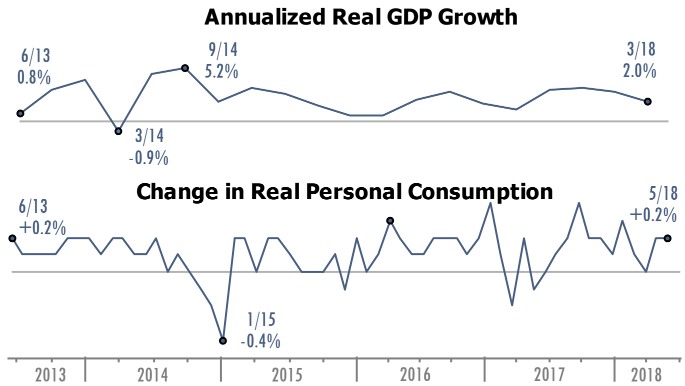
Bellwether CONSULTING

Your Quarterly Update on the Financial Markets
June 30, 2018

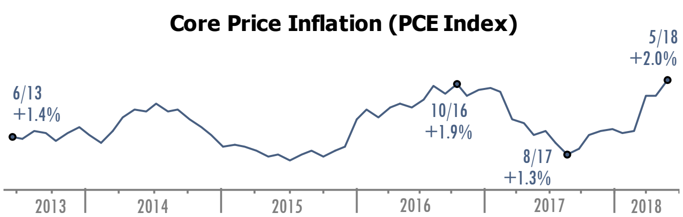
MARKET Recap

The US Economy: "Interesting Politics"

Economic growth slowed in the 1st quarter, driven by a deceleration in personal consumption expenditures from recent peak levels. Consumption is normally volatile, and incremental data for April and May were back to previous levels. The Federal Reserve did not seem concerned, raising short-term rates by ¼ point in June and noting, "Economic growth appears to have picked up in the current quarter, largely reflecting a bounceback in household spending."

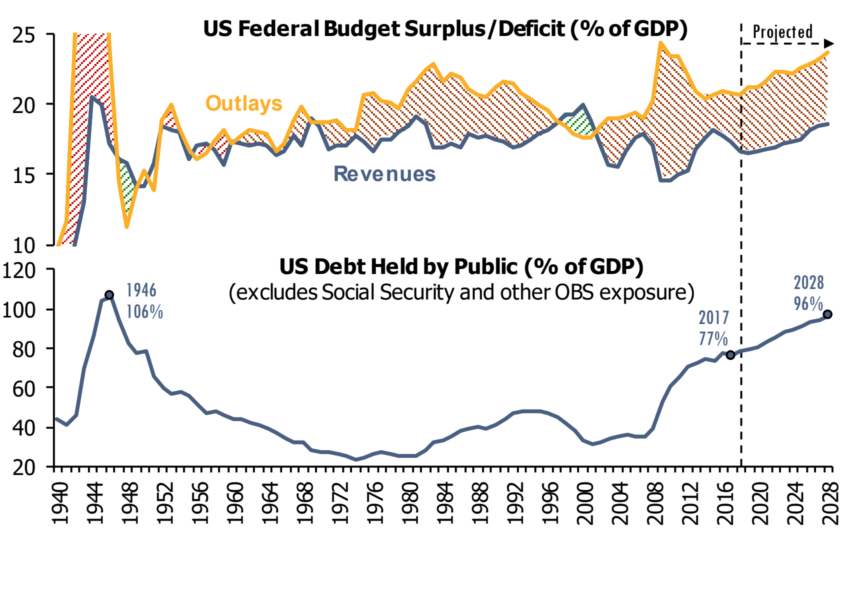


The decision was hardly a surprise, given that the Fed has been quite clear on its intentions. Employment is nearing record levels, and core inflation measured by the index of personal consumption expenditures ex. food and energy (the Fed's preferred yardstick) has achieved their policy target level of 2%. What did come as a bit of a surprise was Larry Kudlow's entry into the conversation. On June 29th, the National Economic Council Director remarked during an interview for Fox Business Network that lower unemployment and faster growth "do not cause inflation" and that the Fed should move "very slowly." He followed by commenting that deficits are "coming down rapidly" due to growth-driven tax revenues.



Talking down the Fed is somewhat of a lost political art, but the timing of its re-emergence makes sense. In the short run it is very important to the administration and incumbent Republicans that nothing upset the apple cart heading into what will be a heated midterm election cycle. Gradually rising rates are unlikely to have a meaningful impact on the economy over such a short period, but it could have an impact on stocks and real estate; and there is evidence that US voters are willing to take that out on incumbents.

More importantly, the government has a considerable long-term stake in making sure interest rates do not rise too much. The Congressional Budget Office released updated budget projections in April which now incorporate the impact of last year's tax reform legislation. Under their assumptions, the formally-recognized portion of the national debt will rise to nearly 100% of GDP in the next 10 years, approaching peak World War II levels. Interest cost on the national debt is projected to double from current levels, to 3.1% of GDP in 2028. This presumes modest increases to interest rates, and no recession through the 10-year forecast period. The current economic expansion spans 108 months, the second-longest in modern history, approaching the record of 120 months ending in March 2001.

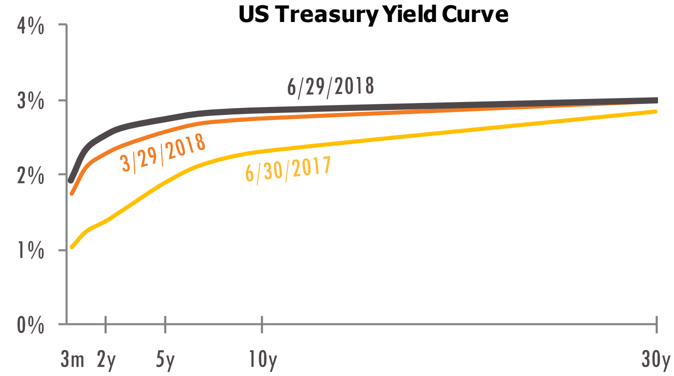


Put simply, the United States can no more afford higher rates than a heavily indebted homeowner can afford an upward mortgage reset. Nor can we afford a recession, any more than that indebted homeowner can afford a pay cut.

Finding a scenario where rates remain low, inflation remains in check, and we can double the record for continuous expansion seems unlikely. One or more of these factors must give way. Elected politicians tend to prefer inflation over austerity and recession; the bond market's bet (and ours) is that tightening will end sooner rather than later.

The US Bond Market

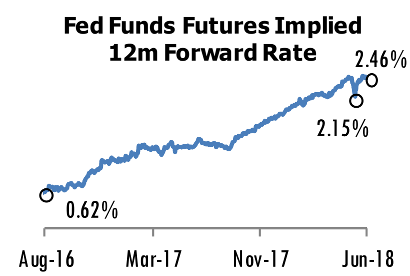
The 10-Year Treasury yield topped 3% in April for the first time since 2014 as the US economy seemed ready to support a less accommodative monetary policy in balance with keeping inflation under check. Those parched for yield found more relief as the 10-year yield briefly spiked higher to close at 3.11% on May 17. A strengthening labor market and strong retail sales appeared to have broken resistance levels in place since August 2011. Yet, within two weeks, 10-year yields were testing the 2.75% to 3.00% range established at the beginning of February. Political issues in Italy and Spain sent shocks throughout global markets, leading to high demand for safe investments such as US government paper. Italy was left facing a new presidential election after the Populist Party failed to form a stable government, and investors worried that the result could lead to the eurozone's third-largest economy leaving the euro. Spanish bonds came under pressure as the government faced a confidence vote which ended with Prime Minister Mariano Rajoy becoming the first modern-day Spanish leader unseated by parliamentary revolt.



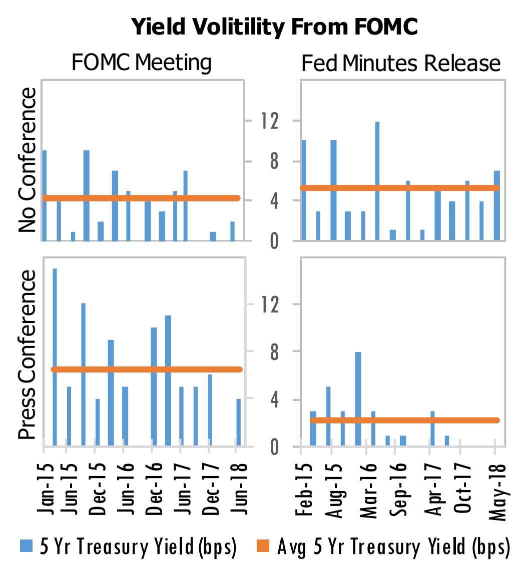
US Bond Index Returns	
Blmbrg Barclays	2Q18
Aggregate	-0.16%
Interm. Gov't	0.06%
Long Gov't	0.26%
TIPS	0.77%
Municipal	0.87%
Interm. Credit	-0.08%
Long Credit	-2.65%
High Yield	1.03%
MBS	0.24%

Market fears ebbed nearly as quickly as they manifested. June brought higher yields once again, though they failed to breach the pivotal 3% 10-year rate. Yield spreads also reversed course, having widened to the top of their recent range under investor flight to safety. A quick snap back in bond yields was supported by more than easing fears over Spa-ital-exit (you read it here first); investors started taking the threat of a trade war with China more seriously. Fixed income markets ended the quarter on a positive note as financial markets await impending backlash of the first round of US tariffs on Chinese goods, expected July 6. High-yield spreads ended the quarter tighter by 6 bps, at 3.71%.

Investors also expressed uncertainty over future Fed policy ahead of the June FOMC meeting, briefly pricing out one hike. The Committee expressed an optimistic view on economic growth supporting further gradual increases in the federal funds rate. As a result, the Federal Reserve stated its expectations to increase the federal funds rate two more times this year, for a total of 0.50% in additional hikes. They also anticipate two additional hikes are likely in each of the next two calendar years.



Federal Reserve Chairman Jerome Powell announced after the June FOMC meeting that, starting next January, he will be holding press conferences after every policy meeting. These events have been held once per quarter (every other meeting) since former Chairman Bernanke initiated them in 2011. Every rate hike since then has coincided with a press conference. Whether or not the FOMC was willing to change the target rate without a press conference, they have built up an expectation whereby four of the eight annual meetings have become nigh-superfluous. More conferences solves this issue while further increasing transparency. Other motivating factors may have played into the decision, but Powell was clear in commenting, "I want to point out that having twice as many press conferences does not signal anything about the timing or pace of future interest rate changes. This change is only about improving communications."



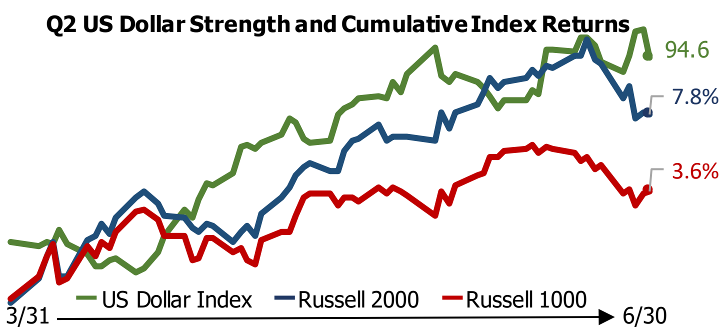
At first glance, press conferences might seem to inject market volatility. Yet the reality is that meetings without press conferences leave investors guessing as to what the FOMC is thinking and without a satisfactory answer until minutes are released. In a world with no press conferences, market volatility is higher because statement and minutes releases both impact markets significantly. In a world where press conferences are held each meeting, the FOMC is, in total, less of a market mover. In this way, Powell is of similar mind to Bernanke and Yellen, but even more firmly in favor of a transparent and calming Fed.

The US Stock Market

US Stock Indices - Total Returns			
Large-cap Stocks	**2Q18**	**Mid-cap Stocks**	**2Q18**
S&P 500	3.43%	S&P Midcap 400	4.29%
Russell 1000	3.57%	Russell Midcap	2.82%
Growth	5.76%	Growth	3.16%
Value	1.18%	Value	2.41%
Broad Markets		**Small-cap Stocks**	
S&P 1500	3.65%	S&P Smallcap 600	8.77%
Russell 3000	3.89%	Russell 2000	7.75%
Growth	5.87%	Growth	7.23%
Value	1.71%	Value	8.30%

US stocks recovered from the broadly-negative returns posted in 1Q 2018. Despite concerns of a possible trade war pitting the US against every major trade partner, market volatility, as measured by the CBOE Volatility Index (or VIX), subsided after its Q1 surge. Small-cap stocks widened the performance premium over their larger peers that began earlier in the year and also started a rotation from growth into value not experienced in the other market caps.

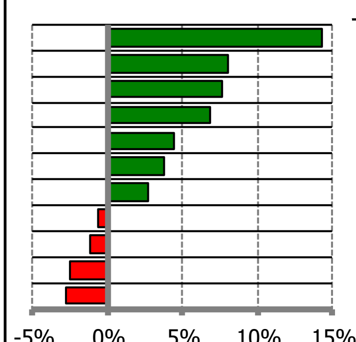
With less exposure to foreign markets, small companies were insulated from a strengthening dollar and increasing, if erratic, trade policy rhetoric, making them an attractive haven from geopolitical headwinds. US revenue exposure for firms composing the S&P SmallCap 600 Index is 78.8%. It is 70.9% and 73.3% for the S&P 500 and S&P Midcap 400 Indexes, respectively (S&P Dow Jones Indices). A prevailing opinion that small-caps will reap more benefit from the 2017 corporate tax cuts as they generally pay higher taxes than their large-cap, multi-national counterparts has added to the tailwind. By the end of the quarter, some larger firms (including Coca-Cola, Royal Caribbean Cruises, and Carnival Corp.) were warning that the rally in the US dollar could hurt their performance.



A trend of record-level stock buybacks continued in Q2. US companies announced $433.6 billion in share repurchases over the quarter, almost double the 1Q 2018 record of $242.1 billion (TrimTabs). Stock buybacks generally increase a firm's leverage, decrease a company's ability to invest in future projects, and make firms more vulnerable to economic corrections. However, in Q2 they also shored up performance of US equities amid rising macroeconomic concerns. In a June 11 speech, SEC Commissioner Robert Jackson referenced a study of 400 buybacks over the past 15 months performed by his staff that found corporate executives sold their company stock twice as often during the 8 days immediately following a buyback announcement than on an average day. "...The Trump tax bill has unleashed an unprecedented wave of buybacks, and I worry that lax SEC rules and corporate oversight are giving executives yet another chance to cash out at investor expense," Jackson said. Buybacks were not the only corporate action that saw an increase. A record $111.6 billion in dividends was issued in Q2, bringing the 2018 total to $220.8 billion (S&P Dow Jones Indices).

Oil prices rose over the quarter, and the energy sector bounced back from its first-quarter deficit to become the best performer in Q2. The price increase was largely driven by a late-quarter OPEC announcement of production increases that was only about 60% of anticipated levels as well as by an earlier US withdrawal from the nuclear pact with Iran. The OPEC announcement was initiated in an attempt to stop the global rise in prices. However, some members, such as Venezuela, Iran, and Iraq, were unable to meet the production required to support the expected 1-million-barrel increase resulting in the lower commitment (Wall Street Journal). At the same time, the US pullout from the Iran deal was expected to be followed by re-imposed sanctions, which materialized on June 26 as a State Department official confirmed that the US has asked allies to cut Iranian crude oil imports to zero. While energy was the best-performing sector across the board, size mattered in some sectors. Consumer staples posted a negative return in the large-cap space and a solidly positive, double-digit return in the small-cap sector in an apparent investor flight to safety that went beyond a preference for the more US-centric revenue profile of small-cap firms. Similarly, large-cap health care names performed in the middle of the pack, but their small-cap peers were among the best performers.

S&P 1500 Economic Group Components - Total Returns



Sector	2Q18
Energy	14.32%
Consumer Discr	8.01%
Real Estate	7.66%
Technology	6.79%
Utilities	4.40%
Health Care	3.80%
Materials	2.70%
Telecom	-0.63%
Consumer Staples	-1.16%
Industrials	-2.47%
Financials	-2.79%

Source: Morningstar

IPO activity was strong in Q2. Sixty companies went public in the US, the most in a quarter since 2015. While the number of offerings was up, the $13.1 billion raised fell short of the $15.6 billion raised by the 44 IPOs last quarter (Renaissance Capital).

International Markets

With volatility rising, select regional developed markets delivered positive returns. Emerging markets declined on growing trade-related anxiety and dollar strength, limiting appetite for EM equity and credit.

Foreign Stock & Bond Indices - Total Returns			
MSCI Broad Indices	**2Q18**	**Barcap Global Indices***	**2Q18**
World Index	1.73%	Global Aggregate	-2.78%
EAFE (Developed)	-1.24%	Pan-Euro	-5.57%
Emerging Markets	-7.96%	Asian-Pacific	-3.81%
		Eurodollar	-0.25%
MSCI Regions		Euro-Yen	-3.72%
Europe	-1.27%	Other Currencies	-6.33%
Japan	-2.84%	** Unhedged*	
Pacific ex-Japan	1.77%		
Latin America	-17.75%		

Europe

In Spain, Mariano Rajoy, Europe's longest-serving leader, was ousted in the wake of a scandal that proved the final blow for a leader whose support had gradually eroded since he imposed unpopular measures to avert economic disaster in Spain during the eurozone's 2011-12 debt crisis. Mr. Rajoy's unexpected removal led to the immediate appointment of Socialist Party leader Pedro Sánchez as prime minister. Sánchez struck a more conciliatory tone toward Catalonia's separatists than his predecessor, calling for dialogue and referring to Spain as a "country of nations."

Concurrently, Italian populist parties the Five Star Movement and the League came to power, bolstered by the votes of millions of Italians suffering from high unemployment and poverty. A new coalition, sworn in on June 1st, promised a crackdown on illegal immigration and a strong position against the eurozone's limits on public spending. EU treaties require member countries to keep their budget deficits below 3% of GDP or face disciplinary proceedings. Prime Minister Giuseppe Conte said the government plans to implement "revolutionary measures" to reboot the Italian economy, including cutting corporate and individual taxes to as low as 15% and enacting huge welfare.

Turbulence in Spain and Italy coincided with the United States' threatened trade war on European allies. On June 1st, the US imposed tariffs of 25% for steel and 10% for aluminum on imports from the European Union, Canada, and Mexico. Mr. Trump said the move would protect domestic producers that were vital to US national security. The EU then announced retaliatory tariffs on US goods ranging from Harley-Davidson motorcycles to bourbon. Canada and Mexico are also taking action. The need for "free, fair, and mutually beneficial trade" and the importance of fighting protectionism was one of the main ideas agreed upon during the June G7 summit in Canada. However, Mr. Trump ultimately withdrew from the communique and threatened the EU members with additional tariffs, this time on automobiles.

Prolonged trade disputes, especially punitive levies on cars exported to the US, started having a negative impact on Germany's economy over the quarter, as some businesses have been taking a "wait-and-see" approach to investment. Germany is the third-largest exporter in the world, after China and the US. In 2017, the country exported €111.5 billion ($131 billion) worth of goods to the US, €28.6 billion of which were cars and car parts, according to the German statistics office. Germany's annualized growth rate eased to 1.2% in the first quarter from 2.5% in the last three months of 2017. Recent data suggests more bad news ahead for Germany as the country's manufacturing orders declined for the fourth consecutive month in April and manufacturing output dropped 1.7% compared with March.

Americas

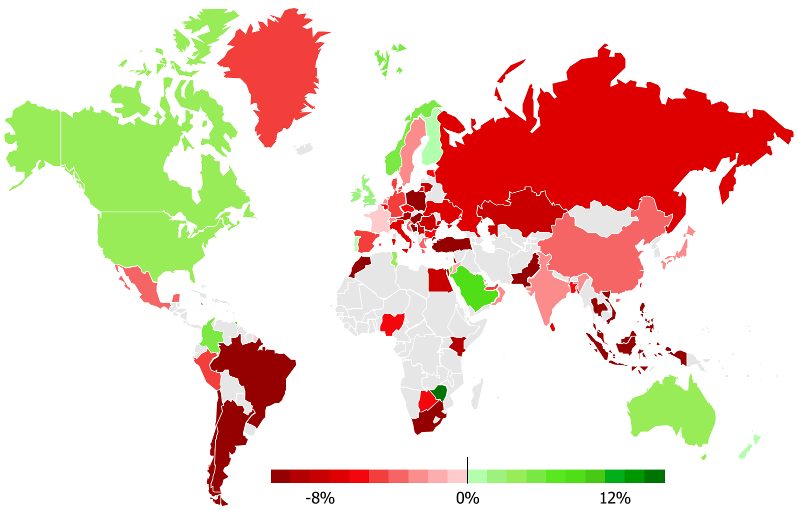
The Mexican peso also dropped on NAFTA tensions along with leftist candidate Andrés Manuel López Obrador gaining strong support during the presidential election. Analysts voiced concerns that Obrador might severely hurt the economy by unraveling key reforms. Obrador won the election with a majority of the vote, the first president from outside of one of the country's two major parties. The central bank of Mexico raised interest rates in June by 25 bps, pushing rates up to 7.75%, the highest interest rates have been since 2009.

A ten-day strike by truck drivers over fuel prices caused a crippling nationwide shutdown in Brazil and was resolved only by the Temer's administration caving on a number of demands including cheaper fuel and a change in Petrobras leadership. The strike cost millions in taxpayer funds and highlighted just how weak and unpopular the government is. Prior to the current administration, the government would intercede to cap the cost of fuel, curtailing Petrobras' profits. Under Temer's guidance, the market dictates fuel prices. This has helped Petrobras but hurt fuel consumers, prompting the strike. After the success that the truck drivers achieved, a major concern for the government is copy-cat strikes.

Argentina and the IMF reached a preliminary agreement in June for a three-year $50 billion arrangement to keep the economy afloat as the government attempts to enact economic reforms. While the final agreement is still subject to approval by the IMF board, the government pledged to accelerate reforms (including changes to the Central Bank charter), reducing currency interventions, and achieving a fiscal surplus by 2021. The measures are intended to make the economy more resilient to shocks and accelerate economic growth in the mid- and long-term. However, the tough reforms and fiscal consolidation are expected to have a negative impact on economic growth in the short-term. Growth for the year is expected to slow sharply from 2017's strong expansion. Analyst forecasts expect 1.7% growth in 2018, which is down 0.6% from May's forecast. For 2019, growth is expected to reach 2.5%.

Asia

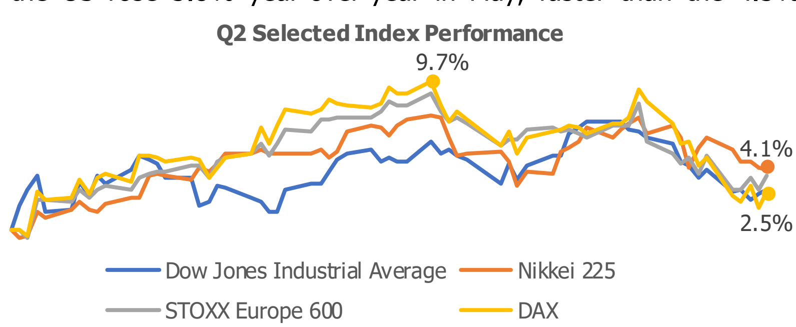
Since 2017, Beijing has made efforts to control high levels of debt accumulated by companies and local governments. As part of that effort, the central bank has been tweaking rates to discourage riskier lending while trying not to dampen growth. While the economy has been growing steadily for much of the time, signs of a slowdown appeared this quarter. Investment in buildings, factories, and other fixed assets outside rural households rose 6.1% in May, year-over-year, decelerating from 7% in April, a pace unseen in almost two decades. Retail sales in China climbed 8.5% in May from a year earlier, slowing from a 9.4% one-year increase in April.



The US administration considers tariffs necessary to halt China's violations of intellectual property rules such as requiring US companies operating in China to transfer technology to their Chinese partners. Both countries demonstrated a willingness to escalate a trade dispute to defend their positions. The United States approved tariffs on steel and aluminum, followed by a plan to impose annual tariffs on Chinese products, including flat-screen TVs, medical devices, aircraft parts, and batteries. In response, China announced it would impose tariffs on American goods, including wine, pork, and pipes, as well as soybeans, cars, and chemicals. In order to ease the tension, representatives from both governments met for trade discussions and negotiations but the talks ended without a settlement.

In Japan, bank stocks were particularly hard hit. The sector has dropped around 15% since the beginning of the year as the BOJ's negative interest rate policy has dampened income. In addition, a report in the Nikkei newspaper claimed that cash advances to cardholders at annual interest rates of 2-15% are generating debt that cannot be recovered. According to the Nikkei, the bad debt tied to these cash advances rose 13% to a six-year high of around ¥140 billion.

Exports rose in May at the fastest rate in four months thanks to increased shipments of cars, car parts and semiconductor equipment, a sign that global demand is gaining strength. However, Japan's trade surplus with the US makes it a potential target for protectionist policies. Exports to the US rose 5.8% year-over-year in May, faster than the 4.3% growth experienced in April, due mostly to higher shipments of car parts. Imports from the US rose 19.9% driven by increases in US aircraft and coal. The result has been a trade surplus with the US which fell 17.3% to ¥340.7 billion ($3.08 billion), the lowest such surplus since January 2013.



An interesting phenomenon has been driving a share of Japan's modest consumption growth – spending by the elderly on their grandchildren. This population spends about ¥9.7 trillion ($87 billion) a year on their offspring. According to an estimate by Credit Suisse, such spending last year accounted for about one-third of the growth in consumption. The economy has not seen the strong wage gains expected from Prime Minister Shinzo Abe's economic revival plan. Pay and consumption have only risen modestly which has frustrated the BOJ's efforts to achieve its 2% inflation target. Since the second half of 2016, when consumption began recovering, growth in spending was strongest among elderly households with savings of at least ¥30 million.

Focus On: Benchmarking Your Benchmarks

Picture an orange. What does it look like? How does it feel? Doesn't it smell nice?

If you were about to pick an orange from a tree or a bin at the market, would you choose one that looks, feels, or smells like the one you just imagined? What would you expect it to taste like? Do you think you would enjoy it more than an orange that is misshapen, discolored, or blemished?

Maybe your imaginary orange is one you saw on a box of orange juice or advertised on a billboard. Or maybe it is an amalgamation of oranges you have eaten. However you developed this orange standard, it has become your benchmark. You might have multiple orange benchmarks, one for navel and another for mandarin; one for the supermarket and another for the farmer's market.

Benchmarking is a natural part of any decision-making process where many similar items are available for selection. A useful benchmark describes an item's salient features both qualitatively and quantitatively. For example, uniform color, smooth thin skin that is hard to peel, and a firm feel may be qualities you covet. Quantitatively, you may have certain expectations for size or price. The factors upon which you select an orange can be conveyed by showing someone a "model" orange. This model orange wouldn't even need to be a real orange. It could be a botanical sketch or plastic replica, as long as it properly exhibited those traits that matter; even more effective would be to catalog the importance, acceptable range, and ideal value of each characteristic.

Regardless of the subject, the objective of benchmarking is consistent: develop a helpful rubric with clear and productive variables that can be measured and used to extract a relative value. For food, that value may translate to a purchase price or quantity. For investments, it may translate to the fees you are willing to pay or how much you wish to invest.

Developing and maintaining proper financial benchmarks is somewhat more complex than grocery shopping. But thankfully, providers exist to construct them, so investors need only focus on intelligent selection and use. Often the right benchmark is the one the manager has selected, but that should not be taken for granted. Benchmarks are critical components of fund due diligence and provide insight to better understanding a manager's investment process and performance.

Driven, Aware, or Agnostic?

While all mutual fund managers are required to state a primary benchmark in their fund prospectus, how much they choose to adhere to this benchmark varies widely. Roughly, managers fall into the following descriptive categories:

	Replicating	Sampling	Tracking	Driven	Aware	Agnostic
Process	Matches benchmark holdings closely	Matches benchmark characteristics closely	Passive security selection enhanced by top-down views	Moderately constrained to benchmark	Loosely Constrained to benchmark	Unconstrained by benchmark
Primary Risks	Minimal	Effectiveness of sampling method	Factor exposures and tactical tilts	Security selection versus benchmark	Security selection and tactical tilts	Allocation and security selection
Forecasted Tracking Error	0 to 1/4%	1/4 to 1%	1 to 2%	2 to 4%	4 to 7%	more than 7%

It is not unusual for a manager to shift from one category to another. When a benchmark-driven manager is having trouble finding attractive opportunities within their investment universe they might respond by moving toward or away from the benchmark. Venturing outside or allocating more heavily to certain regions or sectors within their benchmark might allow them to locate undervalued assets. Alternatively, they may choose to move their portfolio more in line with the benchmark portfolio temporarily. In the analysis of mutual funds, the appropriateness of style drift and the value created or destroyed by it are central to due diligence.

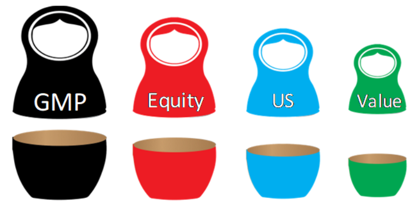
Zero to Hero

Outside of the categories listed above, there is one more kind of manager that appears less frequently; and, the less frequent, the better. There are some managers who claim no benchmark truly represents their strategy. And, by this they argue the appropriate benchmark return, being no benchmark at all, should be a constant zero return. Nonsense! A benchmark of zero does not provide a reasonable expected return, nor does it represent any opportunity set of risks.

Autonomous car technology from Tesla, Google, and others is often irrationally benchmarked to a zero rate for accidents. This unrealistic expectation creates an undue burden on the public image of a technology that could save thousands of lives each month. Since autonomous vehicles are angling to replace human drivers, a proper benchmark would be the rate of incidence of human drivers. This is a much easier standard to beat than absolute unerring perfection. Or perhaps this new tech should be held to an even lower standard rate of accidents that admits the realities of drivers who are often inexperienced or under the influence of drugs & alcohol, sleep deprivation, mental & physical disorders, cell phones, etc. In any case, operating a motor vehicle at speed is inherently risky and requires a benchmark that captures those risks.

Benchmark Matryoshka & Fukuruma

What if an appropriate portfolio benchmark truly does not exist? A reasonable benchmark can be constructed from the risk-free rate plus a spread commensurate with the risks (e.g. LIBOR + 5%). While, with care, this can provide a proper expected return, little to no correlation will exist. Benchmarking to the global market portfolio (GMP) of all investable assets would result in similar practical shortcomings. Unless you are investing in a fund that might own US small cap equities today, soybean futures tomorrow, and out-of-production Lego sets the next, these types of faux-benchmarks are overly broad, permissive, and of trivial value.



Although much less offensive than a zero-return benchmark, managers often select a benchmark that is overly broad because it is popular. It may be out of practical necessity. Investors might shy away from a fund that uses a highly esoteric benchmark. Or it may be a matter of perspective. What should the primary benchmark be for a large cap US equity fund that will regularly invest in 85% value stocks and 15% growth stocks? The Russell 1000 captures the entire investment universe, but the Russell 1000 Value could be considered a better fit, with only 15% of the portfolio in off-benchmark holdings. A regression on historical performance combined with holdings-based analysis can help determine the benchmark that best fits the portfolio, but results should be taken in context of the manager's investment process.

The Good, the Bad, and the Ugly Benchmark

Morningstar lists approximately 8,000 mutual funds, which may seem like a large number until you compare it to the 54,000 indices they track. Some of these indices get used as benchmarks a lot. The S&P 500 is the primary benchmark for 1,150 mutual funds, and the Bloomberg Barclays US Aggregate Bond Index is used by 450 funds.

When funds that appear to invest in the same category use different benchmarks, it can be for reasons good, bad, or ugly. A fixed income manager that excludes a specific duration range, issuer size, or credit quality may find a like benchmark that does the same (good). A global equity or REIT manager may prefer a benchmark that is net of tax losses assessed at a high rate, rather than one that does not factor in tax losses, even if the effective tax rate is closer to 0 than 40% (bad). A US tech equity manager may choose an equal-weighted variant of the S&P 500 IT benchmark index if they feel that market cap does not and should impact their allocation decisions (ugly, but two managers currently do so).

As a manager must walk through the process of selecting their primary benchmark, so should the investor walk a mile in the same shoes. Verifying the appropriateness of a manager's primary benchmark produces valuable insight. What levers exist for the manager to control? Which ones should be used, and to what extent? Are benchmarks readily available that reflect these decisions? What benchmarks are most popular? The best benchmark will balance flexibility and fit. Too much constraint may result in high out-of-benchmark allocation; too little will yield a fragile relationship between benchmark and strategy. Without a robust fit, excess returns may be driven more by risks avoided than by risks actively taken.

Peering into Peers

Whether we are measuring performance relative to a benchmark index or peer group, we are still in the process of benchmarking. Sometimes you take a bite out of an orange and complain that it doesn't have much flavor, but the next two you try are even blander. Did you pick the wrong oranges from the bin at the store? Did the grocer get a bad batch? Was it a bad season for oranges? Peer group analysis can help identify where the weak point resides. When shares of Canadian pharmaceutical giant Valeant plummeted 90% in 2015-16, US large cap active managers faced a major headwind relative to the Russell 1000 or S&P 500. These US large cap equity benchmarks never held non-US Valeant, but many active managers in the space did as accounting irregularities surfaced.

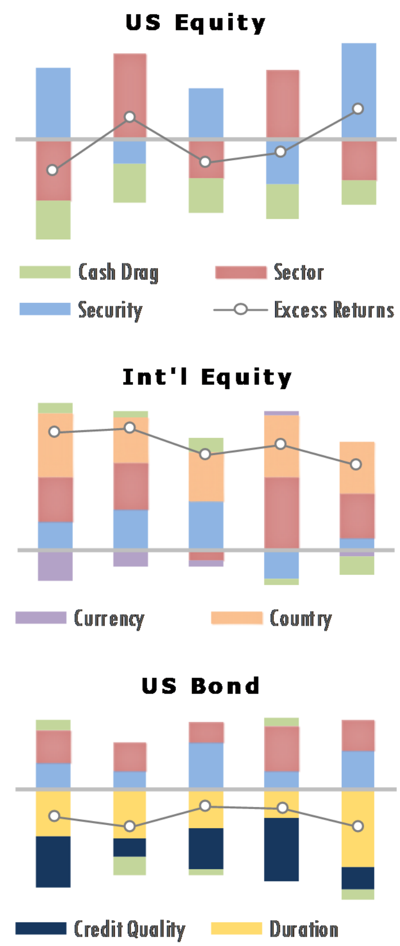
Peer groups are also helpful because they address several shortcomings of benchmark indices that derive from not being directly investible. Some questions can only be answered with the aid of a well-formed peer group. Am I being charged a reasonable fee? Is the manager's use of derivatives unorthodox? Is the manager not being as active as they should be? Was there opportunity to find undervalued assets? Is the fund I chose too big (or too small) to generate added value?

A Good Benchmark is a Terrible Thing to Waste

Between the investor and the investment manager, a good benchmark can express a desired outcome within the bounds of specified and standardized risks. In this way, it is like holding up a botanical sketch or laying out a construction blueprint. Benchmark attribution, additionally, provides a clinical tool for the diagnosis and treatment of portfolio returns or holdings that do not conform to expectations. Like penetrating x-rays refracting through tissue and reflecting off bone, a powerful benchmark allows you to see through a portfolio and detect areas of resplendent health and potential disease.

Benchmark attribution focuses on the subordinate decisions made by the investment manager given their investment mandate. The manager's excess returns can be attributed to the various levers they control. In a previous focus piece, *Focus on Factor Investing* (Q4 2016), we explored the similar but distinct attribution of factor exposures for a portfolio. Here, attribution aligns with the manager's investment process. If the portfolio manager considers sector allocation independently from security selection, then the attribution for the strategy should include both independent effects. Adding another category of attribution for cash would make sense if that equity manager also actively manages their cash by holding more cash when they are bearish and less cash when they are bullish.

Sample Fund Attribution



An analyst does not know what the manager's investment process is, only what it is purported to be. Due diligence must proceed with the question, does the evidence support the story? The three active managers shown here provide substantial insight through the lens of attribution even without knowing the underlying investment process. The US equity manager's gross-of-fee attribution for each of the past 5 years shows a manager that would have outperformed except for cash drag. And, while that cash drag is consistent, and likely persistent, the same cannot be said for security nor sector selection. This fund would be flagged for further investigation. In contrast, the sample international equity fund exhibits no red flags. While currency exposures and cash management have not added to the fund's relative performance, the effects are modest and have not substantially offset consistent gains in country, sector, and (to a lesser degree) security selection. Only if the manager had described their investment process as relying mainly on added value in currency selection and market timing would this attribution raise concern.

The final example, a US bond fund, is alarming as the fund has lagged benchmark returns each of the past 5 years. However, this fund might be easier to justify retaining than the US equity fund, depending on why duration and credit quality have been consistent headwinds for the strategy and what has been done to address this. The manager has, at least, demonstrated an ability to outperform through security selection and sector allocation. This is a case where understanding what the data says in the context of the manager's investment process is critical. Maybe the manager is perennially short on duration and below benchmark in credit quality as they tend to find the best opportunities there. If such consistent tilts are expected to average out over the long-term, then maybe it is the right way to run the strategy.

A good benchmark accurately captures the opportunity set of investments, and attribution allows us to judge how the manager makes use of these opportunities. Without benchmarks, selecting investment funds would rely more heavily on superstition and marketing than it already does. With benchmarks, investors can hold managers accountable not only for underperformance, but for any imprudent decisions. A competent, skilled manager accepts these purposes and works within that as a framework – taking the benchmark as guidance from the investor as to the desired outcome. But managers may view a benchmark more as a source of career risk – meaning something that impacts compensation, could lead to loss of the mandate, or could lead to litigation. As a result, an index's "beatability" (or "fairness") is regularly the primary concern for managers' evaluating benchmarks. This can lead them to choose benchmarks that are far from genuinely appropriate. With this in mind, the benchmark-savvy investor is prepared to succeed where others investors fail.

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