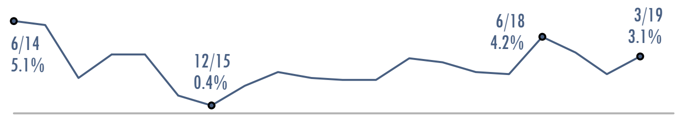
Bellwether CONSULTING

Your Quarterly Update on the Financial Markets
June 30, 2019

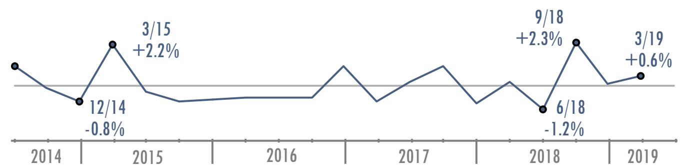
MARKET Recap

The US Economy: "Trade-Driven Crosscurrents"

Annualized Real GDP Growth



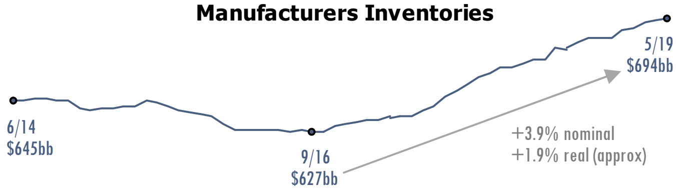
Change in Private Inventories



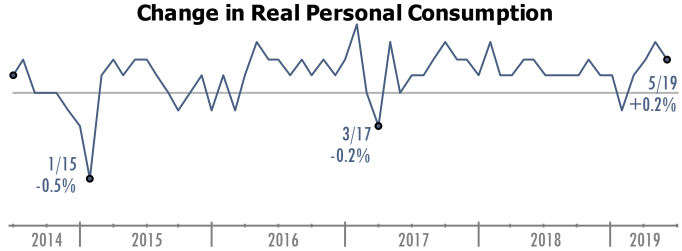
The pace of economic growth increased to a 3.1% annual rate in the first quarter. Positive contributors were broadly distributed and modest in magnitude, with improvements in exports, personal consumption expenditures, non-residential fixed investment, and state & local government spending. Residential fixed investment decelerated slightly.

Interestingly, Q1 growth and data subsequently received in Q2 provides pundits ammunition to argue either extreme – that the economy continues to grow at a sustainable pace, or that a slowdown is imminent. The loudest voice is Wall Street, which would happily exchange its soul (if it had one) for an interest rate cut. They note that two components of the recent growth pop, government and inventory spending, are cyclical in nature. True enough, inventory spending has increased 3 quarters running, but the level has been modest except for the surge in Q3 of last year.

Manufacturers Inventories



Change in Real Personal Consumption



That surge followed a summer downdraft, so taken together the net change in inventories for this run is less dramatic. However, inventory spending has been undeniably strong following a 15-month drought in 2015-2016. Manufacturer's inventories have increased at a real rate of about 1.9%, and we believe the recent quarter-to-quarter volatility is likely anticipation of, or reaction to, tariff increases.

Inconveniently (if you want a rate cut), personal consumption has also increased steadily over the period, at about the same real rate as inventories have risen. Retail sales were up in April and May, accelerating in May, on rising personal income. Durable goods orders declined, but that appears to be confined to the aviation sector, which is struggling to process a stream of bad news from Boeing.

In a June 25th speech at the Council on Foreign Relations, Chairman Powell described economic conditions as favorable but noted "Along with this favorable picture, we have been mindful of some ongoing crosscurrents, including trade developments and concerns about global growth." He continued, "The crosscurrents have reemerged, with apparent progress on trade turning to greater uncertainty and with incoming data raising renewed concerns about the strength of the global economy." Finally, "The question my colleagues and I are grappling with is whether these uncertainties will continue to weigh on the outlook and thus call for additional policy accommodation."

It is a bit of a stretch, in our view, to read 3 more rate cuts into these measured remarks. Overall the US economy is performing well, considering its maturity and the level of debt overhang. The length of this expansion is as exceptional as its shallow trajectory; maintaining slow, steady growth would be a worthy achievement. Then again, there is the stock market. Businesses here and abroad may loath volatile US trade policy and rhetoric, but they are adapting. The stock market, in contrast, gyrates with every tweet. Lower rates (or the hope thereof), for now, seem the only antidote.

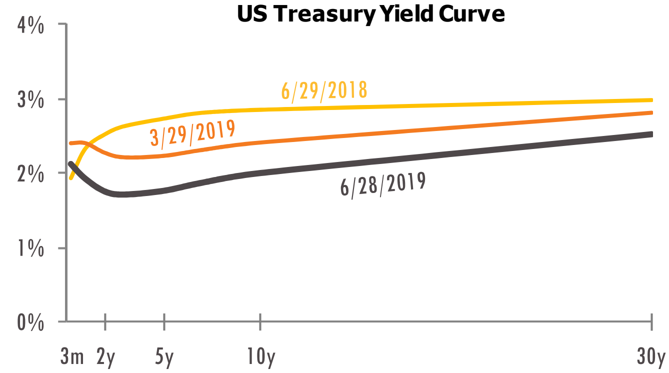
Post-War US Economic Expansions

			Annualized Growth		
Trough	Peak	Months	Nominal GDP	S&P 500	Multiple
10/45	11/48	37	7.1%	0.8%	0.11
10/49	7/53	45	9.4%	18.1%	1.92
5/54	8/57	39	6.4%	18.6%	2.89
4/58	4/60	24	6.7%	18.3%	2.73
2/61	12/69	106	7.5%	8.7%	1.15
11/70	11/73	36	9.9%	7.9%	0.80
3/75	1/80	58	11.2%	13.1%	1.17
7/80	7/81	12	13.0%	6.6%	0.50
11/82	7/90	92	7.5%	16.7%	2.22
3/91	3/01	120	5.6%	15.6%	2.79
11/01	12/07	73	5.4%	7.6%	1.41
6/09	6/19+	120+	3.9%	15.9%	4.10

+ GDP & S&P 500 through 3/31/19

The US Bond Market

A casual dip in rates at the short-end of the yield curve developed into a more decisive hook in the second quarter. Fed funds futures now price in a rate cut in July, another in September, a third in October or December, and one more sometime in 2020. But what goes down must come up. All year, the 3-year key rate has served as an inflection point. True, some Treasury note spreads to bills are negative, and that is unusual, but to classify the yield curve as "inverted" is to ignore the bulk of the curve and focus on the section that will soon disappear as we roll forward.



Credit had an uneventful quarter, with investment grade US corporates tightening marginally to finish at a 122 bps spread over Treasuries. High yield spreads saw some movement, drifting down to 3.64% before briefly touching 4.70%, but ended mostly unchanged, climbing just 8 bps to close at 4.07%. Investment grade bond issuance was slightly down for the second quarter, though high yield issuance kept a strong pace. Floating rate issuance was responsible for the dip in IG paper, down more than 55% compared to the first half of 2018. Convertible bonds have also fallen out of favor almost entirely, with just $500 million issued in 2019 compared to around $2 - $3 billion per month on average since 2009.

US Bond Index Returns

Blmbrg Barclays	**2Q19**
Aggregate	3.08%
Interm. Gov't	2.34%
Long Gov't	6.00%
TIPS	2.86%
Municipal	2.14%
Interm. Credit	2.99%
Long Credit	7.02%
High Yield	2.50%
MBS	1.96%

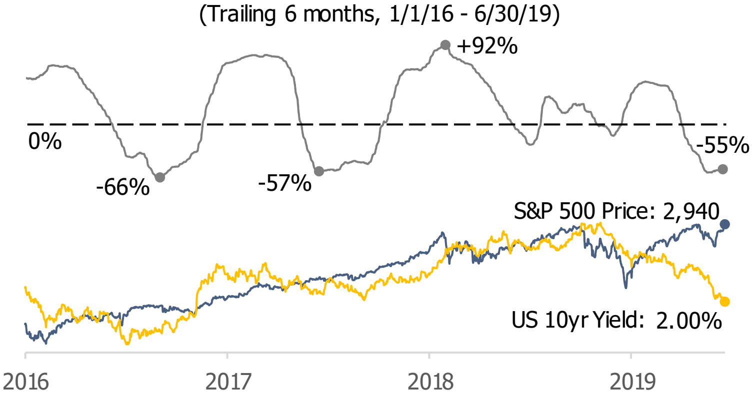
The mortgage market saw the introduction of a somewhat new security in June. The uniform mortgage backed security (UMBS) is slated to replace the MBS issued by Fannie Mae and Freddie Mac. Standardization between Fannie and Freddie is expected to increase liquidity, mainly in the less-liquid Freddie MBS. In turn, greater liquidity should reduce loan rates.

The yield curve is influenced by multiple forces; their counterbalance explains why an inflection point can exist. The Fed overnight policy rate, currently 2.25 - 2.50%, dominates the short end of the curve. Treasury bill rates (maturities up to 1 year) are almost purely a function of expected policy decisions. But the influence fades into the belly of the curve. The question becomes less what will the Fed do, and more what will the economy do?

If the Fed surprised with a rate cut to zero, you would see short term rates go to zero, but longer-term yields might rise in anticipation of backlash to overly-accommodative monetary policy. In this way, a 1y/10y Treasury spread becomes an ambiguous apples-to-oranges comparison prone to misinterpretation. In contrast, a shorter 1y/2y spread can more clearly indicate the expected path of Fed policy while a longer 5y/10y spread may show whether investors are more concerned about the risk of inflation or the risk of recession.

It is easy to forget what a normal yield curve looks like. Compared to the abnormal steepness of the past 12 years, the curve today looks flat. The 10-year Treasury yields 25 bps over the 5-year and the 10/30 spread ended the quarter above 50 bps. However, throughout 28 of the 30 years preceding the financial crisis the curve was flatter in one, or both, of these ranges. Far from a fearful flight to safety, beyond the 5-year key rate, investors can still find a normal risk premium in compensation for the inflation risk and volatility posed by longer duration.

Correlation of US Stock Prices and US Treasury Yields
(Trailing 6 months, 1/1/16 - 6/30/19)



Fixed income and equities are the two major components of financial markets. When assets flow out of one, they typically flow into the other. So, you often see bond prices and stock prices moving in opposite directions. Intuitively it makes sense for shifts in bond yields to correlate directly with changes in stock prices when yields are in an accommodative range. A healthy economy is bullish for stocks and supportive of a return to neutral monetary policy. Yet yields and stock prices regularly diverge. Some forces push bond yields lower and stock prices higher in tandem. A series of Fed cuts that go beyond what is necessary to support the health of the economy might spur such a concurrence.

The US Stock Market

Trade tensions and expectations of a shift in monetary policy were the dominant drivers of US stock returns in Q2. While ultimately ending the period solidly in positive territory across most sectors, stocks had a bumpy ride to get there. Negative returns in May reversed a month later. The Dow, Nasdaq and S&P 500 posted strong June numbers, leading to their best first-half results since the late 1990s. The end of the quarter also started the 11th year of US economic expansion, the longest recovery in US history.

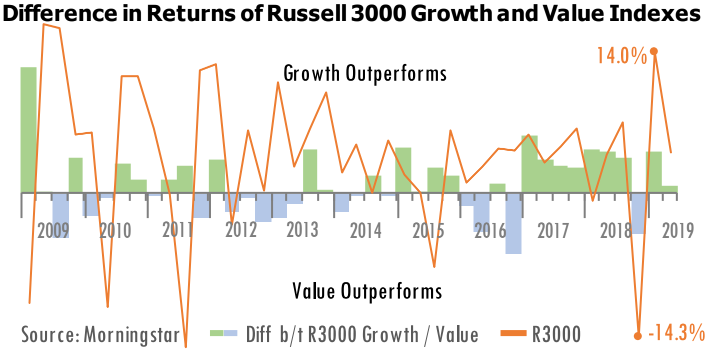
US Stock Indices - Total Returns

Large-cap Stocks	2Q19	Mid-cap Stocks	2Q19
S&P 500	4.30%	S&P Midcap 400	3.05%
Russell 1000	4.25%	Russell Midcap	4.13%
Growth	4.64%	Growth	5.40%
Value	3.84%	Value	3.19%
Broad Markets		**Small-cap Stocks**	
S&P 1500	4.16%	S&P Smallcap 600	1.87%
Russell 3000	4.10%	Russell 2000	2.10%
Growth	4.50%	Growth	2.75%
Value	3.68%	Value	1.38%

However, the return records set over the quarter may belie a weaker market ahead for US stocks, with an increasing number of US firms indicating the potential for falling profit margins. Over the course of the quarter, 25 companies in the S&P 500 discussed margin pressure in their analyst calls, up from 16 in Q1, with 87 issuing negative EPS guidance. A year-over-year decline in Q2 earnings of 2.6% is forecasted for firms in the index. If this materializes, it will be the second quarter in a row for earnings declines in the index after the Q1 falloff of 0.3% (YoY). On top of that, analysts are projecting another 0.3% drop (YoY) for earnings in the coming quarter [FactSet].

Signals of potential future market weakness were not limited to the large-cap arena. While returns were positive for the quarter, all major small-cap indices underperformed their large- and mid-cap peers. Further, the 12-month return for the Russell 2000 Index, as well as most of its industry sub-indexes, remains firmly in negative territory. Small cap stocks have underperformed the broad market in 3 of the last 4 quarters. The notable exception is the Russell 2000 Utilities Index, which posted a 12-month return of 13.09% (over 16% ahead of its parent index and over 1% ahead of the Russell 1000 Growth Index for the same period), a sign that at least some investors are seeking safety from market turmoil.

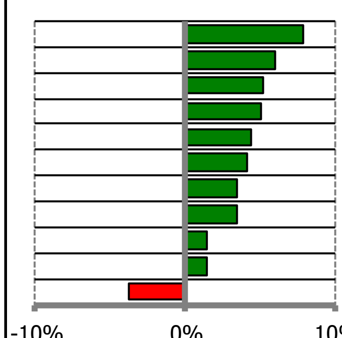
Difference in Returns of Russell 3000 Growth and Value Indexes



Indeed, the most interesting stories may well have been told in the sectors. Financials were the top-returning sector for Q2 after four consecutive quarters of, at best, middle-of-the-pack performance. This success comes despite increasing market consensus on lower interest rates for the second half of the year, which would make spread businesses more challenging. What seemed to outweigh this was a preference for stability. The last week of June saw the Federal Reserve sign off on plans from 18 of the largest banks for stock buybacks and dividends that were submitted in conjunction with this year's stress tests mandated under the Dodd-Frank Act. Collectively, the dividend payments and stock repurchases are expected to exceed the banks' earnings for the year, and their stocks rallied on the news.

Materials were another surprise this quarter. After trade war concerns and unstable commodity prices challenged the sector for the first five months of the year, it became the top-returning sector in the S&P 1500 in June. Its 11.81% one-month return beat the next-best sector, technology, by over 2%. The turnaround seemed to be driven primarily by investor confidence in an imminent interest rate cut by the Fed, which would potentially benefit materials firms in two ways. First, the economically-sensitive sector should do better if the US expansion continues through its 11th year. Second, a falling dollar increases commodity prices and, in turn, earnings for the firms tied to them. For Q2, however, the sector is expected to report the highest earnings decline of any sector, estimated to be -14.4% (YoY) [FactSet].

S&P 1500 Economic Group Components - Total Returns



Sector	2Q19
Financials	7.84%
Information Tech.	5.96%
Materials	5.12%
Consumer Disc.	5.01%
Comm. Services	4.34%
Industrials	4.08%
Consumer Staples	3.47%
Utilities	3.42%
Real Estate	1.50%
Health Care	1.42%
Energy	-3.78%

Source: Morningstar

IPO activity picked up dramatically in Q2. At 62 deals, it was the most active quarter in four years. In addition, the $25 billion in capital raised was the most in five years, and the average return was a surprising 30% [Renaissance Capital]. Strong activity in technology and biotech names overcame below-average activity in the energy and financial sectors.

International Markets

Global economic momentum slowed in 2019 and the risk of a trade war continued to loom large., but a synchronous shift by the largest central banks towards more accommodative policy helped keep markets on track in Q2. A dovish Fed, fiscal stimulus in China, and a weakening dollar protected the year's early gains across developed and emerging international markets, in spite of growing political and macro headwinds. Global equities continued Q1 gains, adding $8 trillion in market cap through the first half of 2019.

Foreign Stock & Bond Indices - Total Returns

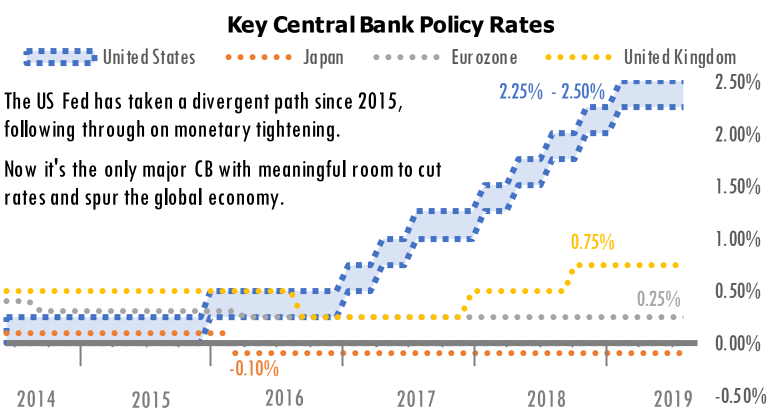
MSCI Broad Indices	**2Q19**	**Barcap Global Indices***	**2Q19**
MSCI ACWI ex-US	2.98%	Global Aggregate	3.29%
EAFE (Developed)	3.68%	Pan-Euro	3.45%
Emerging Markets	0.61%	Asian-Pacific	3.17%
		Eurodollar	2.71%
MSCI Regions		Euro-Yen	2.50%
Europe	4.48%	Other Currencies	5.07%
Japan	1.02%	** Unhedged*	
Pacific ex-Japan	5.16%		
Latin America	4.44%		

Markets ended the quarter closely watching the G20 Summit on the 28-29th of June. With world leaders gathering in Osaka, the most anticipated meeting was between President Trump and China's leader, Xi Jinping, as investors hoped for a ceasefire in growing trade hostilities.

Europe

Economies across Europe witnessed continued softening of macroeconomic indicators through Q2. In the 19-member Eurozone, industrial production declined 0.5% from March to April and 0.4% from a year earlier. In spite of the European Central Bank's accommodative policy stance, May inflation of 1.2% (annualized) remained far below the target of 2%. Eurozone economic sentiment fell to nearly three-year lows in June; confidence in the largest economies of the region, especially Germany and Italy, saw the sharpest falls.

The fragility investors are wary of was on display as German industrial production in April showed a significant decline. Europe's largest economy reported a 1.9% fall in factory output, as weaker car sales and cooling global demand caused the largest output slump in more than four years. Weak expectations over the near- and medium-term have fueled a flight to safety in Germany. A continued uptick in demand for government bonds has kept German sovereign yields firmly negative through Q2, with the 10-year yield touching a record low of -0.34% near the end of June.



As European economies had slowly been stabilizing over recent years, the ECB signaled its intent to normalize monetary policy beginning in 3Q 2019. However, the weakness in business investment outlook, fears of no-deal Brexit, a US-China trade war, and US sanctions on the EU may prompt ECB Chairman Mario Draghi to stick with the stimulus and potentially expand it. Draghi signaled a major shift in policy stance in his June statement, noting that "additional stimulus will be required" if inflation remains low.

Across the English Channel, UK PM Theresa May, acknowledging her failure to deliver on Brexit, announced her resignation from the party as well as the post of Prime Minister. But uncertainty around Brexit is expected to continue; Q1 data released in May showed that UK GDP grew at 0.5%, largely due to businesses stockpiling against the possibility of a no-deal Brexit. A tightening labor market, however, continued to be a positive. Unemployment hit 3.8% in June - its lowest since 1974.

Americas

After growing at a sluggish annualized pace of 0.4% in the first quarter, the Canadian economy expanded a solid 0.3% in April from the previous month. GDP was boosted by a 5.5% rise in oil and gas extraction, as global crude prices recovered. Business sentiment also improved from relatively low levels in Q1 as firms expressed more optimism about near-term domestic demand. Canada's unemployment rate fell to record lows (5.4%) as the economy added 27,700 jobs in May. Analysts will be keeping an eye out over the coming months to see whether these positives can reinvigorate Canada's housing sector, which has faced a continued slowdown since the Bank of Canada began tightening rates in mid-2017.

In South America, Brazil's marked spike in corporate optimism after the election of Jair Bolsonaro seems to have fizzled away in Q2. Bolsonaro swept to power on pledges of delivering deregulation, privatizations, and crucial pension reform. However, amid concerning levels of policy paralysis and political infighting, the economy has stagnated and private investment has declined. Industrial output dropped dramatically in April, falling 3.90% (YoY), causing economists to revise their estimate for 2019 GDP growth downward; Brazil's central bank now expects the economy to clunk along and grow at 0.8%, substantially below the 2.0% expectation it had reported in March.

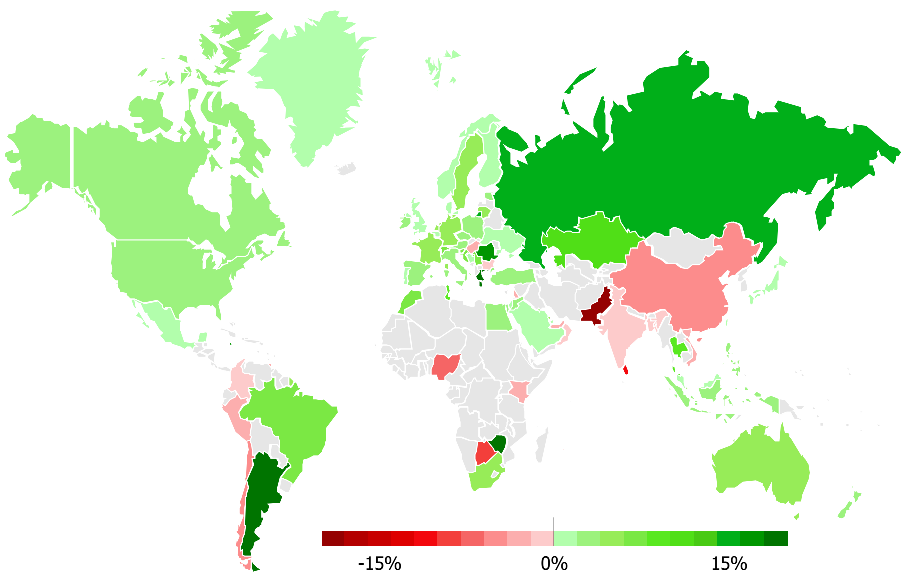
In neighboring Argentina, markets whipsawed in the second quarter. With elections around the corner, the prospect of left-leaning former president Cristina Kirchner returning to power spooked markets. Yields on short-term government debt traded at distressed levels in April and the cost of insuring against Argentinian default surged, at one point implying a 65% probability of default within five years. Macro data provided some respite for markets as inflation eased from record highs of 57.3% through the second quarter. Though prices did rise over 4% in April, the rate of change eased off through May and June. With crippling inflation seemingly nearing its end, and industrial production picking up, Argentinian stocks (as measured by the S&P Merval Index) rose almost 30% in 2Q 2019.

Asia

As Japan headed into the Reiwa Era under its new emperor on May 1, 2019, markets were greeted by mixed economic data. Preliminary GDP figures released in May showed surprising resilience, with the economy expanding at an annualized rate of 2.1% versus an expected 0.2% contraction. However, the strong headline number was largely attributable to an increase in net exports and government spending. Net exports rose as exports fell 2.4% from the previous quarter, less than the 4.6% slide in imports. The larger-than-expected drop in imports is an indicator of sluggish domestic demand, which was also highlighted by declines in private investment and consumption through Q1.

Japanese equities started Q2 strong, gaining over 5% in April, but sold off and meandered around a flat line as the Cabinet Office reported business conditions were "deteriorating" – the first time in six years such an economic assessment has been made. Mounting headwinds have marred the medium-term economic outlook for Japan. Investors also grew increasingly worried through the quarter about the adverse impact a planned hike in the country's consumption tax (from 8% to 10%) would have on already flagging domestic demand.

2Q 2019 Global Returns (in USD)



Japanese equities have been Asia's second-worst performer in 2019 after South Korea's, and as a result, foreign investors have been retreating from the world's third-largest economy. Of the $14 billion pulled out by non-resident investors in 2019, more than 65% was in Q2 alone. The heavy portfolio outflows since US-China trade talks broke down could curtail a rising yen, which has been pushed higher by a flight to safety due to heightening worries over global growth, trade conflicts and political tensions in the Middle East.

In China, economic growth came in at 6.4% for the first quarter according to reports in April, supported by accelerated industrial output growth and strengthened consumer demand amid the government's pro-growth policies, which helped stabilize sentiments rattled by on-going trade disputes with the US. China approved a 2tn yuan ($288.95bn) stimulus package that included tax and fee reductions that temporarily appeared to improve business confidence. Bank credit and bond issuance picked up in the second quarter, but other non-bank (shadow) lending has moderated due to regulatory tightening. Equity prices and the renminbi, which rebounded in early 2019 partly due to policy support measures, faced downward pressures through Q2 amid the re-escalation of trade tensions.

However, the outcome of the G20 meeting between President Trump and Xi Jinping at the end of the quarter is expected to be a positive for markets heading into Q3. The agreement between Washington and Beijing to simply get trade talks back on track took a lot of negotiating – the US government agreed to hold back on additional tariffs on $300bn of Chinese goods to end the impasse, while China agreed to import larger quantities of US farm goods. Significant hurdles still remain as both sides work towards a long-term resolution, but the Chinese economy might be looking for a speedier solution as economic activity continues to slow down in Mainland China. Data released as the quarter closed signaled contraction of factory activity for the second straight month.

Focus On: Investing in Real Assets IRL

There is a certain satisfaction in holding something in your hands. To borrow from Captain Jean-Luc Picard, "For humans, touch can connect you to an object in a very personal way. It makes it seem more real." Although he was talking about the titanium hull of a repurposed nuclear missile, he also provides insight on real assets (often defined as a physical asset that will be able to hold its value over time).

Many novice investors find it difficult to jump into the open waters of the stock market. There is nothing to grasp to stay afloat. You sink or swim. Buying something familiar and tangible as an investment can seem comfortingly foolproof compared to wagering on stocks and bonds, which only exist as numbers in a database. Gold coins, fine art, and even Lego building block sets are all popular collectibles to stash at home, where you can both safeguard and enjoy them.

While corporeal existence may be implied by the term "real asset," it is neither necessary nor sufficient for the asset class. For example, some objects do not retain their value over time - a gallon of milk spoils, a computer becomes outdated technology, and a new purse turns into a less-current, used purse. Shares of stock in a crude oil producer are not the same as a basement full of oil drums, but they do share some performance characteristics and are, for many people, more practical to own. The more inelastic the supply and demand, the better the real asset conforms to an ideal store of value. Alternatively, some non-objects provide indirect exposure to sources of real returns or derive their returns, in part or in whole, from inflation measures. This real return is what truly defines real assets. While other asset classes produce nominal returns that may be eroded in periods of high inflation, real assets are insulated from inflationary forces and are thus able to maintain an excess inflation-adjusted return.

To better understand what makes something a real asset and why real assets may, or may not, be prudent investments we will examine four different real asset categories. Each has its strengths, and a critical weakness.

No Real Asset is Ideal

	US TIPS	Commodities	Real Estate	Equity/Debt*
Store of Value	✓	✓	✓	✗
Liquid	✓	✓	✗	✓
Economic Rent	✓	✗	✓	✓
Risk Premium	✗	✓	✓	✓

* Includes equity/debt of companies linked to real assets (e.g. REITs)

Tips on TIPS

US TIPS are not real in the sense of being able to touch them, but they do inherently provide a real return. First issued in 1997, US Treasury Inflation Protected Securities have provided investors with explicit inflation protection for over 20 years. Of course, inflation has been consistently low for much of this period. Although battle-untested, US TIPS are guaranteed to provide a real return equal to their nominal fixed rate coupon, assuming the US does not default and the Consumer Price Index (CPI) is an accurate measurement of inflation. Since both assumptions are fairly straightforward and reasonable, US TIPS seem like a proper solution for inflation-averse investors. And, to an extent, they are.

If held from auction to maturity, a 10-year US Treasury bond guarantees a fixed income over that period. Similarly, US TIPS can provide a more-or-less certain real return to a specific maturity date. However, short-dated TIPS only provide short-term inflation protection, and longer-dated TIPS are rarely held to maturity. Further, the certainty of protection dissipates in a portfolio of mixed TIPS. As varying maturities are bought and sold after issuance, performance becomes less an investment isolated from inflation and more a gamble on inflation expectations. While TIPS have exhibited a beta to CPI near 100% over the long term, in the past seven years that beta was -80%.

While changes to the coupon component of TIPS are impacted purely by inflation, the market price of an issue is affected by changes in inflation expectations and often dominated by changes in nominal yields. At best, TIPS provide a small real return immune from inflation. At worst, TIPS can become an allocation condemned to negative expected real returns and high volatility. In any case, protecting a portfolio from inflation using TIPS requires a 100% allocation.

The shortest-term TIPS (and US Treasury) is the US dollar. While traditionally categorized distinctly as cash, currencies are basically sovereign debt with zero duration. Foreign currencies can be used as a hedge against inflation or currency weakness. However, unless there is a risk of default, you are not receiving a risk premium from holding foreign currencies (i.e., not "investing"). Rather, you are exposed to the straightforward difference between the US and foreign yield curves.

Commodities and Other "Investments"

Alternatively, we can think of foreign currencies, or rather currency swaps, as commodities. Emerging markets currencies in particular are seeing more utilization in diversified real assets products for their inflation response. As a matter of course, US dollar weakness goes hand in hand with foreign currency strength. This positive beta to inflation places foreign currency derivatives firmly in the category of real assets, but like other commodities, they contribute nothing to the productivity of the economy. In other words, they do not produce economic rent, a prerequisite for investment.

If you put your gold coin collection in storage, you won't come back the next month to find an extra pile of gold has appeared. However, you will have to pay for the storage space. While a true investment has an underlying risk-free rate of return, commodities and other "investments" are basically cash stashed under a mattress without the threat of inflation. Some commodities are able to mask this fact with risk premia (which may be positive or negative) and volatile returns, but over the long term their true nature is exposed.

Gold is, for lack of a better term, the gold standard of commodities. It is a liquid store of value that serves as a practical financial medium even in face-to-face transactions. However, it behaves differently from other commodities outside of the precious metals. The market value of gold is so far above its intrinsic value as an industrial input that it is not subject to the same forces of inelastic demand as commodities like oil and timber, which are valued for the economic output they can produce. This has translated to a lower beta to CPI of roughly 3x compared to almost 6x for broad commodities.

Aside from a dampened inflation response, gold shares the same positives and negatives of other commodities. Further, long term returns of gold (+3.5%) and silver (+2.7%) have averaged close to inflation (+2.9%), and far below US equities (+9.5%) over the past 120 years [Long Term Trends]. Although commodities do not command economic rent, you can still invest in them tangentially by owning equity in a company closely linked to commodities or property with sustainable commodity production (e.g., fish farms or timberlands).

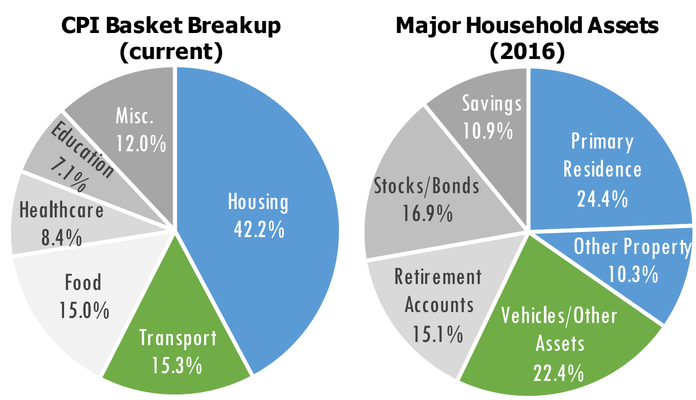
Equity in the Land of Real Assets

Commonly labeled as commodity producers, natural resources, REITs or infrastructure, equity in companies linked to real assets is often thought to behave like a real asset. And, to an extent, it does. However, it also acts a lot like equity. When financial markets crash, it acts more like equity than you would like. When financial markets do very well, it acts more like a real asset than you might hope. Equity portfolio managers are well aware, generally dismissing these sectors. Real estate constitutes over 15% of the Russell Mid Cap Value Index and utilities have a 12% weight. The average allocations from actively managed mutual funds tracking the index are 9% to real estate and 7% to utilities.

For the most part real-asset-linked companies demonstrate more defensive, counter-cyclical return profiles and greater inflation protection than other sectors of the economy. However, the landscape of companies that define the investment universe is wildly diverse and defies blanket generalizations. One oil producer might work well as a real asset investment because the vast majority of the company's value derives from oil field holdings with well-known production capacity. However, another oil producer that seems quite similar might be a poor real asset investment because it has used futures contracts to eliminate sensitivity to oil prices.

The current challenge faced by shale companies illustrates the complexities of investing in commodity-linked firms. In 2016, the industry saw a dramatic rise in equity and debt financing despite oil prices dropping by over 70%. Many of these firms maintained they could continue to increase oil and natural gas production by drilling wells more closely together. Recent data indicate, however, that closer shale wells are less productive than older wells and may also interfere with the output of older wells. With much of the value of these firms resting on their ability to generate strong production, investors may see broad write-downs across the industry as the worth of land positions falls. The situation would only be exacerbated by a drop in oil prices (which seems to be materializing through June).

The shale oil producers' boom and bust cycle (and other anecdotal cases) shows us that equity in real-asset-linked companies can be problematic. Stocks are imperfect stores of value, losing worth unexpectedly and, at times, dramatically. However, if carefully selected across a diverse universe, it is easy to see how investment in companies linked to real assets can provide protection against inflation.



Sources: Surevey of Consumer Finances, Federal Reserve, Bureau of Labor Statistics

Real Estate: the Realest Real Asset

Real estate is arguably the most tangible and useful of all investible assets. It is one that can be lived in and is often a household's largest asset, overshadowing combined retirement portfolios. Home ownership continues to be one of the most important goals for families in the US. According to a recent survey, 85% of working Americans aspire to own homes by retirement. While the concreteness of real estate as an asset provides unmatched psychological comfort to most investors, it comes with some substantial drawbacks.

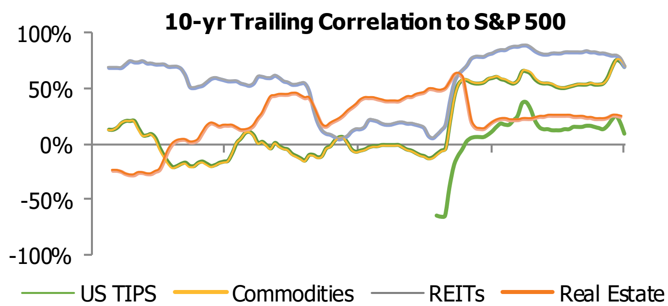
First and foremost is illiquidity. Direct real estate transactions can often take months. This issue is further compounded by the sheer size of the investment required for purchase. Since the dramatic housing market crash of 2008, real estate prices have recovered and grown steadily to reach new highs, according to the S&P National Home Price Index, making it harder and harder for people to find opportunities to invest.

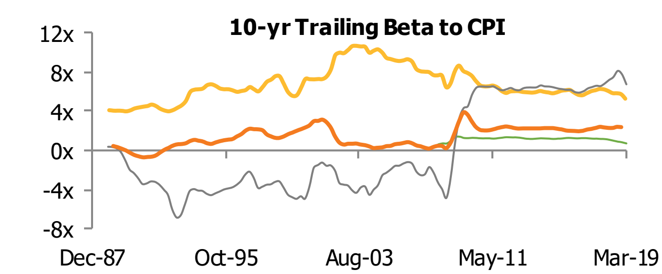
To allow 401(k) participants to gain their desired exposure to real estate, many plans include an independent REIT fund in the investment lineup. Unfortunately, REITs (as equity) have historically displayed high levels of co-movement with other equities, diminishing their role as both a diversifier and inflation buffer. While commodity-linked equities have historically offered inflation protection closer to commodities than equities, REITs have been less robust. Like most US equities, REITs have experienced long periods of negative beta to CPI; although, they have averaged 140% beta to CPI over the past 40 years compared to 30% for the S&P 500. Consequently, interest in private core real estate funds, which much more closely mimic the characteristics of direct real estate, is on the rise.

The inherent benefits of private core real estate funds are twofold: 1) the value of private real estate generally increases in a rising rate environment, and 2) rental yields also are positively related to inflation. Private core real estate aims to develop a consistent stream of rental income, which is supported by moderate capital appreciation, while REITs derive most of their returns from the latter and tend to have over 40% in debt (compared to 20-25% in core private real estate). The limited leverage compared to REITs protects against the impact of higher borrowing costs on cash flows. All the aforementioned factors enhance the ability of private real estate funds to provide stability and diversification, especially in volatile markets. However, it comes at the cost of illiquidity and poorer price discovery than offered by REITs. A solution potentially suitable for 401(k) plans, but yet to gain traction outside of multi-asset funds is combining a large allocation to private real estate combined with a small allocation to REITs for liquidity.

Mix it in a Mincer and Pretend it's Beef

A dozen years ago TIPS were the hot strategy to add to a retirement plan. The presumed fallout from Quantitative Easing combined with loose monetary and fiscal policy threatened to erode retirement savings with miserable spikes in inflation. Yet, inflation never came. A $1 investment in TIPS at the beginning of 2009 would be worth around $1.50 today, compared to almost $3 for the S&P 500. Although TIPS are less volatile, they still underperformed US equities when measured by Sharpe ratio. Add in 2007 and 2008 to capture the entire financial crisis, and TIPS still come up far short on return and no better than US equities on a risk-adjusted basis.





TIPS are not a universal cure-all for inflation. No real asset class is, by itself. However, in combination, real assets can serve a purpose in any portfolio.

Is capital preservation the most important feature? Or, is inflation protection without an opportunity cost the primary goal? What about simply including areas of the financial markets that are not already represented in-plan?

A diverse set of real assets can protect from extreme tail-risk in equities and defend against one of the primary risks of fixed income securities, inflation. A mix of TIPS, commodities, real asset equities, and real estate allows each category to complement one another's weakness. The result is a more consistent and balanced combination of expected return, volatility, correlation to equities, and inflation response. Moreover, if you consider fundamentally the pros and cons of each category and allocate across them accordingly, you can design an asset mix in line with your specific investment goals.

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