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July 17, 2017

Summary:

- U.S. first quarter real GDP was revised upward to 1.1%, and the second quarter is projected to be at or around 2.5%. This means the economy was growing at an annualized rate of 1.8% for the first half year. Depending on how the second half performs, the economy is probably on track for around 2% this year. This assumes no significant policy changes in Washington such as infrastructure spending and tax reform.
- Good news remains with the labor economy with U3 down to 4.4% and U6 dropping to 8.6%. Even at the 62.8% participation rate, it is hard to argue that there is much labor slack remaining. Although wage growth has not been obvious, the Employment Cost Index (wage and benefit cost) is now growing at 2.9% while the average weekly earnings is at 2.5%. Both are now above the inflation rate.
- The Federal Reserve has definitively moved from a dovish bias to a normalization bias. The FOMC is expected to raise rates three times this year, and the market expects the next hike to be in December. The FOMC is positive about the U.S. and global economy, positive about the labor economy, confident with the core inflation returning to 2%, confident with the strong banking system, and more able to act under a supportive financial condition environment in the market. But the pace is expected to remain accommodative in supporting its dual mandates.
- The FOMC is expected to embark soon on its efforts to normalize the Fed's balance sheet by not reinvesting all the principal payments from agency debt and MBS and not rolling over maturing Treasury securities at auction. The June FOMC meeting provided an updated guidance and framework of how the FOMC will use an escalating cap system to shrink its balance sheet over time. This process would be gradual and over an extended period. The market expects the normalization to begin this September.
- CPI and Core CPI have taken a surprising turn downward and away from the 2% inflation target, but the FOMC expects the causation to be transitory. The FOMC's long-term outlook for inflation remains higher than the market expectation as evidenced by the 5-year, 5-year forward inflation expectation value as well as the 10-year forward inflation estimate comparing the 10-year treasury yield with 10-year TIPS. Historically, the market has proven to be correct about a lower interest rate with a lower inflation rate, and the FOMC had to repeatedly revise its projection towards the market expectation. This remains a risk if this scenario changes.
- After almost a decade of unconventional and extraordinary monetary accommodation globally, investors and markets have gotten complacent with and reliant on the central bank's safety net. The normalization phase would likely be tricky and sooner or later will witness financial conditions tighten, adding stress to the system. This would be that much more exaggerated if ECB and other central banks also begin to normalize. Regardless of the gradual pace of balance sheet and rate normalization, the market is always looking out to the destination and is less concerned about the path.

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- The world has dodged a bullet in Europe after the Brexit Referendum with the outcome of a string of Europe elections not favoring the breakup of the eurozone and the euro under populism. This has helped to reduce political risk and uncertainty in the eurozone and added support to a cyclical economic rebound.
- In our last quarterly commentary, we compared the forward looking soft data against the backward looking hard data. It was clear at the time that consumer and business sentiments were buoyant with high expectations of new initiatives from Washington that would lift the economy for years, and such excitement was not reflected in the hard data. At the time, we were skeptical that the sentiment would be translated into hard data in in the next few quarters. Since then, the soft data has turned down and the IMF has just revised down U.S. growth for 2017 from 2.3% to 2.1%. In early June, OECD also revised down U.S. growth to 2.1%.
- In the U.S., the Trump reform agenda is not likely to be realized this year. This is further complicated by the looming debt ceiling and the 2018 budget negotiations which exaggerate the differences in ideology among Republicans and Democrats. To further incite the bipartisan roadblock is Trump's style and the never ending Russian investigations. Risk may be rising from here forward for markets and the economy.
- The following is the Federal Reserve Bank of Philadelphia's second quarter survey of professional forecasters results.

Median Forecasts for Selected Variables in the Current and Previous Surveys

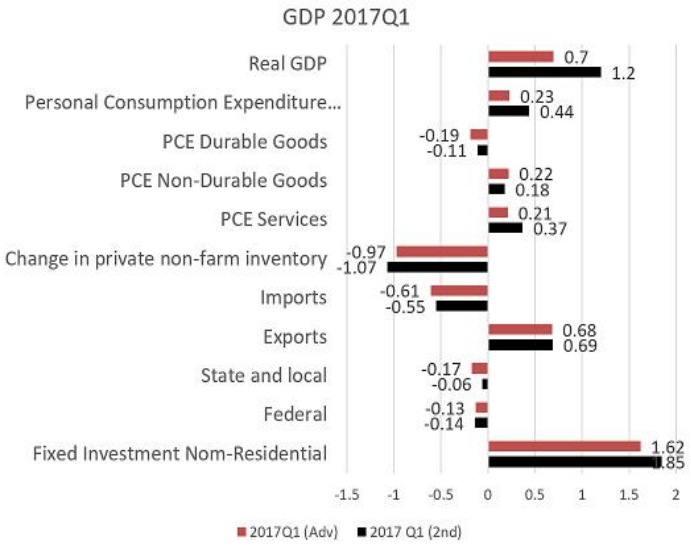
	Real GDP (%)		Unemployment Rate (%)		Payrolls (000s/month)	
	Previous	New	Previous	New	Previous	New
Quarterly data:						
2017:Q2	2.3	3.1	4.6	4.5	167.0	177.3
2017:Q3	2.4	2.5	4.6	4.4	168.9	170.7
2017:Q4	2.4	2.4	4.5	4.4	160.3	155.2
2018:Q1	2.2	2.4	4.5	4.3	157.6	156.7
2018:Q2	N.A.	2.7	N.A.	4.3	N.A.	159.3
Annual data (projections are based on annual-average levels):						
2017	2.3	2.1	4.6	4.5	180.3	182.6
2018	2.4	2.5	4.5	4.3	164.5	162.8
2019	2.0	2.1	4.5	4.4	N.A.	N.A.
2020	2.1	2.3	4.6	4.5	N.A.	N.A.

Median Short-Run and Long-Run Projections for Inflation (Annualized Percentage Points)

	Headline CPI		Core CPI		Headline PCE		Core PCE	
	Previous	Current	Previous	Current	Previous	Current	Previous	Current
Quarterly								
2017:Q2	2.3	1.6	2.2	1.9	2.0	1.2	1.9	1.7
2017:Q3	2.3	2.2	2.1	2.2	2.0	1.9	1.9	1.9
2017:Q4	2.5	2.3	2.2	2.2	2.1	2.0	1.9	1.9
2018:Q1	2.4	2.4	2.3	2.3	2.1	2.1	2.0	1.9
2018:Q2	N.A.	2.2	N.A.	2.2	N.A.	2.0	N.A.	2.0

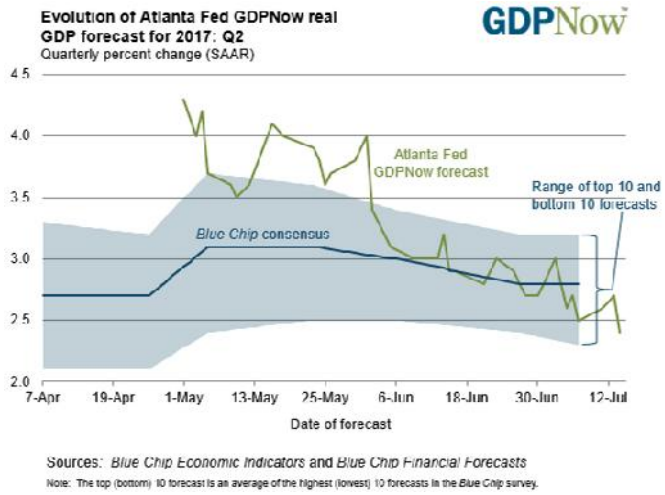
The U.S. Economy

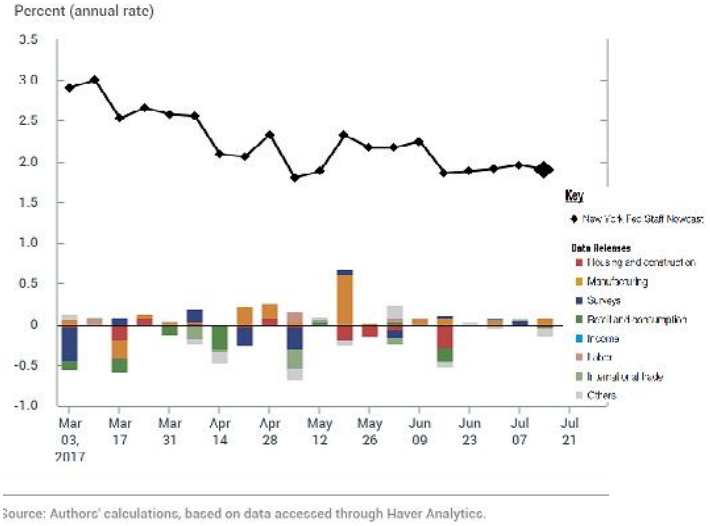
We ended the first quarter with high positive consumer and business sentiment even though the first quarter GDP was disappointing. On May 26th, the Bureau of Labor Statistics (BLS) issued the second estimate[1] for the first quarter GDP as 1.2% which is an improvement from the advance estimate of 0.7%.



With this second estimate for the first quarter, the general picture of economic growth remains the same; increases in nonresidential fixed investment and in personal consumption expenditures (PCE) were larger, and the decrease in state and local government spending was smaller than previously estimated. These revisions were partly offset by a larger decrease in private inventory investment. The deceleration in real GDP in the first quarter primarily reflected a downturn in private inventory investment and a deceleration in PCE that were partly offset by an upturn in exports and an acceleration in nonresidential fixed investment. The expectation is that the second quarter is going to be much better.

The July 14th Atlanta Federal Reserve GDPNow forecasts second quarter GDP to be at 2.4% down from 4.3% on May 1st. At the same time, the July 14th New York Federal Reserve Nowcasting is projecting 1.9% growth for the second quarter and 1.8% for the third quarter.





Unlike the first quarter, these two forecasting tools are converging. The second quarter will be better than the first but not the 3.5% to 4% rebound many have hoped for or projected.

[1] https://www.bea.gov/newsreleases/national/gdp/2017/pdf/gdp1q17_2nd.pdf

The June 23rd Markit Flash U.S. PMI[2] survey shows that both services and manufacturing sectors in the U.S. remain solidly in expansion. However, there are signs of growth rate slowing. The key findings in the survey are reported as follows:

- Flash U.S. Composite Output Index at 53.0 (53.6 in May). 3-month low
- Flash U.S. Services Business Activity Index at 53.0 (53.6 in May). 3-month low
- Flash U.S. Manufacturing PMI at 52.1 (52.7 in May). 9-month low
- Flash U.S. Manufacturing Output Index at 52.9 (53.7 in May), 9-month low

Also, the May ISM reports[3] show that, although the manufacturing and non-manufacturing sectors both continue their expansion, the rates of growth for the U.S. economy slowed in May. Furthermore, prices for both sector surveys reported to have decreased from April.

Consumer sentiment and expectations are important for the U.S. economy. The preliminary June results from the University of Michigan surveys[4] also show signs of slight slowing from a month ago even though they remain mostly ahead of a year ago. The July 14 release of its preliminary reading for July sentiment is down further to 93.1

University of Michigan Survey	Jun-17	May-17	M-M Change	Jun-16	Y-Y Change
Index of Consumer Sentiment	95.1	97.1	-2.70%	93.5	1.10%
Current Economic Conditions	112.5	111.7	0.80%	110.8	1.02%
Index of Consumer Expectations	83.9	87.7	-3.40%	82.4	2.80%

According to the University of Michigan surveys' chief economist, Richard Curtin:

"The modest early June drop of 2.6 points in the Sentiment Index masks a much larger decline since June 8th. Prior to that date the Sentiment Index had averaged 97.7, but since June 8th, the Index fell to 86.7, a decline of 11.0 points. While this break corresponds with James Comey's testimony, only a few consumers spontaneously referred to him or his testimony when asked to explain their views. Importantly, the decline was observed across all political parties, but the loss in confidence among self-identified Republicans since June 8th was larger than among Democrats (9.2 vs. 6.8 Index-points), with Independents showing the greatest falloff (11.5 Index-points). The size of the partisan difference between Democrats and Republicans in the Expectations Index, however, was largely unchanged (55.6 Index-points prior to June 8th, and 51.2 after). The recent erosion of confidence was due to more negative perceptions of the proposed economic policies among Democrats and the reduced likelihood of passage of these policies among Republicans. Fortunately, a strong job market, improved household income and wealth have provided a financial buffer against rising uncertainties. Nonetheless, consumers have become less optimistic about the future course of the domestic economy. Even with the expected bounce back in spending in the current quarter, personal consumption is expected to advance by 2.3% for all of 2017."

[2] https://www.markiteconomics.com/Survey/PressRelease.mvc/d3f0019960314909b58c490455819610
[3] https://www.instituteforsupplymanagement.org/ISMReport/NonMfgROB.cfm?navItemNumber=30823
[4] http://www.sca.isr.umich.edu/

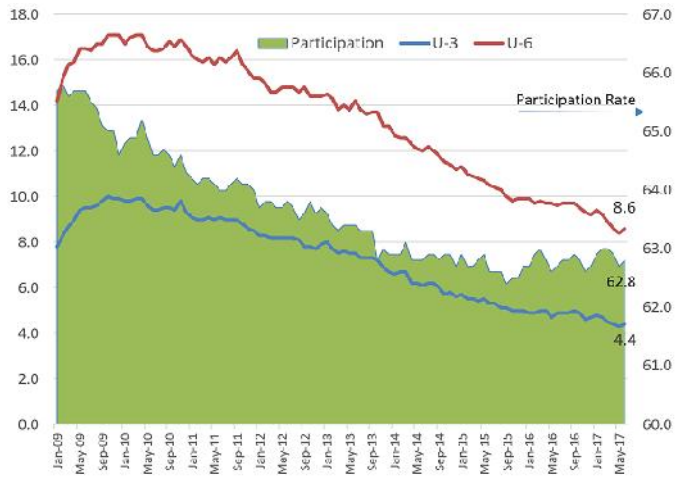
According to the June 27th published findings by the International Monetary Fund[5] ("IMF") for its annual consultation of the United States, the U.S. economy is in its third longest economic expansion since 1850 with its GDP at 12% higher than the pre-Great Recession peak and with full employment, but the post-Great Recession growth has been too low and unequal with rising public debt and an overvalued dollar (around 10 to 20%). Not unlike other developed economies, the U.S. is confronted secularly with technological changes affecting the labor market, low productivity growth, rising skill premia and an aging population. The Trump Administration is looking to "spark faster economic and productivity growth, stimulate job creation, incentivize business investment, balance the budget, bring down the public debt, and create fiscal space to finance priorities such as infrastructure." However, much of the details of this wish list of policies remain unclear or even unknown. Under these policy uncertainties, the IMF is revising its growth projection down for Y2017 from 2.3% to 2.1% and for Y2018 from 2.5% to 2.1%. The Y2017 revision seems to be in line with the first half real GDP growth rate.

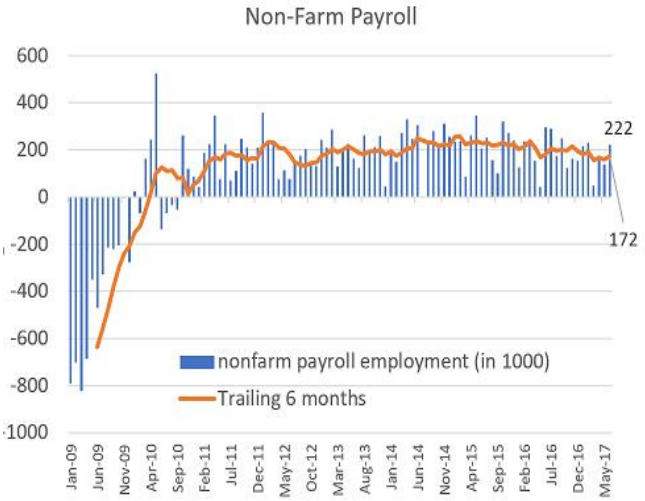
Key Macroeconomic Aggregates

	2016	2017	2018	2019	2020
GDP growth	1.6	2.1	2.1	1.9	1.8
Consumption	2.7	2.3	2.0	1.9	1.9
Investment	0.7	4.9	4.4	3.0	2.3
Net exports[1]	-0.1	-0.4	-0.4	-0.1	0.0
PCE inflation (eop)	1.4	1.8	2.2	2.3	1.9
Core PCE inflation (eop)	1.7	1.8	2.0	2.2	2.0
Unemployment rate	4.9	4.3	4.3	4.4	4.7
Current Account (% of GDP)	-2.6	-2.7	-3.0	-3.1	-3.0
Federal government: (% of GDP)					
Primary balance	-1.9	-1.5	-1.0	-1.3	-1.3
Overall balance	-3.2	-2.9	-2.6	-3.0	-3.3

[1] Contribution to GDP growth

Employment — The continuing bright spot



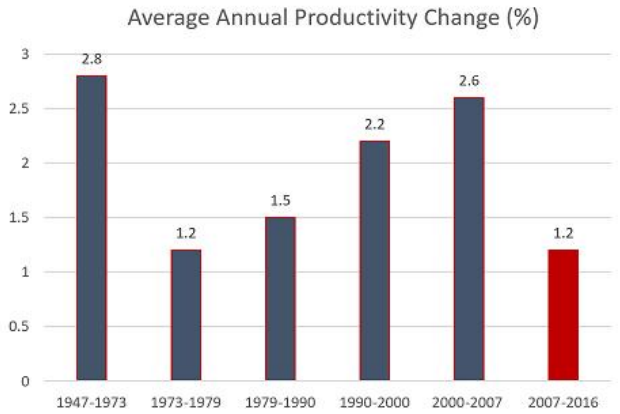


The bright spot of the economy remains the labor market. The headline U3 unemployment is now down to 4.4% in June, and the broadest unemployment indicator, the U6, is now at 8.6%, while the participation rate continues to hover around 62.8% for some time. The June non-farm payroll increased by 222,000 with a trailing 6-month average job creation at a healthy 172,000. At this late stage of the economic cycle, it is not unusual to see a gradual slowdown in new job creation, and as long as it remains above 75,000 to 100,000 per month, that should be sufficient to absorb the new entries into the economy. With an ever lowering employment

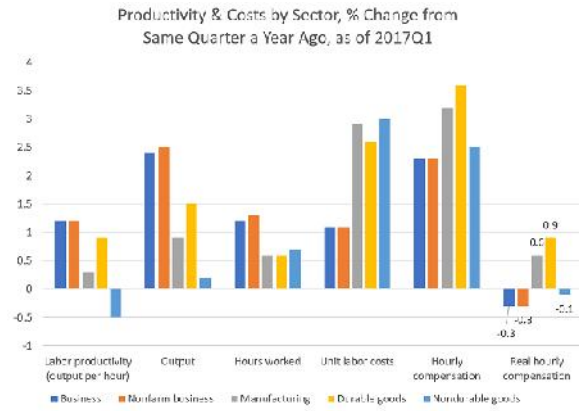
[5] http://www.imf.org/en/News/Articles/2017/06/27/ms062717-2017-article-iv-consultation-with-the-united-states-of-america

rate and a continuing good pace in job creation, it appears that we are at or near NAIRU - non-accelerating inflation rate of unemployment —a point where, if unemployment is below, inflation rises. NAIRU is a backward-looking data point and can only be recognized when wage driven inflation is evident.

After 80 months of continuous improvement in the labor economy, the labor productivity remains in historical low territory. Productivity is a measure of the amount of real gross domestic product produced by an hour of labor input. This is important since it is a fundamental factor in determining how fast the economy grows and affects the rate of growth of average income per capita over long periods. The following graphs show U.S. labor productivity from a historical perspective as well the latest quarterly productivity change from a year ago.



Source: DOL,https://www.bls.gov/lpc/prodybar.htm



Source: DOL https://www.bls.gov/charts/productivity-and-costs/labor-productivity-by-sector--most-recent-quarter.htm

The low productivity is likely a contributor to low wage growth. The Fed and most economists follow the traditional rationale that an improving economy leads to a tight labor market which improves productivity, resulting in wage growth. This ultimately should bring inflation and inflation expectation higher.

Some signs of wage pressure are showing in the economy. This is especially true for skilled labor. If inflation remains below 2% and the Employment Cost Index and the weekly earnings are growing at 2.9% and 2.5% respectively, we are already witnessing some wage growth. The challenge will be the ability for companies to exert some pricing power to pass on any wage increase. This is certainly missing for now.

Finally, as OECD increased its projection to 3.5% global growth rate in its June Global Economic Outlook for 2017[6], estimates for the U.S. were downgraded to 2.1% for 2017 and 2.4% for 2018 from the prior 2.4% and 2.8% respectively. This drop is attributed to the expected delays in the Trump Administration's plans to push ahead with budget cuts and infrastructure spending.

There are no clear or definitive answers to the current low productivity numbers. Economists often cite measurement challenges, structural shifts in the labor market, a scarcity of investment opportunities, productivity-diluting technological innovations, and technology-driven skills mismatches as plausible reasons.

In his June 6, 2017, speech on Government Policy and Labor Productivity[7], Vice-Chair Stanley Fischer of the FOMC suggested that labor productivity growth comes from three sources: 1) investment by firms in tangible (such as equipment and structures) and intangible (such as software and product designs) investments; 2) improvements in labor quality (i.e. workforce capabilities contribute through education, training, and experience); and 3) innovations that yield more or better output from the same capital and labor (e.g. the introduction of the assembly line and computer-aided product design). According to Vice-Chair Fischer, the current low productivity can be contributed to low investment, a lull in innovation and a slowdown in investment in human capital — workers' knowledge and skills.

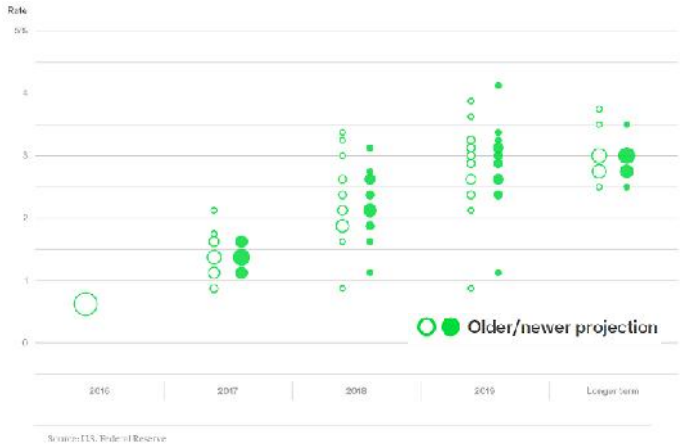
I have three additional thoughts regarding the current low rate of productivity in the U.S.:

1) Reversion to the mean - After years of excesses prior to the Great Recession, globally we have overleveraged, overconsumed, overbuilt, overemployed and borrowed forward growth, and it will take many years to bring balance or equilibrium back. During the years that follow the Great Recession, fear, uncertainty, and human emotions limit or discourage long-term private and public investments and risk taking which diminish increases in productivity. People and companies are in survival mode and not in expansion and investment mode. This low productivity is not structural.
2) Global Supply Chain/Over Capacity - To satiate the excesses of the developed economies, emerging and developing economies have strategically positioned themselves as parts of a global supply chain that bring economies of scale and efficiencies that cannot be easily replaced or replicated locally. At the same time, the slow post Global Financial Crisis global recovery has created over capacity in this new environment which puts downward pressure on price and investments.
3) It's global and not local - According to Apple's March 17, 2017, press release[8] in China, Apple has created and supported 4.8 million jobs in China, including 1.8 million iOS app developers and other iOS-related jobs. Apple operates 22 offices and 46 retail outlets in Greater China with more than 12,000 employees. This is a great example of how the positive productivity growth (naturally) is not accounted for in the U.S. under globalization. After decades of globalization, we have for now traded some of the productivity gains for low inflation, which benefited, for a time, consumers. Productivity-growth-led-wage-growth is substituted by disinflationary-price-reduction-lead-consumer-

[6] http://www.oecd.org/eco/outlook/general-assessment-of-the-macroeconomic-situation-oecd-economic-outlook-june-2017.pdf
[7] https://www.federalreserve.gov/newsevents/speech/fischer20170706a.htm
[8] https://www.apple.com/cn/newsroom/2017/03/17Apple-Announces-New-R-D-Centers-In-Shanghai-And-Suzhou/

wellbeing. Instead of a pay raise, the same wages bought better products at lower prices.

The New Default Position for Fed Rate Action — Upward and Onward



The shift in FOMC's normalization bias is clear. The Committee went from being extra cautious with a bias to not raise rates and staying longer at the zero bound and only raised rates once in 2015 and 2016 to a new reality. 2017 is a year in which Fed that sees a greater urgency to normalize. Previously non-fully supportive "data" were excuses to not raise rates, and now the default is to hike rates even if the "data" are not fully supportive. The FOMC June 14, 2017 meeting gave us another 25bps rate hike as part of its path of returning to the "neutral level" - the level of the federal funds rate that is neither expansionary nor contractionary and keeps the economy operating on an even keel. The Committee continues to anticipate that the longer-run neutral level for the federal funds rate is likely to remain below levels that prevailed in previous decades.

Based on the hard (backward looking) data on the U.S. GDP, productivity, and inflation, the FOMC's proclaimed "data dependent" approach should not have given rise to rate hikes in its March meeting and June meeting, but the FOMC stated[9] the following economic conditions as part of its basis for its June rate action:

- Labor market continues to strengthen — for U3 and U6 (hard data supportive) while labor participation rate declined (hard data not supportive) and labor market conditions would strengthen more this year.
- GDP expanding at a faster pace in the second quarter (quarter had not ended yet and the rate is slowing) and that the disappointing first quarter GDP was due to transitory reasons and 2017 real GDP is expected to finish a bit higher than previously projected.
- Financing conditions for non-financial businesses as well for consumer credits continue to be accommodative.
- Trailing 12-month PCE slowed a bit further in April (hard data not supportive). However, the decline is deemed to be transitory and inflation is still expected to be higher this year than 2016.
- Household spending has improved, and ongoing job gains, rising household income and wealth, and improved household balance sheets would support moderate growth.
- Quit rates were little changed (hard data neutral).
- Hiring rates moved down (hard data neutral) and compensation per hour growth slowed when compared with the same period one year ago (hard data neutral).

[9] https://www.federalreserve.gov/monetarypolicy/fomcminutes20170614.htm

- National and regional surveys on manufacturing production show modest gains (not hard data positive).
- Residential investment slowing (hard data not supportive).
- Real private expenditures for business equipment and intellectual property increased further with nominal shipments and new orders of capital goods (ex aircraft) rose (hard data positive).

Further, the financial markets' conditions remained generally accommodative over the inter-meeting periods, and FOMC deemed the outlook for economic activity and the medium-term outlook for inflation as little changed from March (rate hike conditions) and viewed a continued gradual removal of monetary policy as being appropriate. In short, the FOMC continues to look past data weaknesses and is committed to continue on the normalization path. The FOMC is going to raise rates as long as the economy is, on a whole, not deteriorating. The desire is to complete the normalization process for two main reasons:

1) The desire to have the policy room to respond to the next recession without the need to reinitiate Large Scale Asset Purchase or Quantitative Easing (QE), and
2) The overall economic and financial condition no longer warrant extraordinarily accommodative interest rate policy and the fear of fostering the next asset bubble.

At the current market and general economic condition, we expect the FOMC to raise rates one more time this year. According to the CME Group Fed Watch Tool[10], the probability of a rate hike over the next eight FOMC meetings are as follows, as of 07-10-2017:

FOMC Meeting	25bp Hike	50bp Hike	75 bp Hike	100 bp Hike
Jul 26, 2017	3.1%			
Sep 20, 2017	13.3%	0.3%		
Nov 1, 2017	14.8%	0.6%		
Dec 13, 2017	50.9%	7.9%	0.3%	
Jan 31, 2018	50.7%	8.8%	0.5%	
Mar 21, 2018	47.4%	21.8%	3.1%	0.2%
May 2, 2018	46.8%	22.6%	3.6%	0.2%
Jun 13, 2018	41.3%	29.2%	8.8%	1.2%

Market participants expect a 25bps rate hike in December and pricing in one more 25bp hike in 2018. Since the end of the Great Recession, the FOMC has overestimated the speed and scale of the economic recovery and thus the neutral interest rate. The market has been right in expecting a lower to much lower medium term neutral rate. The FOMC had to repeatedly revise down its projections. In its June 2017 FOMC Projection Materials, the Committee is expecting the 2018 Federal Funds rate to be 2.1%. The CME Fed Watch Tool suggests that the market is pricing one 25bps rate hike and expecting the Federal Funds rate at around 1.75% level. The market continues to expect lower rates, and this time the market could be wrong. With the FOMC's stronger posture of rate and balance sheet normalization, the market would likely be playing catch up in the future – a risk!

[10] http://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html/

Fed Balance Sheet – Ready to Shrink

The extraordinary and unconventional Federal Reserve monetary policies were experimental tools unleashed in an effort to prevent the Great Recession going into a free fall and to restore financial stability and foster economic recovery in the U.S. Since then, we have witnessed the creation of almost 16 million jobs and reached historically low unemployment levels. The unevenness of wealth and income distribution aside, on average, households have regained and exceeded their wealth lost during the Great Recession while the economy is experiencing one of the longest expansions in the post war era.

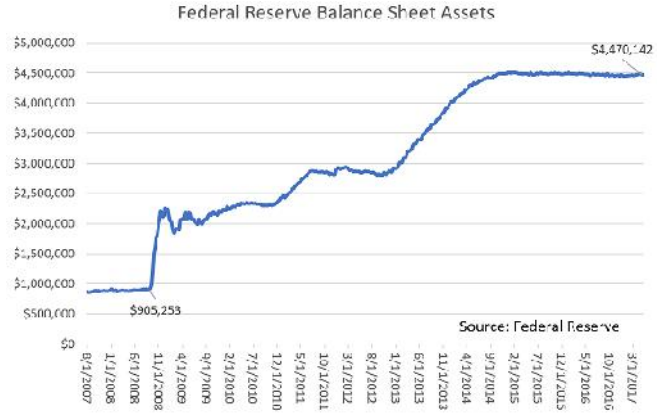
Under these circumstances, the FOMC has stated that "once the federal funds rate normalization is well under way," it will begin implementing a balance sheet normalization program. This process is expected to begin this year by "gradually decreasing reinvestments and initiate a gradual and largely predictable decline in securities holdings." May be the pivot to normalize rates sooner is to get the balance sheet normalization started before Chair Yellen and Vice-Chair Fischer terms at the Fed end next year.

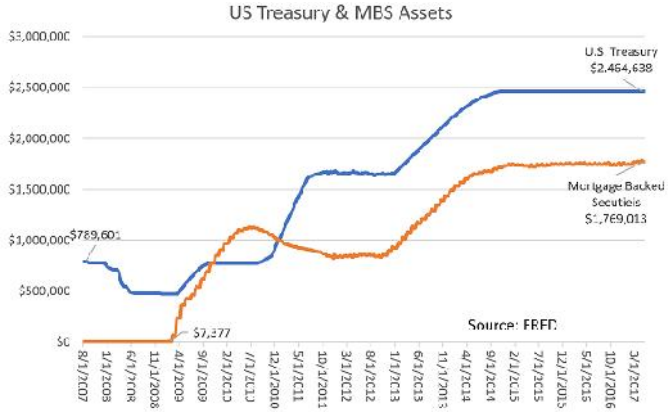
As the U.S. economy continues to recover and expand with signs of a synchronized global economic growth on its way, the pace and method of removing unconventional monetary policy accommodation is front and center for market participants. The process of scaling back accommodation has proceeded at a slow pace since the October 2014 announcement to conclude its asset purchase program[11]. Since then, the Committee has maintained its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. In its December 2015 meeting, the FOMC initiated its interest rate normalization process by hiking rates 25bps for the first time since 2008.

The FOMC will embark on withdrawing from an unprecedented intervention in the markets in hope of little consequence, but if the expectation is wrong, the fallout could be dramatic, including a sharp rise in interest rates and tumult in the stock and bond markets. When deciding how to normalize the balance sheet, the Fed has two choices: passively allow the bonds to "run off" naturally by not reinvesting or actively sell the securities into the market before maturity. Given the choice, the FOMC prefers the former option of not reinvesting the proceeds; the latter could create a supply glut and push up rates. The question is, what path would the FOMC take in policy normalization while being faithful to its dual mandate of price stability and fostering maximum employment.

[11] Federal Reserve issues FOMC statement October 29, 2014
https://www.federalreserve.gov/newsevents/pressreleases/monetary20141029a.htm

It its June meeting, the FOMC laid out a normalization process of reduction in the holdings in Treasury and agency securities (mortgage backed securities – MBS) which will be based on gradually rising caps. Initially, these caps will be set at relatively low levels - $6 billion per



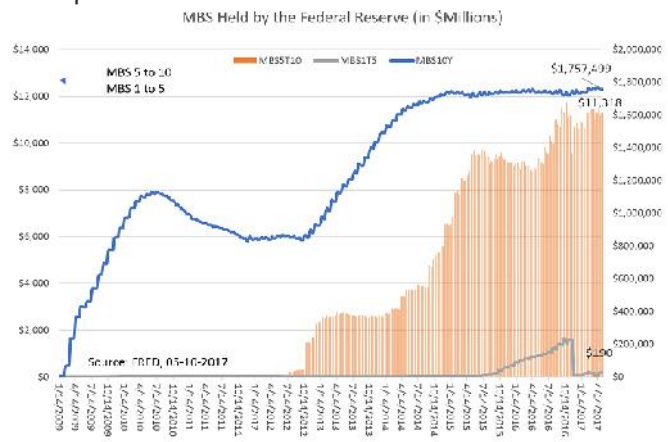


month for Treasuries and $4 billion per month for agencies. (Currently, $26 billion[12] for the 30-day purchases ending on Aug 10th is the total earmarked amount.) So, any proceeds (from interest payments and maturing securities) exceeding those amounts would be reinvested. These caps will gradually rise over the course of a year to maximums of $30 billion per month for Treasuries and $20 billion per month for agency securities and will remain in place through the normalization process. The FOMC expects that, by limiting the volume of securities that private investors will have to absorb, the caps should guard against outsized moves in interest rates and other potential market strains. The market is now expecting this process to be initiated after the September FOMC meeting.

In Chair Yellen's post June meeting press conference, she stated that changing the target range for the federal funds rate remains the FOMC's primary means of adjusting monetary policy stance. Further, the balance sheet normalization is expected to shrink the balances sheet to levels appreciably below the current level but larger than before the financial crisis. The going forward strategy is expected to maintain a relatively large balance sheet and plentiful bank reserves. The structural demand for reserves may be considerably larger today because of a number of changes, including new regulations that favor safe liquid assets and changes in financial institutions' attitudes toward risk. If the demand curve for reserve balances has shifted out, then a greater supply of reserves will be needed to attain a given interest rate target. Moreover, the supply of reserves will need to be set far enough above the structural level of demand to accommodate future unexpected shocks to the demand and supply of reserves[13].
The FOMC is now broadcasting the general process, mechanics and scale for normalizing its balance sheet. Although it appears orderly and mundane, the actual impact as the tapering gets on its way may be less predictable or controllable. At the onset with a low "cap", the early and often "forward guidance" by the FOMC is allowing the market to adjust and react in a

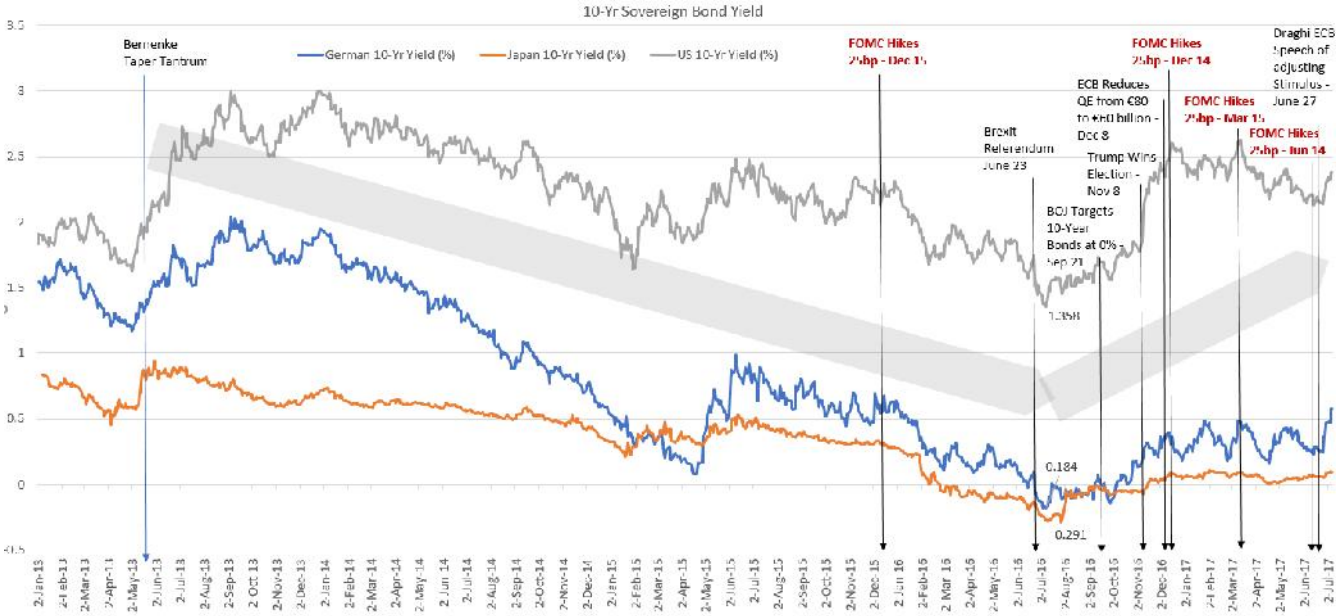
[12] https://www.newyorkfed.org/markets/ambs/ambs_schedule.html
[13] Transitions in the Outlook and Monetary Policy, Governor Lael Brainard March 01, 2017
https://www.federalreserve.gov/newsevents/speech/brainard20170301a.htm

timely and orderly fashion, but the reality is that the "market" is made up of many players with competing objectives and emotions. Under *ceteris paribus*, it is possible that the normalization of the balance sheet could produce orderly market reactions and adjustments. After almost 10-years of financial repression, the reaction function to the reversal of the unconventional monetary policies in this complex financial world cannot be based on *ceteris paribus*. Expect disruptions and overreach in the markets.



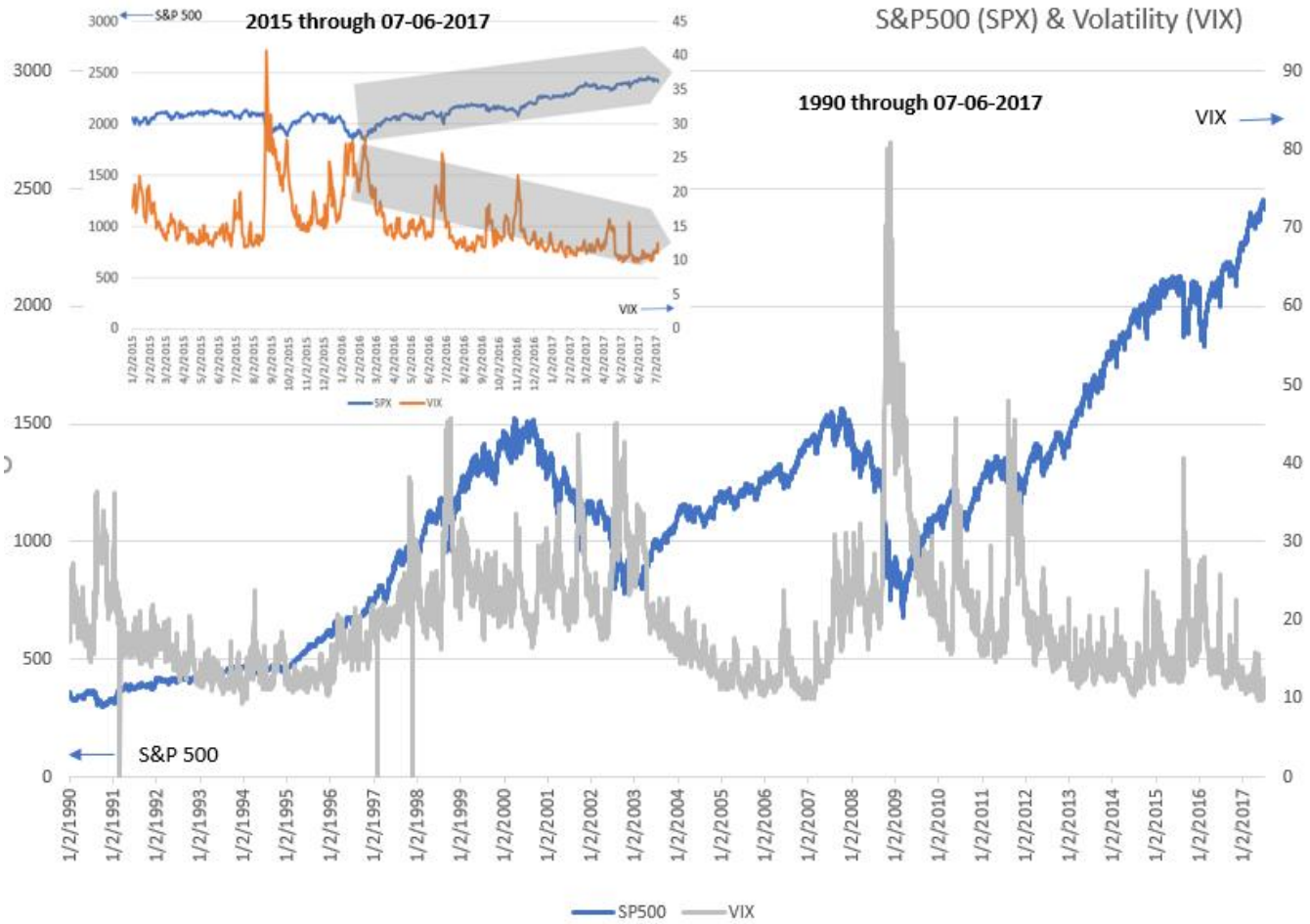
The market for U.S. treasury securities is larger and thus more liquid than the MBS market. The graph on the left shows the amount and types of MBS held in the Fed's balance sheet. Over $1.7 trillion is comprised of MBS with a 10-year maturity (MBS10Y), and there are almost none in MBS with a maturity date range between 1- and 5-years (MBS1T5). The remaining MBS holdings are between 5- and 10-years (MBS5T10). This means that the largest impact during the normalization process will be felt on the longer maturity MBS. It is not clear into which maturity category of MBS the amount above the "cap" will be reinvested. This could adjust the ongoing MBS holdings in the balance sheet. However, the impact would be marginal. The bottom line is that we expect traditional mortgage rates will be on a slow upward trajectory.

Synchronized Global Monetary Policy…An Increasing Investment Risk?



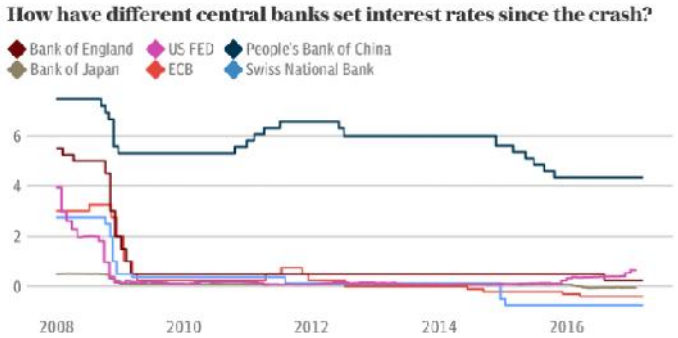
This graph illustrates the general direction of 10-year interest rates for U.S. Treasuries, German Bunds and the JGBs since Bernanke introduce Taper Tantrum to the public lexicon. Long-term interest rates have drifted lower and reached the lowest common point after the June 2016 Brexit vote. Since then, rates have steadfastly moved higher. First, the market anticipation of a Brexit-induced financial disaster never happened. Brexit is a multi-year if not a decade plus train wreck, and its effects cannot be observed in days or months. Furthermore, much could

(and has) happened since the referendum which could change the course of the exit and ultimately the new economic destination. As such, the central banks' injections of liquidity into the market and the "safe haven" government bond purchases receded and interest rates rebounded. Second, the BOJ announced in September that it will target its 10-year JGBs at a 0% rate to set a floor for interest rates to begin to support a positive yield. Third, the Trump win and the campaign's pro-business and pro-growth rhetoric pushed rates significantly higher and was followed by the FOMC December rate 25bps rate hike. Fourth, FOMC hiked rates two more times in 2017 and saw the yield curve flatten further as the market lowers its expectations for Trump policies to become a reality in 2017. Fifth, interest rates shot up again after a more hawkish statement by European Central Bank President Mario Draghi's statement on June 27th. We believe that the developed world is now in a new interest rate regime. As we leave the "lower for longer" environment, we are now entering an upward rate biased environment. Although we don't see a central bank coordination, the direction appears to be synchronized. Under this new regime, we are likely to experience a higher correlation among stocks and bonds on the downside. The following graphs highlight the performance of the S&P 500 since the height of the Financial Crisis while the market volatility (VIX) continues to drift lower.



The single largest contributor to this low volatility environment is the unconventional and extraordinary global monetary policies of zero bound to negative interest rates and the unprecedented Fed balance sheet expansion through QE. Since the first (of the four) rate hikes by the FOMC, the market remains calm as the yield curve flattens and the stock market is at or near all-time highs, but this may change quickly if the normalization process will soon include

the Fed balance sheet and other central banks shift toward normalization as the economy reflates globally. The following chart from the Telegraph[14] shows the historical central bank monetary actions since the Global Financial Crisis.



In his speech at the ECB Forum on Central Banking in Sintra, Portugal, on June 27th, Draghi, sounded more upbeat about the eurozone economy. In his concluding remarks[15], he said that:

"Our assessment of the outlook for inflation and for monetary policy can be summed up in three messages.

The first is confidence that monetary policy is effective and the transmission process will work. All the signs now point to a strengthening and broadening recovery in the euro area. Deflationary forces have been replaced by reflationary ones.

While there are still factors that are weighing on the path of inflation, at present they are mainly temporary factors that typically the central bank can look through. However, a considerable degree of monetary accommodation is still needed for inflation dynamics to become durable and self-sustaining. So for us to be assured about the return of inflation to our objective, we need persistence in our monetary policy.

And, finally, we need prudence. As the economy picks up we will need to be gradual when adjusting our policy parameters, so as to ensure that our stimulus accompanies the recovery amid the lingering uncertainties."

The market interpreted the overall speech as another indicator that the ECB is leaning towards monetary tightening. In December 2016, the ECU[16] surprised the market by announcing the reduction of its monthly asset purchases from €80 billion through March 2017 to €60 billion thereafter through December this year. As such, the market reacted quickly and pushed yields higher. On June 26th, the 10-year German Bund was yielding at 0.368%, and today, it is yielding at 0.585% as compared to -0.189 on July 8, 2016.

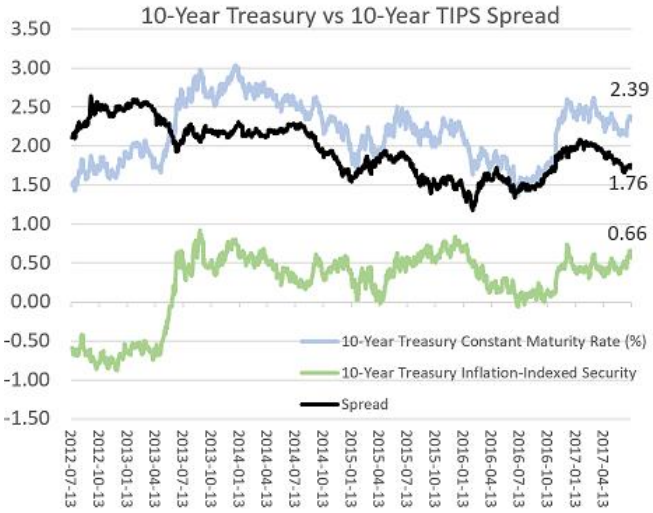
Bank of Canada raised interest rates for the first time in seven years during its July 12th meeting. Governor Stephen Poloz stated that the extraordinarily low rate is no longer needed as the Canadian economy is expected to experience stronger growth to the tune of 2.8% this year and 2% next year. This would also dampen the red-hot Toronto and Vancouver real estate markets.

[14] http://www.telegraph.co.uk/business/2017/03/15/worlds-central-banks-have-set-interest-rates-since-financial/
[15] https://www.ecb.europa.eu/press/key/date/2017/html/ecb.sp170627.en.html
[16] https://www.ecb.europa.eu/press/pr/date/2016/html/pr161208.en.html

After almost 10-years of unconventional monetary policies globally and now with improving labor economy, improving aggregate demand and reduction of major political risks in developed economies, policy normalization should not be a surprise. However, there are likely to be unexpected consequences even as central banks slowly withdraw the safety net underneath the financial markets (which we all have gotten used to), and financial conditions globally will obviously tighten. Risk assets will be vulnerable along with fixed income investments as rates and central bank balance sheets normalize.

Deflation to Disinflation to Reflation – the long road back!

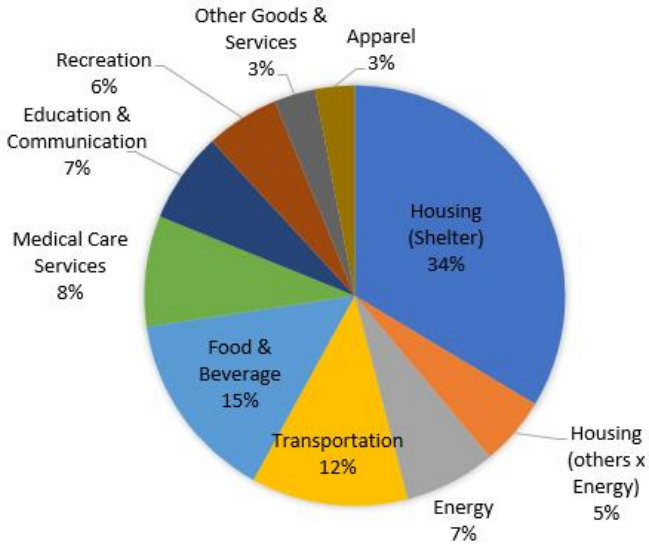
The world central bankers seem confident that deflation is generally behind us but continue to be puzzled by the transition from disinflation to reflation/inflation. According to the June 27th speech, Draghi suggested that understanding the current inflation dynamics requires the division of the inflation process into two parts: the effect of monetary policy on aggregate demand and the effect of aggregate demand on inflation. Anecdotally, it appears that the unprecedented central bank policies (just shy of throwing in the kitchen sink) have saved the world from falling into a multi-year depression. As the global economy slowly and jaggedly returns to health and aggregate returns improve, the unconventional monetary policies continued to play a constructive role. However, the 2% inflation target remains unassured.



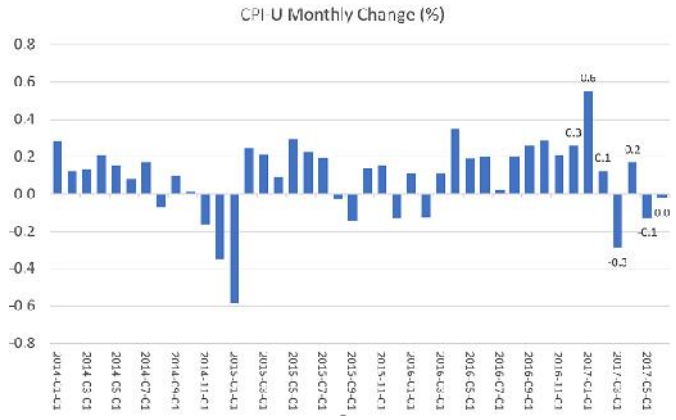
There are two forward looking measures for inflation. The first is a market measure. The spread between the 10-year U.S. treasury security and the 10-year Treasury Inflation Protection Security (TIPS) is, in effect, the expected inflation rate the bond buyers are compensated for inflation risk in 10-years. As of July 12th, the spread is 1.76%. Another indicator is the 5-year, 5-year forward inflation expectation rate. This is the rate investors expect what 5-year inflation would be 5-years from now. The rate is currently 1.89%. The Summary of Economic Projections realized from the FOMC's June 14th meeting shows that the members are projecting 2% by 2018. The market on a whole does not expect the inflation rate to be at or above 2% any time soon.

The second is survey-based inflation expectations. The University Michigan consumer survey for Expected Change in Price Next Year is at 2.6% and for Five Years is 2.4%. The expectations have remained stable. This is good news.

The U.S. Bureau of Labor Statistics[17] just released its inflation statistics for June. The Consumer Price Index for All Urban Consumers (CPI-U) was unchanged in June on a seasonally adjusted basis. Over the last 12 months, the all items index rose 1.6% while core CPI (ex Food & Energy) was 1.7%. To get a better feel for inflation or disinflation, an analysis of the components that make up the CPI-U should inform us of the contributing factors.

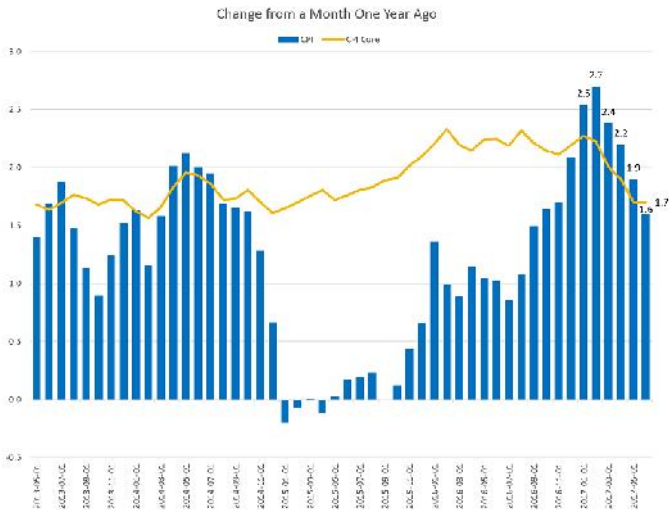


Category	CPI-U	Month	1Yr
Housing (Shelter)	33.65%	0.20%	2.50%
Housing (others x Energy)	5.30%	-0.20%	-1.30%
Energy	7.04%	-1.60%	2.30%
Transportation	12.06%	-0.40%	-1.50%
Food & Beverage	14.65%	0.00%	1.60%
Medical Care Services	8.54%	0.70%	3.20%
Education & Communication	6.98%	0.60%	-2.90%
Recreation	5.66%	-0.20%	-3.10%
Other Goods & Services	3.18%		
Apparel	3.03%	-0.10%	-0.70%
TOTAL	100.10%		



In the Fed's July 7th Monetary Policy Report presented to Congress in advance of Chair Yellen's semi-annual testimony, she suggested that inflation has recently been held down by steep and likely idiosyncratic price declines for a few specific categories, including wireless telephone services and prescription drugs, which do not appear to be related to the overall trends in consumer prices. The recent weakness in inflation is viewed as transitory, and inflation is still expected to be somewhat higher this year than last year, largely reflecting an upturn in prices for food and non-energy imports. The June CPI reading shows the continuing decline in all major energy component indexes from May. The food index remains unchanged while shelter and most service indexes increased. It is too soon or insufficient data points to make a counter-argument to FOMC's formal position on inflation. The CPI and PCE readings over the next few months would be useful to confirm or deny their view on inflation.

[17] https://www.bls.gov/news.release/cpi.nr0.htm



After 3-months of decline, the core CPI index (excluding the food and energy sectors) was unchanged at 1.7% from May. Airline fares, used cars and trucks, wireless telephone services, and new vehicles were among the indexes that declined in June. At the same time, the shelter index continued to rise, and the indexes for medical care, motor vehicle insurance, education, and personal care also increased.

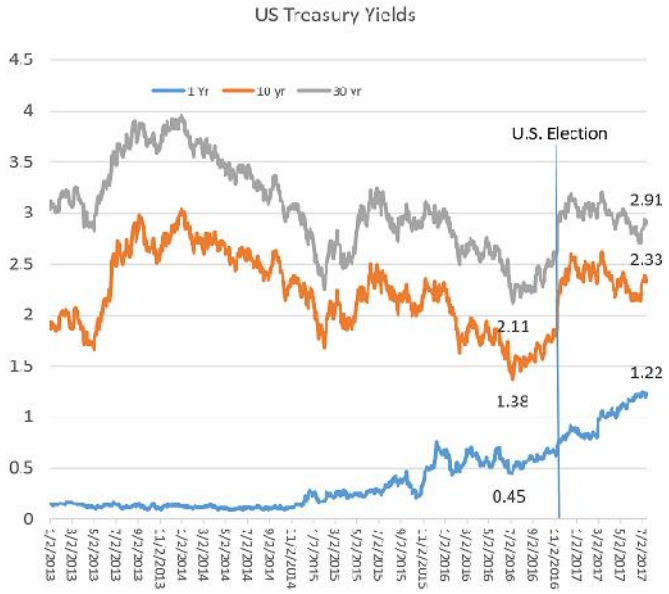
The June 2017 Advance Monthly Sales for Retail Trade and Food Services report[18] shows a second month decline in consumer spending at stores after a May revision to -0.1%. When reviewing the trend over the past quarter, there are signs of slowdown in the second quarter even though it's generally up from a slow first quarter 2017. This is consistent with the University of Michigan preliminary July survey mentioned on page 3 above. On a one-year basis since June 2016, all retail and food business have improved with the exception of a -8.9% for "sporting goods, hobby, book & music stores" and -3.9% for "general merchandise stores". The consumption growth rate for all remaining businesses are uneven. "Nonstore retailers" lead the way at a growth rate of 9.2% while consumers also increased spending on "building materials" and "motor vehicles."

With improving employment and the steady rise in household wealth, one would expect continuing improvement in consumer spending (represents over 70% of the U.S. economy). However, this does not mean that spending is even across all goods and services and the method by which they are purchased. There are continuing signs that there is limited pricing pressure in goods and sectors where technology is placing downward pressure on price. Total industry capacity utilization is at 76.6% according to the Federal Reserve[19] and has not yet recovered to the pre-Financial Crisis level of 81%. Globally, with few exceptions, there is excess industrial production capacity that also places downward pressure on price. The second quarter U.S. industrial production increased at an annual rate of 4.7%, according to the Fed, driven primarily by a rebound in oil exploration and coal mining from prior low levels. The energy sector grew 1.6% in June and has risen nearly 10% over the past year. With choppiness in oil prices, it is not clear if this growth rate is sustainable going forward.

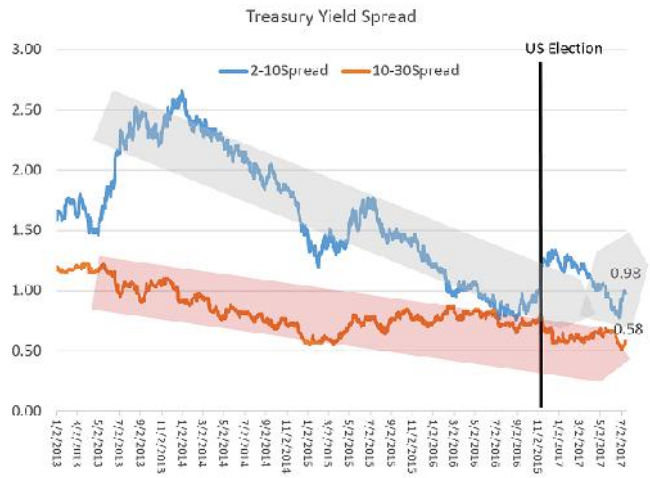
Based on the "hard data" thus far, it is clear that the economy is expanding as more people are back to work, consumers are recovering and are spending in different ways. The goods production sectors have and will likely continue to be challenged unless new structural changes and fiscal policies are implemented. The impact of IT and other technology driven changes

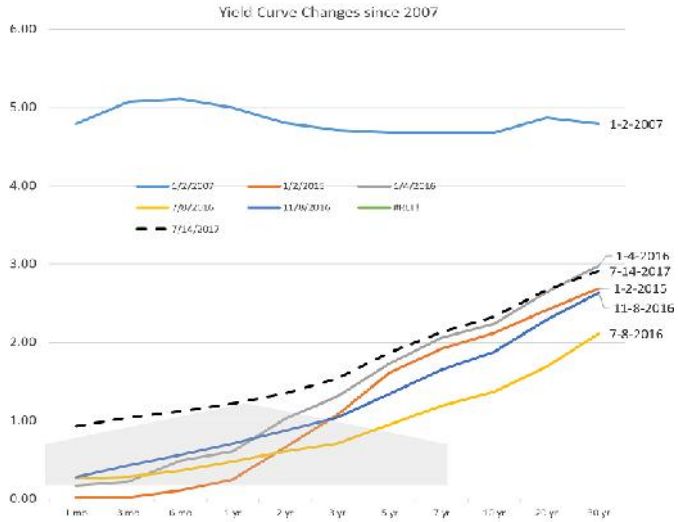
[18] https://www.census.gov/retail/index.html
[19] https://www.federalreserve.gov/releases/g17/current/

will incessantly put pressure on price and change our economy in fundamental ways that are overall disinflationary.



The top left chart shows the significant yield increase for 10- and 30-year treasuries right after Trump's election. The market was expecting or hopeful for structural reform and significant fiscal policy which would lead to increasing economic activities and ultimately inflation. Since the first quarter, the excitement has waned, and we saw long bond yields returning to almost pre-election time. The recent reversal is primarily due to ECB comments and possibly other central bank rate actions. This is not the case for 1-year yield which has consistently and rightfully increased as the FOMC continues its normalization process.

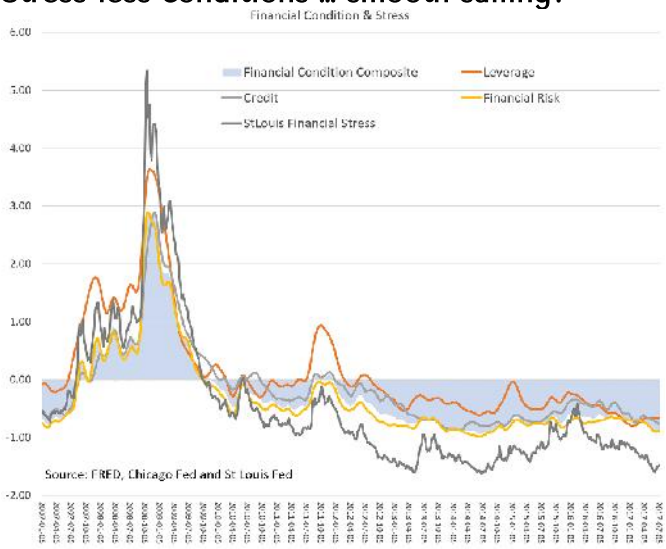


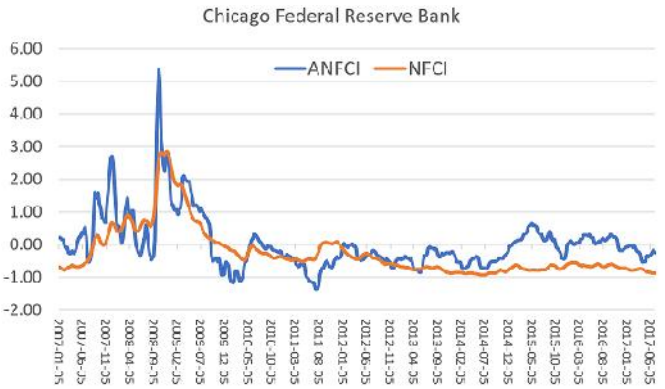


The top left chart shows the U.S. treasury yield spread between 2-year and 10-year treasuries (2-10Spread) and the 10-year and 30-year treasuries (10-30Spread) over time. For the front end of the yield curve or the 2-10Spread, the yield differential has been systematically coming down (or flattening) since Taper Tantrum through Trump election. Since then, the steepening yield curve has reversed until recently. In the case of the longer end of the yield curve, the spread has gradually tightened (i.e. the term premium has narrowed while the curve flattened). There was a period from March 2015 through the Trump election victory where the spread widened a bit, and since then, it has come down to 0.58%. For an investor or saver to receive a difference of 0.58% per year to extend credit to the U.S. government for an additional 20-years is extraordinary. This means that there is a significant demand for the long-dated treasury securities and inflation expectation or risk is very low. There are other explanations for this: foreign buyers (better yield even after currency hedging), institutional buyers looking to match

assets with long-term liabilities, and an overall strong demand for long-term bonds due to aging demographics.

Stress-less conditions … smooth sailing?





Chicago Federal Reserve Bank maintains a National Financial Condition (Composite) Index ("NFCI", light blue shaded area) which is made up of three sub-indexes: leverage index, credit index and financial risk index using 105 indicators. The NFCI provides a weekly update on U.S. financial conditions in money markets, debt and equity markets, and the traditional and "shadow" banking systems. Positive values of the NFCI have been historically associated with tighter—than—average financial conditions, while negative values have been historically associated with looser—than—average financial conditions. Since 2013, all three sub-indexes, and thus the Composite index, have all trended downwards and are all in negative territory. Since the U.S. economic and financial conditions tend to be highly correlated, the Chicago Fed created an alternative index, the adjusted NFCI ("ANFCI"). This index isolates a component of financial conditions uncorrelated with economic conditions to provide an update on financial conditions relative to current economic conditions. ANFCI excludes the variation in the individual indicators attributable to economic activity and inflation as measured by the three-month moving average of the Chicago Fed's National Activity Index and three-month percent change in the Personal Consumption Expenditures (PCE) Price Index.

7/7/2017	Tighter than average	Looser than average	Tightened	Loosened
NFCI	4	101	60	45
ANFCI	71	34	48	57

The first two columns in the table above denote how many of the 105 data series used to construct the NFCI and ANFCI indicating tighter-than-average or looser-than average conditions in the most recent week. The latter two columns indicate how many of the 105 indicators have tightened or loosened in the past week. Overall, the financial conditions remain "loose".

The top graph also included the St. Louis Federal Reserve Bank's Financial Stress Index. This index uses 18 weekly data series to measure financial stress in the market. Weekly series are used to have a more "real-time" index to measure rapid changes in the market. The average value of the index, which begins in late 1993, is designed to be zero. Thus, zero is viewed as

representing normal financial market conditions. Values below zero suggest below-average financial market stress, while values above zero suggest above-average financial market stress.

By all measures, the financial condition for markets is currently very positive with no stress. This is both good news and bad news. When the FOMC normalizes or raises interest rates, the idea is to tighten financial conditions or to remove policy accommodation, so even as the FOMC raised rates for the second time this year and four times since 2015, we have witnessed a further loosening of financial conditions in the market. Loose financial conditions, in the short run, push investments, aggregate demand and employment, but they also give the Fed more urgency to normalize. The pace may be more aggressive than initially planned. In William Dudley's (President of the Federal Reserve Bank of New York) speech at the Economic Club of Minnesota's June Luncheon in Minneapolis, Minnesota, on June 5, 2015, he stated that:

"An important aspect of current financial market conditions is the very low bond term premia around the globe. If a small rise in short-term rates were to lead to an abrupt increase in term premia and bond yields, resulting in a significant tightening in financial market conditions, then the Federal Reserve would likely move more slowly - all else equal. As an example, consider the experience of the 1994-95 tightening cycle. Bond yields rose sharply and the Federal Reserve tightened less than what was ultimately priced in by market participants. Conversely, if term premia and bond yields were to remain low and the economic outlook suggested that financial conditions needed to be tighter and a rise in short-term rates did not generate this outcome, then the FOMC would likely need to raise short-term rates further than anticipated (emphasis added)."

Politics, Policies & Gamesmanship — not so good for the people

The Bipartisan Budget Act of 2015 enacted in November 2015 suspended the debt limit or debt ceiling through March 15th this year. The debt ceiling is the maximum amount of debt that the Department of the Treasury can issue to the public and to other federal agencies. That amount is set by law and has been increased over the years in order to finance the government's operations. According to the Congressional Budget Office ("CBO"), the debt ceiling is now at $19.9 trillion[20]. $14.4 trillion is held by the public to fund the federal government's operations that revenues are insufficient to cover, and $5.5 trillion is issued to the federal government's trust funds and other federal accounts for internal transactions of the government; it is not traded in capital markets.

Without further suspension or legislation to increase the debt ceiling, on March 16, 2017, existing statutes allow the Treasury to declare a "debt issuance suspension period" and carryout a number of "extraordinary measures" (i.e. some form of accounting maneuvering) to shift funds around without breaching the debt ceiling. On June 29th, the CBO estimated that the Treasury will most likely run out of cash in early to mid-October. Although unlikely, failing to increase or suspend the debt ceiling would lead to the U.S. government defaulting on its debt, which may trigger a financial crisis.

In May, the White House published its deficit-neutral budget for 2018 which is based on President Trump's Reform Agenda[21]:

- Health Reform - repeal and replace Obamacare & reform Medicaid

[20] https://www.cbo.gov/system/files/115th-congress-2017-2018/reports/52837-debtlimit.pdf
[21] https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/budget.pdf

- Tax Reform and Simplification – tax reduction and repatriation
- Immigration Reform – protecting American workers
- Reductions in Federal Spending – balance budget in 10-years
- Regulatory Rollback – freeze and eliminate
- Energy Development
- Welfare Reform
- Education Reform
- Invest in Defense – Add $52 billion for DOD
- Boarder Security - $44.1 billion for Homeland Security and $27.7 billion for DOJ
- Infrastructure Spending – support $1 trillion in private/public investment
- Paid Parental Leave

The U.S. fiscal year begins each October, and it will likely coincide with the decision for the debt ceiling. From the White House to the legislative branch, each is trying to leverage their constituents' views with the 2018 budget priorities, their party platform and the debt ceiling time bomb. We have seen a version of this movie before. In 2011, a protracted standoff for not resolving the debt ceiling issue resulted in the U.S. losing its AAA rating status and significant market volatility.

October appears to be a lifetime away with the Senate trying its best to pass healthcare reform in July. Hidden behind the notion that the Republican voters are looking to their representatives to repeal and replace Obamacare is the fact that disassembling the existing system would save taxes to be redeployed for other priorities in the Trump Reform Agenda. According to the CBO[22], the Better Care Reconciliation Act[23] would reduce direct spending by $1,022 billion and reduce revenues by $701 billion, for a net reduction of $321 billion in the deficit over 10-years. The largest savings would come from reductions in outlays for Medicaid. The Senate version came after the House passed the American Health Care Act on May 4th by a vote of 217-213 and is estimated to save taxpayers $765 billion over 10-years.

The Republicans would like (if not need) to have a healthcare bill passed to meet their dual objectives of exerting the will of their electorate after promising eight years to repeal Obamacare and to set aside the much needed tax savings to support their Party's revenue neutral reform agenda. The House version of Obamacare passed on October 8, 2009, 416 to 16[24] with 173 Republicans approving the Bill. In the Senate, the final Act was passed on December 24, 2009, with a 60-39[25] vote strictly along party lines. Today, with polls heavily favoring amendment or modification and not repeal of Obamacare, the lawmakers are finding ways to replace the law.

The Senate vote is again delayed this week since there is no confidence the vote would pass in favor of the revised Better Care Reconciliation Act. This means that tax reform and other items on the Trump Reform Agenda will not be addressed. If the healthcare reform bill fails, we expect no major legislation will be passed during President Trump's first year in office. The next fight would be on the 2018 budget and the debt ceiling, all in the name of doing the people's business and exerting the voter's will. With a divided government and the drain-the-

[22] https://www.cbo.gov/system/files/115th-congress-2017-2018/costestimate/52849-hr1628senate.pdf
[23] https://www.budget.senate.gov/bettercare
[24] http://clerk.house.gov/evs/2009/roll768.xml
[25] https://www.senate.gov/legislative/LIS/roll_call_lists/roll_call_vote_cfm.cfm?congress=111&session=1&vote=00396

swamp, loyalty based, autocratic style of governing, it is difficult to see how the important fiscal and reform policies would become law. Although a sideshow, the Russian investigation by the Independent Counsel, Robert Mueller, and the various committees will continue to distract both parties from moving forward and at the same time keep the environment poisoned. Don't forget, 2018 is the mid-term election year, and lawmakers up for election next year will be even more self-aware and willing to take on even less political risks. We are not optimistic that needed reform legislations will pass next year.

In a representative democracy, the process of legislation is noisy, cumbersome and full of conflicts. Unlike an authoritarian command-and-control regime, our system intends to represent the will of the people. In theory, the electorate expresses their will and elects those who would be responsive in carrying it out. What is not stated is that the people are not electing robots but thinking men and women to take into consideration the people's will within the context of the whole and competing priorities. To elect a representative implies the requisite of the representative to do the "right" thing (being the adult in the room) and to find the balance between the best interests of the country and the people who put them in office. At the end, a vote for a candidate is to express the confidence that the candidate would represent our will and our interests filtered through an informed and reasoned process with wisdom and care and carry out actions under competing interests and be fair and right over time.

Conclusion

The U.S. economy continues to expand at the 2% to 2.2% real GDP rate. With the ever-improving labor market, we may have already reached or will be reaching NAIRU and expect to see improving wage growth. This does not necessarily mean that we will have inflation roaring back. The post Global Financial Crisis economy is affected by a plethora of factors that are disinflationary. Further, structural factors, such as aging demographics in the secular horizon, are disinflationary as well. Nonetheless, the Federal Reserve and, to a lesser extent from a timing standpoint, other central banks of developed economies are on a path to normalize. In the case of the FOMC, we are also expecting balance sheet normalization soon. Under a slow and small dosage of change, this well broadcast event will likely have little market reaction, but over time, and if other central banks also begin to normalize, financial conditions can tighten quickly. This, coupled with an upside wage and inflation surprise, could bring significant market volatility. In the meantime, enjoy the calm sea!

Sincerely yours,
CHAO & COMPANY, LTD.
Philip Chao
Principal & CIO