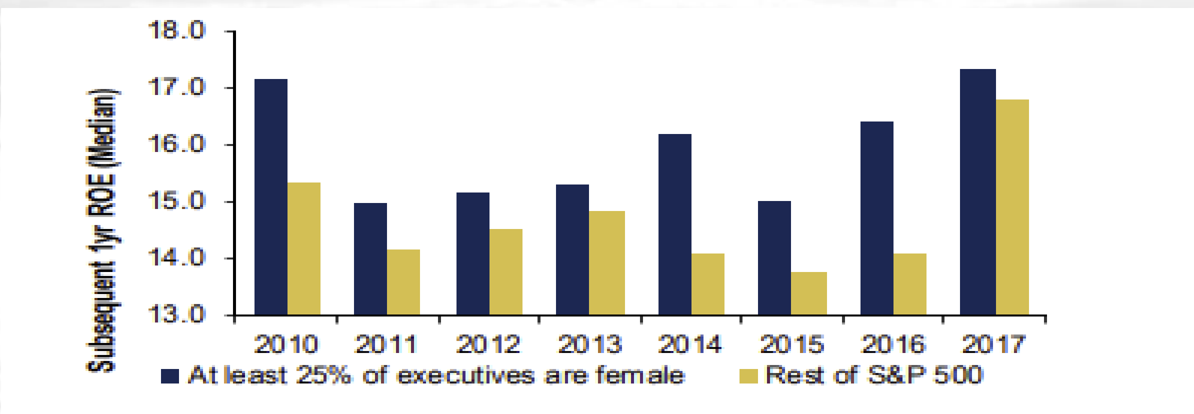
While the popularity of ESG is growing across all generations, clearly Gen Z and Millennials are particularly keen on having their investments aligned with their values. As these generations continue to move through the life cycle of finance, we expect their influence on ESG investing will continue to grow.

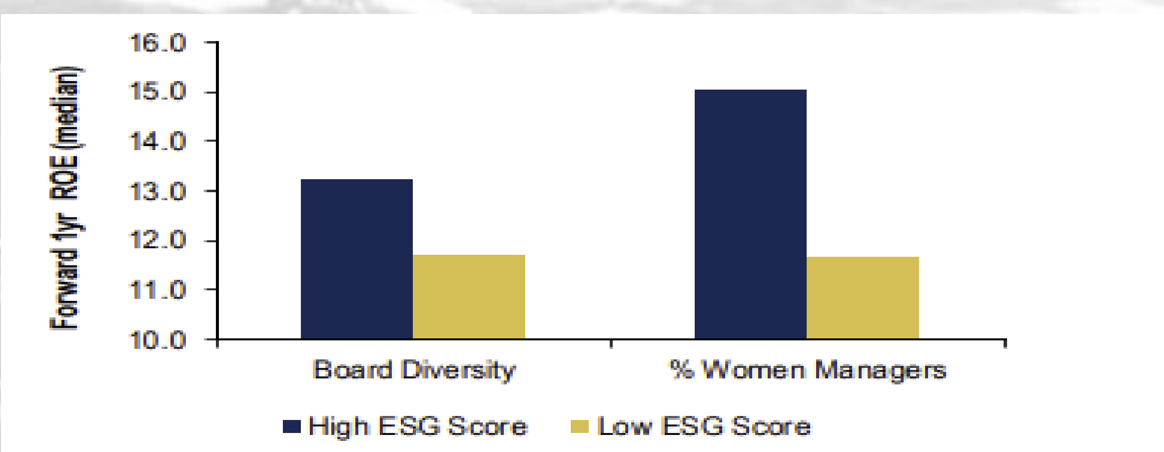


ESG Investment Performance

Beyond the alignment with our values, what evidence is there that suggests ESG can deliver accretive performance? Simply put, there is plenty of evidence. First, anecdotally, it seems to make a lot of sense that those companies that give particular focus to sustainability, accept heterogeneous ideas and input, respect the notion that the environment matters and also think big about their ability to promote change in the world would be more prominent than their myopic peers. Beyond that, there is hard evidence that ESG can drive positive performance. Take energy, for example: the winners in the energy patch are those who can deplete their resources the fastest and do it at the lowest price point. That is certainly not a recipe for sustainability nor is it an industry that is set to outperform growth and tech oriented companies. See our previous note highlighting how Schlumberger and Exxon were once two of the largest 10 companies in the world.

Another area where ESG oriented strategies have outperformed is highlighted when you look at companies that embrace a wider spectrum of inclusion than those who don't. As the graph below highlights from 2010 to 2017, companies with at least 25% female executives outperformed their male dominated peers every year.





ESG 101 *(continued from page 14)*

Harpswell is proud to work with nonprofit institutions and we cherish our role in helping grow their impact all while having their investments aligned with their values. Last year, Southern Maine Community College's foundation made note of their choice to both embrace ESG investing and hire Harpswell to help them execute their plan. We are proud to be serving such an amazing organization.

MARCH 3, 2020

SMCC Foundation endowment investments paying off after switch to ESG funds

The Southern Maine Community College Foundation has shifted its endowment funds into sustainable investments that focus on companies' approaches to environmental, social and governance issues — and the move is paying off.

The switch into ESG (Environmental, Social, Governance) funds has aligned the Foundation's investments with students' wishes, while paying off with competitive returns.

"Students asked for a change in how we invest our endowment, and we have brought our investments in line with our values," said SMCC President Joe Cassidy. "SMCC is committed to investing in companies that put a high priority on corporate governance, sustainability and the environment. So far we have exceeded the benchmark, and we are confident that we aren't sacrificing returns for investing in a values-based portfolio."

The SMCC Foundation's change to ESG investments was sparked by a student petition several years ago that asked the Foundation to divest itself of investments in companies associated with fossil fuels. The Foundation has an endowment of about $1.7 million.

In response, the Foundation studied the issue and decided to funnel its investments into ESG funds. It then hired Harpswell Advisors of New Gloucester to manage the investments.

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Harpswell's 2021 DEI Study

Harpswell Capital Advisors is dedicated to serving nonprofit institutions, foundations, and a select roster of like-minded families. Ensuring the values of Harpswell's managers are aligned with the best path to the future as well as the interests of our clients is a top priority. Harpswell recognizes the benefits of incorporating diversity, equity and inclusion practices into its investment processes, not only out of recognition that it aligns with the interests of its clients, but also out of recognition that it is good business - a diverse workforce creates benefits that can lead a firm to outperform its peers financially.

Harpswell commissioned a study on the diversity, equity and inclusion initiatives of fifteen of our top managers to determine the actions that they are taking within the space, best practices, and overall alignment with the DEI demands seen across the country. We expect to conduct a follow-up study to assess future progress. While the virtue of this study is quite clearly multifaceted, we do feel the undertaking sent a strong message to the firms we partner with about their priorities and actions.

Even above and beyond the obvious civic importance of action over status quo, we feel that an eagerness to incorporate diverse perspectives in the investment process will ultimately benefit our clients. Harpswell's perspective respects the notion that no one has all the answers, and that valuable insights travel on a two-way street. We know the managers we enlist, and we were confident from even before the study that their humility and respect would likely yield an inclusive and respecting culture. With that said, we do expect to see progress in the future, and we will be taking notice.

The study can be found on Harpswell Resource Library at www.harpswelladvisors.com

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Emerging Markets’ Long-Term Tailwinds

Harpswell feels the emerging markets are particularly interesting. There are a number of factors in particular that we suggest warrant your focus.

DRIVERS FOR EMERGING MARKETS

- **EMs’ equity markets are under-sized compared to their economies.**
- **EMs are becoming a larger portion of global benchmarks.**
- **EMs’ growing middle class populations drive consumption & GDP growth.**

Emerging Markets’ Market Capitalization

We felt the mismatch between the size of emerging markets’ equity markets and their economies was striking. Emerging market countries account for 86% of the global population and 58% of global GDP, yet they comprise only 13% of the global stock market. We feel technology and growth in consumption will drive the disconnect between markets and economies to narrow.

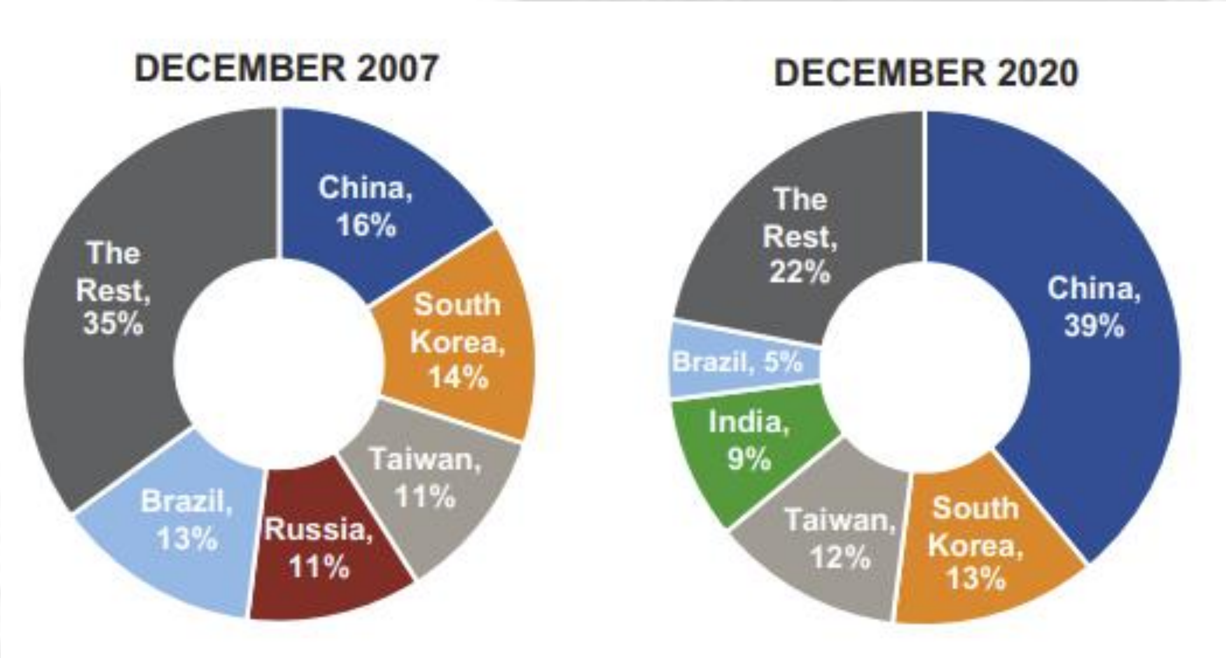
	United States	International Dev	Emerging Markets
Market Cap 1990-2020	30% - 59%	26% - 67%	2% - 14%
% of global GDP	16%	26%	58%
% of global population	4%	10%	86%
Central bank rates	0.00% – 0.25%	-0.75% - 0.50%	0.25% - 6.50%
Price/Earnings	22.6	17.0	15.3
Price/Book	3.7	1.6	1.8
Dividend yield	1.7%	2.5%	2.3%

Sources: S&P 500 Index, MSCI EAFE Index, MSCI Emerging Markets Index, International Monetary Fund, World Bank. Index returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Indexes are unmanaged and cannot be invested in directly. Numbers may not add due to rounding.

Emerging Markets' Long-Term Tailwinds *(continued from page 17)*

Growth in Chinese Equity Markets Drive a Shift in Global Indexes

The MSCI ACWI is the global index that aligns the allocation to each country's exposure with the size of its stock market. The major constituents within the ACWI (all-country world index) are the USA (57%) global developed markets such as France, Japan, UK, Germany (30%) …. and the emerging markets (13%). As China's market grows, it will comprise a much larger portion of the emerging markets index as well as the ACWI. The primary source of China's growth in index exposure will come from their "A" shares. China's market is bifurcated between their more restricted "A" shares and their "B" shares, which are much more accessible for foreigners. A Shares typically trade at a cheaper valuation and represent smaller and faster growing companies – however, they can only be purchased by mainland firms and a few "Qualified Foreign Institutional Investment" firms. Historically, access to A Shares by foreign investors was very restricted and as they continue to open it up, it will become a larger portion of global indexes.



Many expect this growth trajectory to continue in the future. China has been explicit with their public policies aimed at driving growth and we remain vigilant in our assessment of its potential.

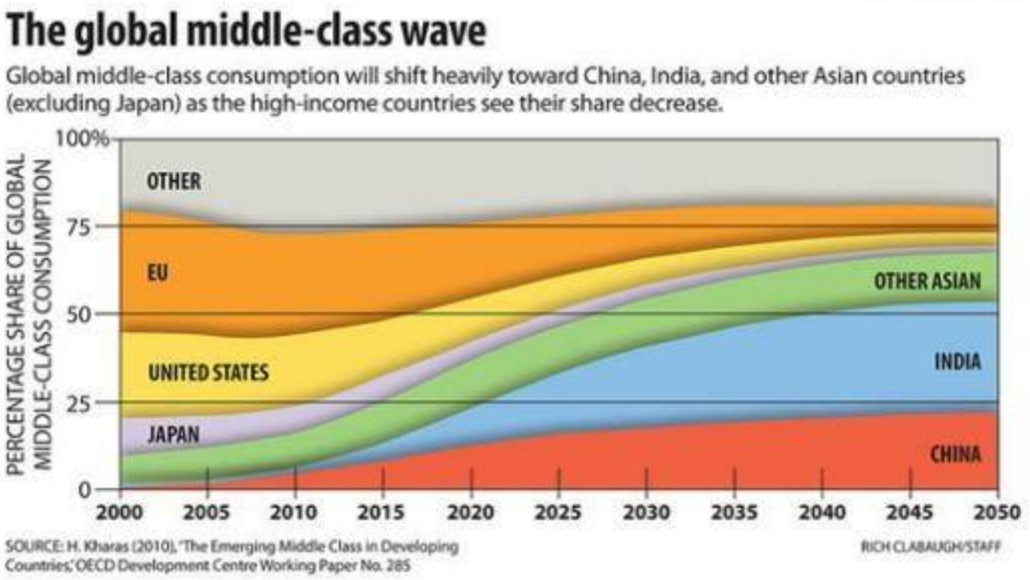
Demographics Ultimately are the Key Driver for GDP

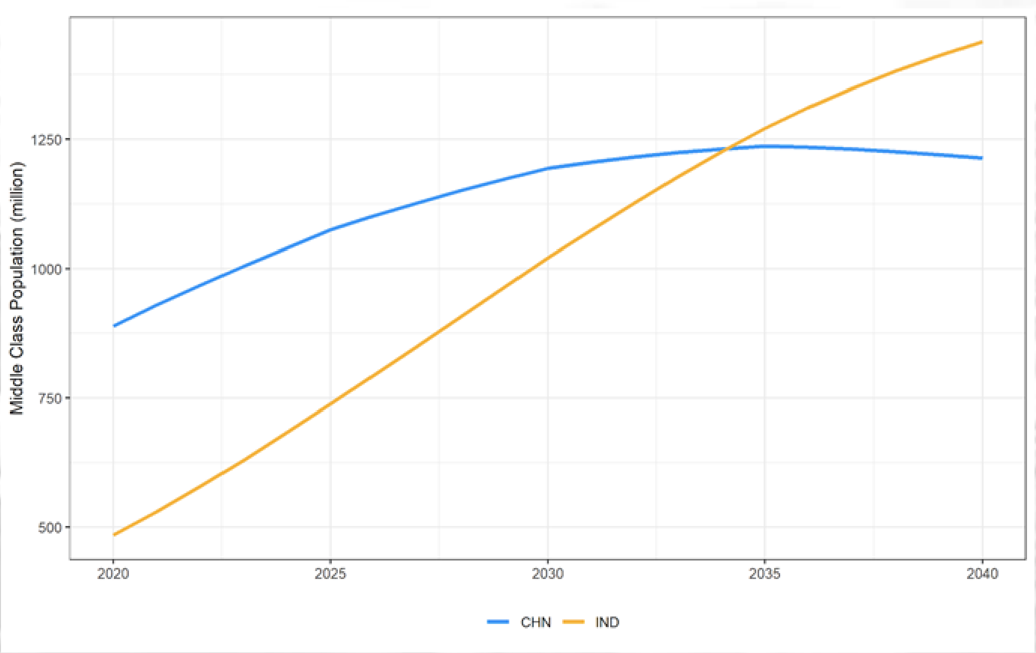
While GDP growth does not automatically translate into stock market growth it is certainly a key factor. Growth in GDP is predominantly driven by two factors: growth in productivity and demographics. With respect to productivity growth, emerging markets tend to leapfrog many conventional technologies and adopt the latest iterations available. For example, emerging market populations essentially bypassed landlines and gravitated to cell phones across the board. So, with respect to productivity growth, new technologies allow EM businesses to replace hourly workers with robots that can be more productive and drive GDP.

We feel the demographic side of the equation is even more compelling. The growth in middle class populations within just China and India alone is noteworthy. Essentially, by 2030, the middle class population in each country is projected to exceed the entire population of the United States! Furthermore, by 2050, over 2/3 of the global middle class population is expected to reside in Asia.

Emerging Markets Long-Term Tailwinds *(continued from page 19)*

We remain particularly focused on demographics and its impact on economic growth. As Asia represents a growing portion of the middle class, the percentage in developed countries is shrinking. Currently the US, EU and Japan comprise over 2/3 of the world's middle class and in 2050, we can expect that to drop to under 25%, barring any radical changes.





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Rational Decision Making

Prior to my days at Vanguard, I became acquainted with Ed Thorpe at the hedge fund where I worked. Thorpe is the author of Beat the Dealer and he pioneered the modern application of probability theory, including the harnessing of very small correlations for reliable financial gain. He was both an academic and a practitioner as he earned a PhD, worked at MIT and was quick to monetize his research. Thorpe was ahead of his time in many ways and used an early IBM computer (704) for research which evolved to ultimately investigating the probabilities of winning blackjack. His blackjack game theory was predicated on the Kelly Criterion. Thorpe's research did help him gain an edge (especially near the end of a card deck when it is not being reshuffled after every deal). He gained notoriety after his abrupt ejection from casinos.

The Kelly Criterion

The Kelly Criterion helps to calculate the ideal wager size given a know probability of winning. An oversimplified version of the Criterion says: to determine the ideal wager size, you double the percent chance to win, then subtract one. So, for a bet with a 60% chance to win the optimal wager size is 20% of available funds: 0.60 +0.60 = 1.20; 1.20 – 1 = 0.20, or 20%.

In 2016, a research study was published titled "Rational Decision-Making Under Uncertainty: Observed Betting Patterns on a Biased Coin." In the study, they asked 61 quantitatively inclined people to play a game for money. They were each given $25 and allowed to place bets for 30 minutes on a coin that was biased to come up heads 60% of the time. Most players did not do well, as they displayed a broad array of biases. 30% of the subjects actually lost the entire $25 in the 30 minutes. The paper explores optimal betting strategies, valuation of the opportunity to play the game and its similarities to investing in the stock market. The primary conclusion of the study suggests, when it comes to decision making on matters with an element of uncertainty, people have biases and lack objective decision-making skills.

At Harpswell, we feel sizing each investment plays an enormous role in generating favorable risk adjusted returns for our clients. While we do not employ the Kelly Criterion, our logic does follow the underlying philosophy of the theory. We weigh what feel the odds are for various upside and downside scenarios and that is a primary factor in determining what portion of a portfolio is allocated to a specific manager or fund. We feel this approach helps Harpswell objectively build portfolios with well-reasoned logic. *

Bob Dylan: The Times R Changing

Bob Dylan was awarded the Nobel Prize for Literature in 2016 in a radical departure from the conventional orator, novelist or playwright winner. We thought it was a refreshing tack and it gave us an opportunity to reflect on the words he put together and appreciate his writing and gifts.

In 2017, he delivered his Nobel lecture - the only requirement that needs to be fulfilled in order to claim the almost $1MM prize that comes with the award. Sara Danius, the permanent secretary of the Swedish Academy, which awards the prize, wrote “The speech is extraordinary and, as one might expect, eloquent. Now that the lecture has been delivered, the Dylan adventure is coming to a close.” However, Dylan’s speech proved to be controversial on several fronts. First, traditionalists felt having the honor bestowed on a rock star was degrading for the Swedish Academy and the award itself. That perspective was vigorously debated, and Mainer, rock musician and author Stephen King helped to put that notion to bed. King suggested no other musician has had such an impact on popular culture or remained so influential for so long as Dylan. In an interview with Rolling Stone, King defended Bob Dylan against his detractors, particularly the authors who had disparaged Dylan’s win: “People complaining about his Nobel either don’t understand or it’s just a plain old case of sour grapes.” That controversy ended and was met with another about the originality of some of the content in his speech. There is enough of a grey area there to simply give him a pass and move on. Both the Swedish Academy’s choice and the speech were extraordinary.

The Speech

In his Nobel lecture, Bob Dylan reflected on the literature he read in grammar school that inspired and fueled his ability to turn words into beautiful lyrics.

> **“Don Quixote, Ivanhoe, Robinson Crusoe, Gulliver’s Travels, Tale of Two Cities, all the rest – typical grammar school reading that gave you a way of looking at life, an understanding of human nature, and a standard to measure things by. I took all that with me when I started composing lyrics. And the themes from those books worked their way into many of my songs, either knowingly or unintentionally. I wanted to write songs unlike anything anybody ever heard, and these themes were fundamental”**

He also reflected on Moby Dick, All Quiet on the Western Front and The Odyssey and tied together a mosaic showing how his early readings were all he needed to create the art that he did. The excerpt above highlights the perspective Dylan shared in his speech and it gives a clear view into the psyche of an artist who merits the accolade of all accolades in literature.

If you would like to read the entire speech, please go to:

https://www.nobelprize.org/prizes/literature/2016/dylan/lecture/

Forever Young

by Bob Dylan

May God bless and keep you always
May your wishes all come true
May you always do for others
And let others do for you
May you build a ladder to the stars
And climb on every rung
May you stay forever young
Forever young
Forever young
ay you stay forever young
May you grow up to be righteous
May you grow up to be true
May you always know the truth
And see the lights surrounding you
May you always be courageous
Stand upright and be strong
May you stay forever young
Forever young
Forever young
May you stay forever young
May your hands always be busy
May your feet always be swift
May you have a strong foundation
When the winds of changes shift
May your heart always be joyful
May your song always be sung
May you stay forever young
Forever young
Forever young
May you stay forever young

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Harpswell CAPITAL ADVISORS, LLC

December 2020 Flash Report

Overview: Economy – Several Covid-19 vaccines were approved in December followed by a national distribution effort. Markets reacted positively to the news moving higher in the month closing out a volatile year. Congress also approved a scaled down stimulus package that included another direct payment of $600 to US taxpayers and dependents, further buoying the global markets. At its December meeting, the **Federal Open Market Committee** (FOMC) projected that U.S. GDP will contract by 2.4% in 2020. It expects a rebound up to a 4.2% growth rate in 2021. Early in 2020, the FOMC slashed interest rates to near-zero, escalated the bond-buying program which has increased its balance sheet from $4 to $7 trillion and unveiled a series of programs to keep credit flowing to the public and private sectors. **Brexit –** Britain's Parliament voted resoundingly to approve a trade deal with the European Union, paving the way for an orderly break from the EU.

Equities: Domestic – Global equity markets rose again in December with the approval of several vaccines, a new stimulus bill and an accommodative Fed policy that maintained low interest rates and credit facilities throughout the year. The **S&P 500** gained 3.8% in the month ending with an 18.4% return for the year.
Growth stocks had an outstanding year, increasing by 38.5% while Value companies rose only by 2.8%. However, Value stocks were strong in the last quarter as Financials and Energy posted plus 20% returns.

The **R2000** rose 8.7% in December as the rally in small companies continued. Small Value & Small Growth earned 7.9% and 9.4%, respectively. R2000 ended the year with a 20% gain.

International – EAFE earned 4.7% in December again bolstered by the positive news regarding vaccines and a weaker Dollar which added 1.2% to the month's return and 7% for the year. Europe was relieved by the trade accord between the UK and the EU as the Brexit deadline approached. EAFE is now positive for the year by 8.3%.

Emerging Mkts – The Emerging markets gained 7.4% in Dec ending with an 18.7% gain for the year. India & Russia both rose by 10.2% in the month. Asia performed well in 2020 led by China and India while Russia had a down year.

Fixed Income: Yields remained very low at year end as the Fed continued its accommodative polices and remained a buyer of Treasuries and MBS securities allowing its balance sheet to swell to $7 trillion. Short term yields remained basically unchanged at 0.06% for the **90 Day T-bill. T**he **10 Year Treasury** yield rose by 7bps to 0.91% which remains 1% lower than last year. The **30 Year Treasury** yield closed at 1.64%, 7bps higher than November.

Municipal yields remained stable in December across all maturities. The **1 Year Municipal** yield remained unchanged at 0.14% but still traded at a premium to the comparable Treasury. The **30 Year Municipal** yield closed at 1.47%, lower by 2bps; a 17bps discount versus the **30 Year Treasury**. Tax-exempt yields remained at a premium to Treasuries only in the shorter maturities.

International yields were mixed in December. **German** rates were less negative by 2bps ending with a (0.73%) yield for the **2 Year Bund** and unchanged at a (0.58%) yield for the **10 Year**. The **UK 10 Year Gilt** yield fell by 11bps to 0.19%. The **Japanese 10 Year Gov't** bond yield fell by 1bps to 0.01% in December. The **2 Year** Yield remained unchanged at (0.15%).

High Yield bonds gained 1.9% in December closing with an average yield of 5.3%. The Aggregate Bond Index gained 0.1% in the month reflecting an approximate yield of 2.2%.

	1 Month	3 Months	YTD	1 Year	3 Years	5 Years
Domestic Equities						
Dow Jones	3.4%	10.7%	9.7%	9.7%	9.9%	14.7%
S&P 500	3.8%	12.2%	18.4%	18.4%	14.2%	15.2%
Russell LG Value	3.8%	16.3%	2.8%	2.8%	6.1%	9.7%
Russell LG Growth	4.6%	11.4%	38.5%	38.5%	23.0%	21.0%
Russell 2000	8.7%	31.4%	20.0%	20.0%	10.3%	13.3%
NASDAQ	5.8%	15.7%	45.0%	45.0%	24.4%	22.1%
MLP Index	2.5%	32.5%	-28.7%	-28.7%	-12.7%	-6.0%
REIT Index	2.5%	8.2%	-5.1%	-5.1%	5.4%	6.7%
International Equities						
EAFE	4.7%	16.1%	8.3%	8.3%	4.8%	8.0%
EAFE Small Companies	6.9%	17.3%	12.8%	12.8%	5.3%	9.8%
Emerging Markets	7.4%	19.8%	18.7%	18.7%	6.6%	13.2%
China	2.8%	11.2%	29.7%	29.7%	9.2%	15.3%
Fixed Income						
US Agg	0.1%	0.7%	7.5%	7.5%	5.3%	4.4%
US High Yield	1.9%	6.5%	7.1%	7.1%	6.2%	8.6%
Municipal Bonds	0.6%	1.8%	5.2%	5.2%	4.6%	3.9%
Currencies						
EURO	2.4%	4.3%	8.9%	8.9%	0.6%	2.4%
British Pound	2.4%	5.8%	3.0%	3.0%	0.4%	-1.5%
Japanese Yen	1.1%	2.3%	5.3%	5.3%	3.0%	3.3%
Commodities						
Bloomberg Commodity	5.0%	10.2%	-3.1%	-3.1%	-2.5%	1.0%
S&P GSCI Crude Oil	6.6%	18.4%	-60.3%	-60.3%	-24.9%	-13.8%
Gold	6.4%	-0.4%	21.0%	21.0%	11.5%	11.0%

Commodities: WTI Crude Oil gained **$3.5/barrel to $48.5/barrel** in December. Crude oil was buoyed by a larger-than-expected drop in U.S. crude inventories as well as renewed weakness in the U.S. dollar. As the Dollar weakens, commodity prices tend to rise. **Gold** prices rose by **$116/oz to $1895/oz** in the month. Gold saw modest gains in the face of a weakening U.S. dollar this month, which has been a feature for dollar-pegged commodities much of 2020,

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Harpswell invests in stocks, bonds, mutual funds and sometimes alternative investments. Each asset class, along with each individual investment, carries varied degrees of risk of loss. Harpswell analyses investments from a long-term fundamental perspective and aims to engineer portfolios that have an attractive risk and reward balance. Despite a strong bias for diversification, all Harpswell portfolios do carry risks of losses, particularly in times of escalated market volatility. Harpswell does focus on capital preservation yet extraordinary markets can potentially generate material losses.

Our investment decisions and recommendations are based upon our professional judgment. We do not guarantee the results of any of our investment decisions or recommendations, the future performance of your Assets or Accounts, any specific level of performance, the success of any Independent Manager, investment decision, strategy or recommendation made by an Independent Manager, or the overall success of the Account. Past performance is not indicative of future results. Investments in your Account may go up or down in value depending on market conditions.

Alternative investments are designed only for sophisticated investors who are able to bear the economic risk of losing all of their investment. Alternative investments: (1) often engage in leveraging and other speculative investment practices that may increase the risk of investment loss; (2) can be highly illiquid; (3) are not required to provide periodic pricing or valuation information to investors; (4) may involve complex tax structures and delays in distributing important tax information; (5) are not subject to the same regulatory requirements as mutual funds; and (6) often charge high fees.

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Market index information shown herein, such as that of the S&P 500 Stock Index, is included to show relative market performance for the periods indicated and not as standards of comparison, since these are unmanaged, broadly based indices which differ in numerous respects from the portfolio composition of the Fund. Market index information was compiled from sources that Harpswell Capital Advisors believes to be reliable. No representation or guarantee is made hereby with respect to the accuracy or completeness of such data.

Index Definitions

The S&P 500 Stock Index is an unmanaged market capitalization index of 500 US equities generally considered to be representative of US stock market activity. The Morgan Stanley Capital International World Index is a market capitalization-weighted equity index of over 1,500 stocks traded in 22 world markets. The NASDAQ Composite Index measures all NASDAQ domestic and non-U.S. based common stocks listed on the NASDAQ Stock Market. The Index is market value-weighted. The SB World Bond Index is a market capitalization weighted index of 18 Government bond markets composed of sovereign debt denominated in the domestic currency. The Lehman Aggregate Index is a benchmark index made up of the Lehman Brothers. The Hennessee Hedge Fund Indices® are calculated from performance data obtained from publicly available information, internally developed data and other third party sources believed to be reliable. MSCI EAFE is a stock market index that is commonly used as a benchmark for the performance of major international equity markets. The MSCI Emerging Market Index is an index created by Morgan Stanley Capital International (MSCI) that is designed to measure equity market performance in global emerging markets. The Russell 1000 seeks to track the investment results of an index composed of large- and mid-capitalization U.S. equities. The Russell 2000 seeks to track the investment results of an index composed of small-capitalization U.S. equities. The Russell 2500™ Index measures the performance of the small to mid-cap segment of the U.S. equity universe, commonly referred to as "smid" cap. The Barclays Capital Global Aggregate Bond Index is designed to be a broad based measure of the global investment-grade, fixed rate, fixed income corporate markets outside the United States. The Barclays Capital US Gov/Credit bond Index measures the performance of U.S. Dollar denominated U.S. Treasuries, government-related and investment grade U.S. corporate securities that have a remaining maturity of greater than one year.

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