

MARKET Recap

The US Economy: “Just a Little Patience”

On March 18th the Federal Open Market Committee sent out a thoroughly mixed message on policy. The adjective “patient” no longer graced their press release, a widely anticipated and closely followed wording change clearing the way for tightening. Yet the statement, particularly the participants’ rate outlook, is littered with doubts and reservations about hiking rates too soon. More on the “dot plot” to follow.

One can hardly blame the FOMC for caution, as recent economic indicators offer adequate fuel to spin an argument either way. On the one hand, the economy continues to grow, and likely at a steadier pace than the 2.2% 4th quarter number indicates. A large drop in Q4 defense spending following a surge in Q3 was the biggest driver, an accounting anomaly we’ve seen before. Job growth slowed in March, in part due to layoffs in the battered oil patch, but wages improved.

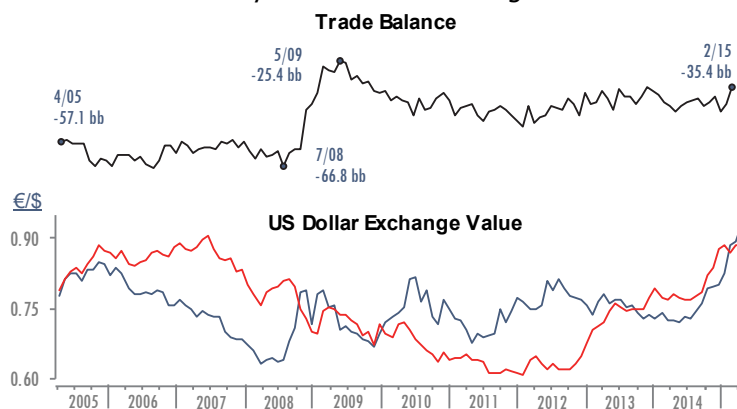
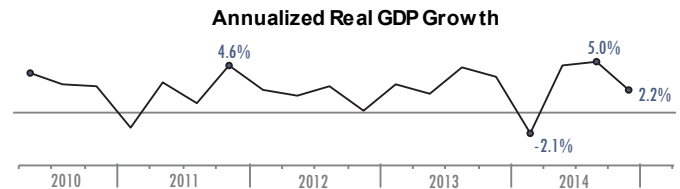
The last negative factor, net exports, merits more careful consideration. The US balance of trade (exports minus imports) most certainly impacts Gross Domestic Product in the short-term, profits in the medium-term, and domestic employment in the long run. That the US is a net importer of goods is unsurprising. We are in fact a net exporter of services, but on a combined basis our trade balance is negative; not as negative as in the mega-consumption years leading up to the credit crisis, as consumers have substituted savings for “stuff” from the rest of the world, but negative still.

Currency matters in the game of international trade, and the US dollar continues to surge against the currencies of major trading partners. Supply chains do not change overnight, but over time a strong currency makes imports cheaper relative to domestic goods. Consumers win if they keep their jobs – but that’s the catch. A strong currency hurts domestic producers and eventually threatens to curtail growth. One line of thinking is that dollar strength will cause the Fed to tighten more slowly to avoid attracting capital flows that will further strengthen the dollar and give back ground on employment.

The trade balance decreased by \$2.2 billion in Q4, subtracting 1.03% from GDP growth. But surprisingly, imports fell sharply in January and February, by nearly \$19 billion. Exports also fell, but by a much lesser amount, causing net exports to surge by over \$10 billion. That will be noticeable in Q1 GDP when that lagging indicator is finally released. What gives? Not currency. The dollar continued to surge against the euro and held its own against the yen.

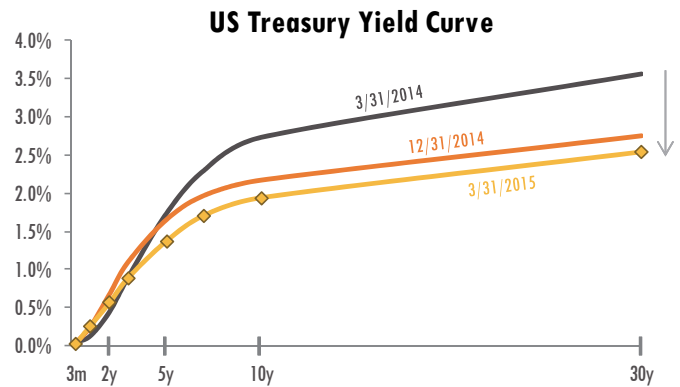
Enter the International Longshoremen and Warehouse Union and its industry counterpart, the Pacific Maritime Association. Every six years these acrimonious partners negotiate a contract covering all west coast ports, through which the lion’s share of imported goods flow. Those discussions culminated in a deal on February 20th which, as of press time, is before the membership for approval. But in the months leading up to the agreement an increasing backlog of cargo amassed due to local slowdowns and lockouts. Long-time readers may recall the infamous coast-wide 2002 lockout, 10 days in length, which generated a spike in GDP due to import curtailment followed by a slowdown as imports caught up.

This year’s negotiation has not by any means approached the crisis level of 2002. However, the US imports roughly twice the dollar value of goods today as we did 12 years ago, so smaller issues have a bigger financial impact. Slowdowns are more difficult to analyze than strikes and lockouts because the impact of the events are more localized geographically and spread out over time. In other words, we know the slowdown has impacted GDP, but it’s hard to say by how much. That will become clear over the next two quarters as the supply chain normalizes. Since the Fed is data-driven, most bets at this point are for no action until this fall, at the earliest.

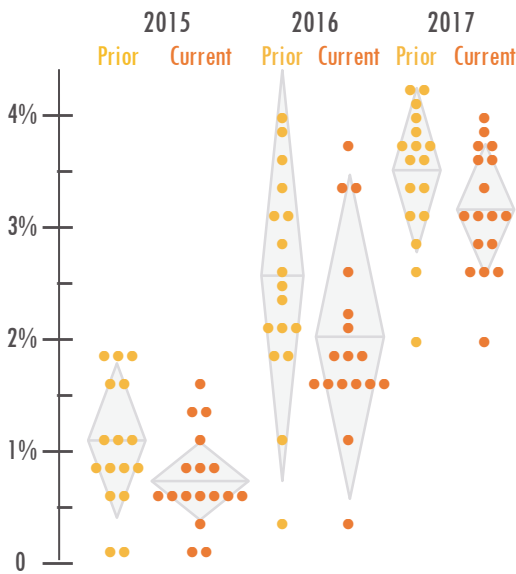


The US Bond Market

From the intermediate term to the long end, the yield curve has flattened steadily quarter after quarter since the end of 2013. While the fall in 10-year (-110 bps) and 30-year (-140 bps) benchmark rates over this period has been substantial, the movements seem muted compared with many sovereign issues of similar tenor across the Atlantic. Oscillations in the yield curve over the first quarter were dominated by slowing economic growth domestically and abroad, downward revisions to forecast inflation, accommodative foreign monetary policy, political vicissitudes, oil and the Fed. As oil plummeted in January, Treasuries rallied by about 45 bps from the 5-year on out. Positive indicators for the US economy helped reverse course to the tune of 55 bps from the beginning of February through the first week of March before finding a second wind somewhat thanks to the Fed. The 10-year ended Q1 down 25 bps to 1.92%, revisiting the sub-2% for the first time since May 2013. The 30-year finished down 22 bps to 2.54%, but up from an all-time intraday low of 2.40% on January 14. From one year prior, the 3-year rate is unchanged in nominal terms, while the 5-year rate is mostly unchanged (and close to zero) in real terms.



As the Fed continues on the precarious path of normalization, market participants remain focused on every slight modification to the FOMC statements or subtle change in talking points. However, the anticipated removal of the word "patient" from the January statement came attached to clear and direct language, both in the March statement and in the testimony of Fed Chair Yellen, to the effect that a rate hike in April remains quite unlikely and that the Committee is decidedly undecided as to both the timing and magnitude of the initial rate hike. Fed funds futures indicate the market is also largely uncertain when the initial hike will commence, but is putting the odds on October, with the target fed funds range more likely to end 2015 at 25-50 bps versus 50-75 bps.



The updated "dot plot" shows increasing consensus of Committee participants' views on federal funds rate target ranges at year-end for 2015 and beyond. The previous plot from December showed a fairly even dispersion of expectations in each period. The chart is now heavily concentrated about 0.75% for 2015 and 1.75% for 2016. These substantial changes imply a general expectation by FOMC participants that the rate hike will begin this year and continue through 2016 in a stop-and-go fashion, rather than a stream of constant 25 bp moves as seen in 2004-2005. Note that the diamonds depicted in the chart to the left are positioned about the mean with height proportional to variance.

Downshifts in median target rate forecasts were justified by weaker inflation expectations and a lower revised assessment of the long-run normal unemployment rate. Longer-run rate expectations (not shown) shifted down 10 bps on average, but the median long-run midpoint target rate remained fixed at 3.75%. US Treasuries rallied immediately following the March 18th release, led by the 5-year. Benchmark rates from the 2-year to the 10-year fell by 13 to 15 bps day-over-day. Implied forward rates from fed funds futures as well as the US Treasury bond and STRIPS curves remain well below these median projections for year-end 2015-2017.

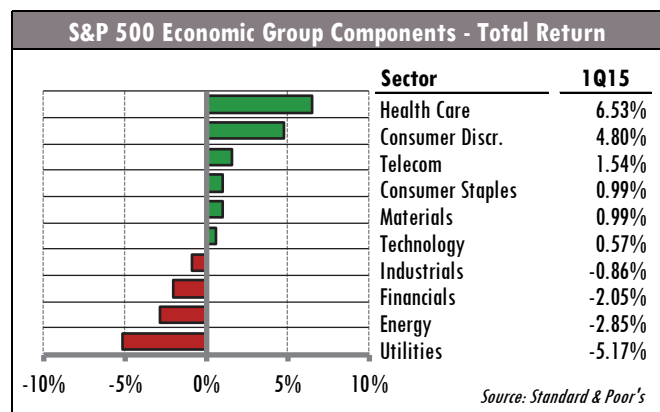
After a more-than-30-year record return of around 9% in 2014, municipal bonds tacked on another healthy quarter of returns at just over 1%, but lagged most US fixed income securities. US government debt performed well, especially at longer durations. Corporate bonds also had a strong quarter with lower rated debt benefitting from contracting credit spreads. Two consecutive quarters of widening high-yield spreads driven by falling oil prices saw a reversal in Q1 as spreads tightened by 22 bps (BAML US High Yield Master II Index). High-yield issuance for Q1 totaled \$90.1 billion versus \$65.7 billion in Q4 and \$70 billion in Q1 2014. Default rates may be set to rise for companies producing, or otherwise related to, shale oil production; yet, the impact on default rates in 2015 should be low. Projections for US high-yield default rates in 2015 generally range from 2% to 3%. If oil remains below \$65 per barrel, default rates will be set to spike in 2016 and remain elevated through 2017 as defaults in the energy sector may run to 40% over these two years (JP Morgan).

US Bond Indices - Total Returns	
Barcap Indices	1Q15
Aggregate	1.61%
Interm. Gov't	1.25%
Long Gov't	3.89%
Interm. Credit	1.77%
Long Credit	3.06%
High Yield	2.52%

The US Stock Market

The start to the year saw increased volatility for the US stock market with the major indices experiencing fluctuations throughout the first quarter. In March alone, the Dow Jones Industrial Average saw triple digit moves up or down in 16 out of the month's 22 trading sessions. The Dow moved into negative territory on the last day of the session, falling 1.1% for the day and posting a 0.3% loss for the quarter. Despite an almost 1% decline on the final day of Q1, the S&P 500 was able to eke out a modest gain. The NASDAQ composite was the best-performing broad-market index during the period, returning 3.5%. Both the NASDAQ and the S&P 500 have posted 9 straight quarterly gains, the NASDAQ's longest winning streak to date and the S&P's longest quarterly winning streak in 17 years. With the Fed's quantitative easing over, it is likely that market volatility will persist with a rising dollar, depressed oil prices, and uncertainty surrounding the timing of the Fed's interest rate hike increasing investor anxiety. That being said, volatility is nowhere near historical highs. The VIX, a popular measure of the implied volatility of S&P 500 index options, closed under its long-term average of 20 for most days in Q1. During the early days of the credit crisis, daily closes on the index were generally in the 40 – 60 range, with peaks as high as 80.

Growth stocks outperformed value stocks, propelled by the top-performing healthcare and consumer discretionary sectors. Gains in healthcare have been driven by a trend towards consolidation within the industry, specifically in biotech. According to S&P Capital IQ, healthcare mergers and acquisitions totaled \$89 billion in 1Q15, compared to \$56 billion during 1Q14. Some of the major deals included UnitedHealth Group's agreement to merge with Catamaran Corp. for \$12.8 billion, drug giant Teva Pharmaceuticals' purchase of Auspex Pharmaceuticals for \$3.5 billion, and Horizon Pharma's acquisition of Hyperion Therapeutics for \$1.1 billion. In the consumer discretionary sector, low oil prices have resulted in increased consumer purchases. Spending less at the pump has strengthened household balance sheets, providing Americans with more disposable income. Additionally, the latest consumer confidence reading showed an increase to 101.3 in March up from a revised 98.8 in February, a positive sign that spending is likely to increase in the coming months.



The utilities sector was the worst-performing component of the market, suffering its largest quarterly decline since 2009. Defensive sectors have benefited from low interest rates over the last few years, but with rates set to rise, they could suffer. Also negatively impacted by the potential of rising interest rates, the financial sector was another underperformer, although only in the large cap space. This disparity contributed to the outperformance of the mid and small cap indices for the quarter. Energy rounded out the trio of worst-performing sectors as the price of crude oil declined further, falling more than 10%. Record US crude supplies in conjunction with a stronger dollar sent West Texas Intermediate crude-oil futures lower for a third consecutive quarter. An Iranian nuclear deal that could result in the easing of sanctions on the crude exporter also put downward pressure on prices.

While equity indices have been hitting all-time highs, initial public offering activity has slowed dramatically. With only 34 IPOs during the quarter raising a total of \$5.4 billion, the US IPO market had its slowest quarter in two years by count and raised the least proceeds since 2011, according to Renaissance Capital. Half of the IPOs during the period were within the healthcare sector, with the majority of activity in the biotech industry. Volatile markets contributed to the IPO slowdown, but possibly more telling is that the tech sector's hottest startups are flush with cash from venture capital firms and even mutual fund managers, minimizing the urgency for these firms to seek public equity capital.

Overseas Markets

Developed overseas markets performed well in both US dollar and local currency terms. Developed markets in Europe showed some life as growth signs emerged near quarter-end, providing hope for some stability in the eurozone, although issues with Greece threaten to destabilize the region. Concerns remain in emerging markets as signs of a slowdown in China persist. Latin American markets were also laggards as depressed oil prices, a slowdown in global growth and multiple corruption scandals rippled through the region. Many central banks dropped rates hoping to impact their currencies.

Stock Indices - Total Returns			
Largecap Stocks	1Q15	Midcap Stocks	1Q15
S&P 500	0.95%	S&P Midcap 400	5.31%
Russell 1000	1.59%	Russell Midcap	3.95%
Growth	3.84%	Growth	5.38%
Value	-0.72%	Value	2.42%
Broad Markets		Smallcap Stocks	
Russell 3000	1.80%	S&P Smallcap 600	3.96%
Growth	4.05%	Russell 2000	4.32%
Value	-0.51%	Growth	6.63%
		Value	1.98%

A positive PMI reading out of Germany gave a boost to the eurozone's modest economic recovery in March as an increase in private sector activity rose to nearly a four-year high, according to purchasing managers surveys. The surveys add to other signs that the eurozone economy may be emerging from a long period of near-stagnation, aided by lower oil prices and a weakening euro. There is rising confidence following the ECB's launch of a new stimulus program in which it will buy more than one trillion euros of mostly government bonds by September 2016, using newly created money, in an effort to raise inflation. However, the surveys also showed that businesses continued to cut their prices early in the year. In February, consumer prices were 0.3% lower than a year earlier. This indicates that the eurozone may not so easily escape a lengthening period of deflation and demonstrates what the ECB is up against as it tries to reflate.

Greece remains a wild card. Concerns arose again over its ability to remain solvent and part of the European currency union. Voters elected the anti-austerity Syriza Party into power after five years of austerity and recession, during which Greece's GDP plummeted by 25%, household income fell by more than 30%, and joblessness tripled to 26%. This immediately raised creditors' concerns that Athens would seek to write-off part of its €320 billion debt. Some analysts feared that a tough approach to negotiations by the newly installed government could push Greece out of the eurozone. Morgan Stanley analysts have put the probability of a Greek exit from the euro at one in four over the next six months, with significant consequences if it does happen. Projections based on a Greek exit show that eurozone GDP for 2015 could be down by 0.2%, compared with the expected 1% growth if the currency union stays in its current form. The euro might slide to as low as \$0.82, around the weakest level ever for the currency.

Foreign Stock & Bond Indices - Total Returns			
MSCI Broad Indices	1Q15	Barcap Global Indices*	1Q15
World Index	2.31%	Global Aggregate	-1.92%
EAFE (Developed)	4.88%	Pan-Euro	-6.87%
Emerging Markets	2.24%	Asian-Pacific	-0.61%
		Eurodollar	1.73%
MSCI Regions	1Q15	Euro-Yen	0.00%
Europe	3.45%	Other Currencies	-2.90%
Japan	10.21%	<i>*Unhedged</i>	
Pacific ex-Japan	3.13%		
Latin America	-9.55%		

Greece may also run out of cash soon and it remains shut out of debt markets as it negotiates a reform program with its creditors. The next round of aid has been frozen, and will remain so, unless the Syriza-led government agrees to implement a range of economic reforms. At the time of this writing, attempts at a deal have ended at an impasse, with Greece calling for more leniency on its bailout and Germany demanding the country stick to already agreed upon austerity measures. Analysts forecast that capital controls may be imposed to prevent Greece from leaving the euro, using the 2013 Cypriot bailout as a template.

According to the National Bureau of Statistics, China grew at its slowest rate in 24 years during 2014. The economy expanded by 7.3% in Q4 (7.4% for the year). While growth of this magnitude would be welcomed almost anywhere, it falls short of the government's target of 7.5% annually. Senior leadership has become comfortable with a more stable pace of growth, dubbing it the "new normal." At a speech to the Asia-Pacific Economic Cooperation Forum in November, President Xi Jinping said, "A new normal of China's economy has emerged with several notable features." Part of the "new normal" will be attempting to shift dependence away from heavy investment and government spending to foster growth. However, given recent industrial production figures pointing to weakening demand, the government is set to ramp up its infrastructure spending - approving a slew of projects to help soften the pace of the slowdown. The National Development and Reform Commission approved projects totaling more than 1 trillion renminbi (\$160 billion), according to HSBC

Currency Wars - Selected Rate Moves 1Q15

Date	Country	Rate Cut (bps)	Current Rate
Jan. 1	Uzbekistan	-100	9.00%
2	Romania	-50	2.25%
15	Switzerland	-50	-1.25%
15	Egypt	-50	9.75%
15	India*	-50	7.50%
16	Peru	-25	3.50%
21	Canada	-25	0.75%
21	Turkey*	-75	7.50%
30	Russia	-200	15.00%
Feb. 3	Australia	-25	2.25%
4	China	-25	2.50%
5	Denmark*	-100	-0.75%
13	Sweden	-25	-0.25%
17	Indonesia	-25	5.50%
23	Israel	-15	0.10%
Mar. 4	Poland	-50	1.50%
11	Thailand	-25	1.75%
12	Korea	-25	1.75%

*Multiple changes

estimates. Many of these projects are expected to begin this year. Economists anticipate that China's central bank will cut interest rates at least once this year, as the government attempts to stem a slowdown. Beijing made its first interest rate cut in over two years last November.

Deflation continues to be Japan's primary concern. Even though central bank Governor Kuroda has been effective over the prior two years at reversing a slide in prices, he acknowledged near the end of the quarter that efforts have stalled. Kuroda indicated that price changes could possibly turn "slightly negative," in essence, the return of deflation. In its assessment of inflation, the central bank has predicted a "temporary" lull. However, the bank did not predict when it expected prices to start rising. It also did not alter one of its main tools to encourage inflation, keeping its target for purchases of government debt at ¥80 trillion (\$660 billion) per year. While low oil prices have helped Japan economically, cheaper gasoline and energy has made it more difficult to raise prices.

Emerging markets continued to be negatively impacted by low oil prices. In Latin America, a region where corruption has long been a pervasive concern, Brazil and Argentina are finding that the declines in oil and commodity prices have made it especially difficult to cope with the on-going scandals. In Brazil, details continue to emerge in the Petrobras case. Over the last few months, anti-corruption investigators have uncovered alleged evidence of anywhere from \$3.7 billion to over \$28 billion in illegal funds that may have

been diverted from Petrobras' assets. Over 200 corporate entities and almost 100 individuals are being investigated. Five senior executives at Petrobras, as well as Chief Executive Maria das Gracas Foster, have resigned. Brazil's President Dilma Rousseff, a former chairwoman of the firm's board of directors, is also under scrutiny, though she denies any wrongdoing. Most of those facing investigations happen to be members of her political party, the Workers' Party. In February, Moody's downgraded Petrobras' credit rating to junk, citing concerns about the corruption investigations and "liquidity pressures that might result from delays in delivering audited financial statements." Petrobras' woes are causing a ripple effect as six major Brazilian construction firms have been enveloped by the scandal. With business confidence at an all-time low, a recession looks to be around the corner.

Argentina continues to be its own worst enemy, politically and economically. In January, public prosecutor Alberto Nisman was found dead the day before he was to testify before congress about his allegations against President Cristina Fernandez de Kirchner and her associates to cover up Iran's alleged part in the 1994 bombing of a Jewish community center in Argentina. Nisman's death was deemed a suicide, but many Argentines suspect foul play. In February, about 300,000 people marched against the nation's fraught justice system in what was meant to be a nonpartisan march calling for a full investigation into Nisman's death.

The Nisman case is just one in a long list of Argentine scandals. Kirchner is also being investigated for money laundering at her family-owned hotel chain and the sitting VP was charged last summer for ensuring that government contracts went to a company he supposedly controlled. Amidst the corruption, Argentina's economy experienced its second consecutive quarterly contraction in Q4. Kirchner's government continues to rely on the Central Bank's issuance of local currency to cover spending. Meanwhile, Argentina has yet to reach an agreement with hedge funds that sued the country in US courts. These unresolved holdouts have prevented Argentina from borrowing money abroad at reasonably low rates and continue to exert pressure on international reserves. Job creation is low, productivity is down, and let's not forget about the country's rampant inflation that is running above 20%, with some estimates showing it as high as 30% or 40%.

Central banks across the globe began to ease monetary policy in an effort to drive up exports and keep their currencies fairly valued. Depending on which side you're on, the US dollar has been the winner or the loser. The Trade-Weighted US Dollar Index has strengthened around 12% versus a broad basket of currencies since mid-2014. In January, the Swiss National Bank suddenly announced that it would no longer hold the Swiss franc at a fixed exchange rate with the euro, and the ECB finally announced its decision to begin quantitative easing. These market-altering moves sparked a series of central bank actions around the world. On January 21, the Bank of Canada suddenly dropped rates from 1% to 0.75%, its first rate change since late 2010. In early February, the Reserve Bank of Australia followed suit. While the Reserve Bank of India held its rates in February, it had dropped them mid-cycle in early January. The Bank of Japan has also been engaged in its most recent QE program since April 2013. The "race-to-the-bottom" seems to be in full swing. Unfortunately, several countries are devaluing their currencies at almost the same time, reducing the potential for an increase in exports. A weaker currency may provide a short-term boost, but ultimately these devaluations will increase foreign exchange volatility, potentially impacting trade.

An opportunity has presented itself to address the issue of currency manipulation. The Trans-Pacific Partnership is a proposed regional free-trade agreement involving the US, Japan and 10 countries in Asia and Latin America. President Obama is arguing that this is an opportunity to reset the rules for trade and investment. Currently, the US Treasury Department and the US Trade Representative are refusing to include language prohibiting manipulation of currency in the agreement, but this deal may be the best occasion in recent years to address the real problem of currency manipulation.

Focus On: *Lackluster Performance of US Large Cap Managers*

While the debate of active vs. passive investment management is decades old, much has been published highlighting the recent underperformance of active US large cap equity managers. Because of the increased attention, and the questionable data quality and rationale in some cases, we turn our attention to the category's most recent period of underperformance and explore the drivers behind it.

The Increasing Scarcity of Active Return

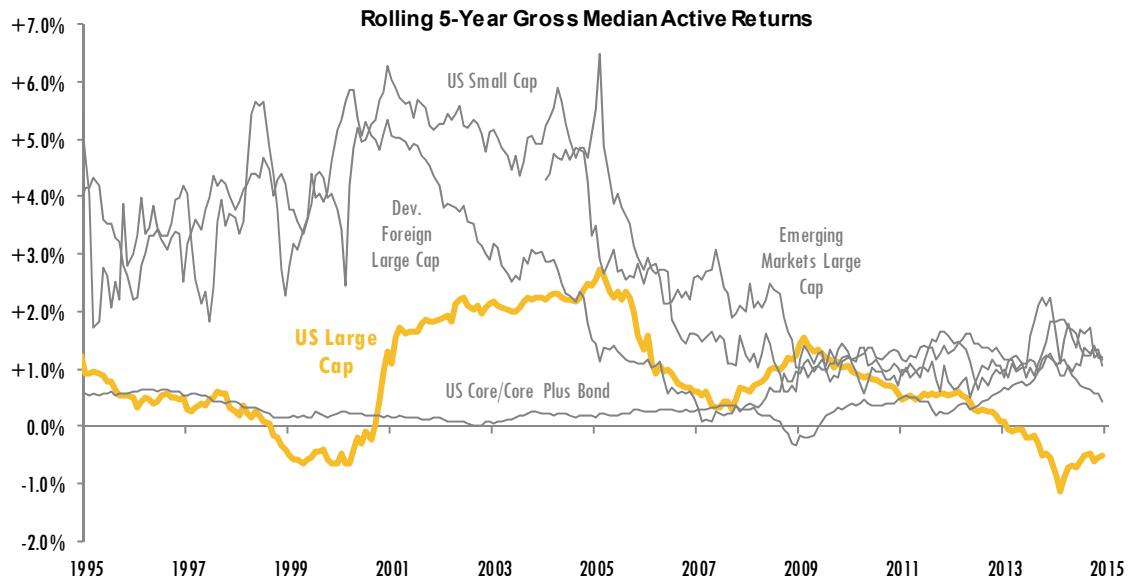
In order to calculate active performance of US large cap equity managers, we collected historical performance data (as of 12/31/14) of institutional strategies from the eVestment Alliance (eVA) Database. To help reduce the impact of survivor bias, we annualized the monthly median return of each universe of active managers for rolling 5-year periods. We used



performance gross of fees as a way to neutralize the fee impact from different vehicle types and mandate sizes. Shown here are results using 5-year rolling periods, a timeframe commonly used by institutions to evaluate performance. The window also comes close to capturing what might be a “full” market cycle without greatly reducing the amount of usable data, as would a longer window.

One can immediately see that US large cap equity managers have experienced periods of both outperformance and underperformance (here against the Russell 1000 index). Compared to other equity sectors, US large cap managers have generally struggled more to add value over benchmark.

There is clearly a zone of strong performance for the 5-years following the 2001-2002 tech crisis, and a smaller surge around the credit crisis of 2007-2008. Aside from these periods, active returns from US large cap managers has been low and, most recently, negative.



It is important to note that comparing actively managed funds to theoretical benchmarks, which hold no cash and experience no transaction costs, does create a negative bias in the results. Fees also create a negative bias in the real world, although the impact of active manager fees are often exaggerated through the use of retail mutual fund data.

What is Driving Underperformance?

Our basic premise is simple – the market for US large cap stocks is very efficient, and is becoming increasingly more so. Information about large companies abounds and is being widely disseminated. As that happens, it should be increasingly difficult for active managers to beat the benchmark; there is very little that they can know which could be used to generate a skill advantage. That’s not to say that no active manager can outperform, rather we expect that fewer will over time.

Alternative theories can be split into two categories: external and internal. External factors include industry and market conditions outside the control of a manager, while internal factors are those within a manager’s control.

External Factors: An oft-cited headwind for active managers is elevated flows into indexed strategies. As of year-end 2007, US institutions held \$933.7 billion in passive domestic equity funds. That number has since risen to \$2.5 trillion, although this includes asset growth, which has been significant. (US stocks have risen 66.33% as measured by the Russell 3000 Index during the period.) During the same period, institutional assets in actively managed domestic equity strategies only increased to \$3.75 trillion from \$3.50 trillion, due to \$1.3 trillion in outflows (eVA). Many have speculated that such strong outflows have forced US large cap active managers to reduce their largest, most liquid positions to meet the redemption needs of investors. This has in turn led to “flatter” portfolios and reduced differentiation from the index.

While this is difficult to quantify, the reality is that liquidity across the entire US large cap stock universe is consistently high and that such an effect is more likely the result of portfolio management. Many also believe that because most of the passively managed funds track market cap weighted indexes, large and consistent inflows also result in strong performance of the largest constituents, which active managers tend to underweight. Indexed strategies are blamed for indiscriminate purchasing of index constituents, treating the universe of stocks like a commoditized asset class. This leads to increased correlation in the underlying constituents and reduces outperformance potential. We believe that treatment of large cap stocks as a commoditized asset class has likely had more of an effect on active managers than strong performance of the largest index constituents, but we will discuss both in more detail below.

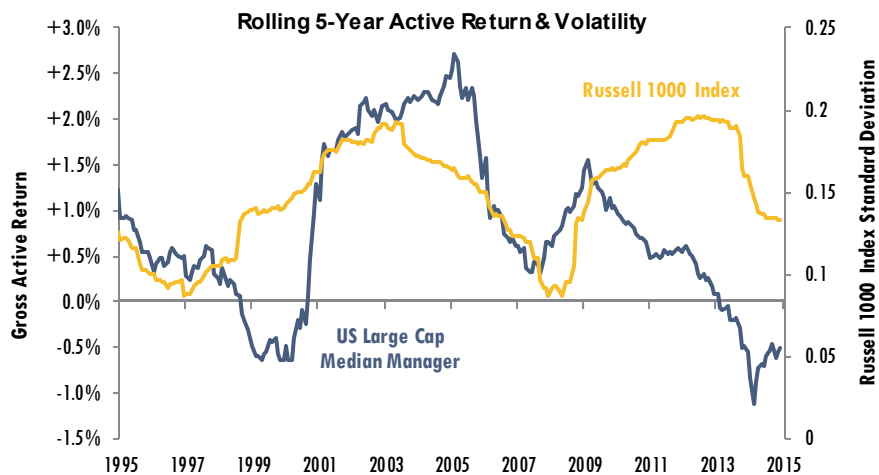
Low interest rates and yields may also be partially to blame. Income-starved investors with few opportunities in this low rate environment have increased purchases of higher yielding stocks, which many active managers have avoided due to their lower quality, higher valuations, and lower growth prospects. For this to be true, dividend-heavy sectors like telecom, utilities, consumer staples, and financials would be all among the top performers in the S&P 500 over the past 5

years. This has not particularly been the case during this period. Consumer staples stocks have performed above average over 5 years, as did the financial sector for the trailing 3 years and utilities over the last 12 months. However, there has not been broad outperformance from these higher-yielding sectors. Separately, many have speculated that low interest rates have led to artificial gains for lower-quality companies which have been able to finance profits through cheap borrowing. While it is difficult to disprove this argument, we think this is more likely an issue for stocks with less analyst coverage (i.e., small caps). The large cap segment is so heavily covered, both on the buy- and sell-side, that analysts should be able to easily distinguish levels of quality and the true drivers of profitability.

S&P 500 Sectors	1 Year	3 Years	5 Years
Consumer Discretionary	9.68	24.82	21.38
Consumer Staples	15.98	17.45	16.08
Energy	-7.78	6.46	8.76
Financials	15.20	26.26	13.36
Health Care	25.34	27.86	19.38
Industrials	9.83	21.24	17.56
Info. Technology	20.11	20.99	14.86
Materials	6.91	15.57	11.23
Telecom Services	2.99	10.74	11.42
Utilities	28.98	13.94	13.34

Annualized as of 12/31/14.

Many try to connect underperformance to low stock market volatility driven by central banking policies. Active managers look to market volatility to provide opportunities for mispriced stocks. Assuming a manager is able to identify and take advantage of such opportunities, recent lower market volatility provides less opportunity for outperformance. As seen in the graph, there is a lower correlation between volatility and performance (0.31) than one might expect.



High correlations among stocks have also been proffered as a justification for US large cap managers' recent underperformance. If stocks become highly correlated to one another, managers' stock picking becomes less effective and makes their concentrated portfolios behave similarly to the index. The main flaw in this theory is that while correlation does measure directionality between stocks, it fails to encompass magnitude of

differences in return which is best measured by dispersion. This makes correlation a better measure for portfolio diversification/risk, as opposed to performance.

Low recent dispersion of stock returns (the weighted measure of the absolute deviation between each stock's return and that of the overall index) seems to be a stronger argument for underperformance in the US large cap space. In low dispersion environments, the spread between the highest-performing stocks and lowest-performing stocks is smaller relative to high-dispersion environments. This results in fewer opportunities for active managers to outperform both the market and peers due to low differentiation among portfolio returns. The effect is further magnified when combined with high correlations across stocks and low market volatility, although all three are related. An important point to consider, is that "ideal" markets (i.e., high volatility, low correlations, and high dispersion) for stock pickers do not necessarily predict outperformance among active managers. They only increase the opportunity to outperform. Because active management has a symmetric payout, "ideal" market environments may lead to high underperformance by some managers, resulting in a median return in line with or below the index return for that period.

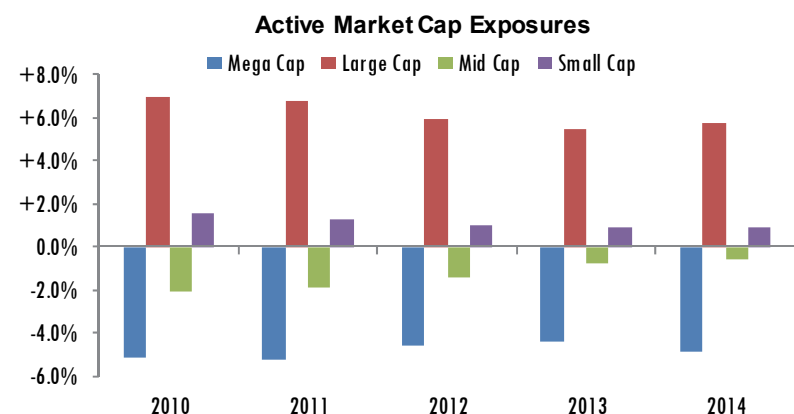
Internal Factors: One internal factor that has been blamed for the underperformance of active US large cap equity managers is exposure to cash. Cash drag can have a significant effect in an equity bull market for two reasons. First, and most obvious, returns on cash will considerably lag those of stocks over longer periods, regardless of the level of short-term interest rates. Second, as the bull market in stocks continues, managers, particularly those with a value-style bias, may become less eager to purchase additional or new equity exposure within the portfolio. This leads to increasing allocations to cash beyond reserves kept for liquidity purposes and frictional cash from turnover. In periods of persistent high stock returns, the combination of the two can detract significantly from relative performance.

While this intuitively makes sense, our analysis finds that just the former has had an impact over the last 5 years. Average cash exposure of over 700 institutional US large cap equity strategies has only increased from 2.53% in 2010 to 2.72% in 2014. Over this time period, the average exposure to cash (taking into account annual changes) would have resulted in an annualized 41 basis point drag in performance. While this shows that cash has been a detractor for actively managed portfolios, exposures can be mitigated through higher portfolio beta or the use of futures to equitize the cash.

Another factor is a systemic underweight exposure to large cap stocks, particularly "mega caps" (over \$100 billion in market capitalization) in favor of smaller cap companies. Many believe large cap managers tend to cheat toward the small end to differentiate themselves from the index and add alpha, as smaller stocks typically have greater growth potential, less research coverage, and lower correlations. Following the analysis performed for cash exposure, we broke down market capitalization exposure of the same subset of active institutional domestic equity managers and calculated the average annual differences between the Russell 1000 Index. We then analyzed the effect this would have had on performance for the trailing 5 years. The charts show performance for each cap segment for the time period and the average active weights to each. We found that an underweight to mega cap stocks actually resulted in an annualized positive 8 basis points due to mega cap stocks' underperformance against the broad large cap segment. Conversely, the underweight to mid cap stocks detracted approximately 3 basis points as the mid cap segment slightly outperformed the broad large cap market. Lastly, overweight exposure to small cap companies

Russell Indices	1 Year	3 Years	5 Years
Top 50 Mega Cap Index	11.68	18.60	13.77
1000 Index (Large Cap)	13.24	20.62	15.64
Mid Cap Index	13.22	21.40	17.19
2000 Index (Small Cap)	4.89	19.21	15.55

Annualized as of 12/31/14.



had a minimal positive effect of 2 basis points. Underweighting exposure to mega cap stocks in favor of smaller companies had only a minimal impact on performance for the average US large cap equity manager over the trailing 5 years.

Another internal factor is out-of-benchmark exposure to international stocks. As measured by the MSCI EAFE Index, international stocks have underperformed their US counterparts: -10.31% for the trailing 5-years, -9.56% for the trailing 3-years, and -18.14% for the year ending 12/31/14.

Managers' theories behind considering such stocks for their domestic large cap portfolios include di-

versification, relative value opportunities, and potential for additional alpha through higher growth markets outside the US. We found that over the last 5 years, exposure to foreign stocks has averaged 3.33%. By analyzing the average annual non-US exposure data over the same 5-year period, we are able to approximate a negative annualized effect of 33 basis points from US large cap active manager performance. We believe this is meaningful in identifying potential drivers of underperformance, but it is important to remember that the choice to invest outside the US is an active decision made by the manager and should not be an excuse for poor relative performance.

For US Large Caps – Avoid Active Management, or Avoid the Median

Much has recently been theorized about causes for active underperformance in the US large cap equity space. In our view, alternative explanations for the underperformance are too weak to abandon the premise that the highly efficient US large cap market is simply too efficient for most managers to outperform. Is the case for indexing open and shut?

By no means do all US large cap managers underperform, the graph on page six depicts the woeful situation facing the median manager. However, it does mean that investors face a significant headwind in the selection process. If you were to throw a dart at a list of small cap or international managers, the expected outcome would be to outperform the benchmark over 5 years by a margin that might justify the risk and fees involved. Not so for US large caps. Therefore, success is more likely to be found in portfolios that are considerably different from the benchmark.

Active US large cap equity managers have historically delivered less added value than other equity asset classes. This makes the decision between active and passive here all the more critical. Investors pursuing active management in the asset class need to have both the capabilities to conduct manager due diligence (initial and ongoing) and strong confidence in their manager selection skills. Asset base or mandate size is also a critical component in the decision, as larger investors will have access to the lowest fee vehicles. Negotiating skills are important as well. In our opinion, those without all of the above will likely be best served through indexing.

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