Confluence INVESTMENT MANAGEMENT

Current Perspectives

By Bill O'Grady and Mark Keller

2018 Outlook

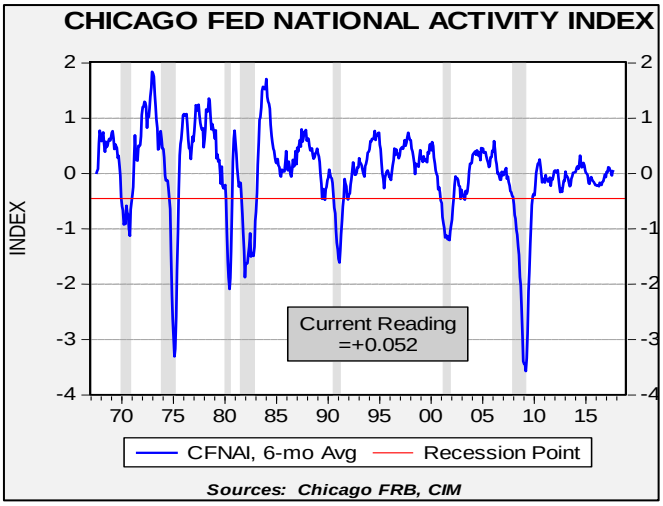
Summary:

1. Our baseline forecast for 2018 calls for no recession and real GDP growth of 2.25%, with faster growth in H1. Inflation should remain low, with the PCE staying under 2.0%. Labor markets will remain tight and wage growth will be constrained due to low inflation expectations.
2. Monetary policy is poised to tighten next year; we expect the terminal rate for the fed funds target to be 2.25% by the end of 2018. This level of policy tightening could increase the likelihood of a policy mistake. In this expansion, the FOMC has tended to overestimate the degree of tightening but the odds of a policy mistake are elevated with a new Federal Reserve chair and a hawkish voter roster next year. However, it is more likely that the potential policy error will bring this business expansion to an end in 2019.
3. Basis operating earnings calculated by Standard & Poor's for the S&P 500, we expect operating earnings of $129.82 in 2018.[1] We expect multiple expansion next year, with a P/E of 21.1x (again, basis Standard & Poor's) for a target of 2739.20.
4. Although not our base case, an ebullient reaction in equities is possible given elevated sentiment, ample liquidity, tax cut hopes and the extended nature of the business cycle. Based on our trend model, an S&P 500 of 3300 is possible.
5. A rising P/E would continue to favor growth over value. We also expect another strong year for foreign assets due to anticipated dollar weakness.
6. We estimate a 10-year Treasury yield in the range of 2.25% to 2.50% next year. Curve flattening is highly likely with FOMC tightening. Credit markets are fully valued but we would not expect significant weakness to develop in corporate credit if recession is avoided.
7. In commodities, we hold a favorable view toward oil and precious metals, but weaker Chinese growth will tend to limit gains in the rest of the spectrum. And, we expect continued dollar weakness despite FOMC tightening next year. However, a more obvious bear market for the dollar may not develop until 2019.
8. Although we expect rather benign macroeconomic and policy environments next year, the current expansion and bull market in equities are aging and late cycle problems could develop. Late cycle investing can be uncomfortable, creating conditions where an investor feels "forced" to participate. It's important for investors to remain true to their goals relative to their risk tolerance in this environment.
9. In addition, during late cycles, markets become vulnerable to "binary events." Most of these are geopolitical in nature and will be discussed in our *2018 Geopolitical Outlook*, which will be published on Monday, December 18.

[1] The competing provider of operating earnings, Thomson-Reuters, generally calculates higher levels; the Thomson-Reuters estimate would generate S&P operating earnings of $138.29.

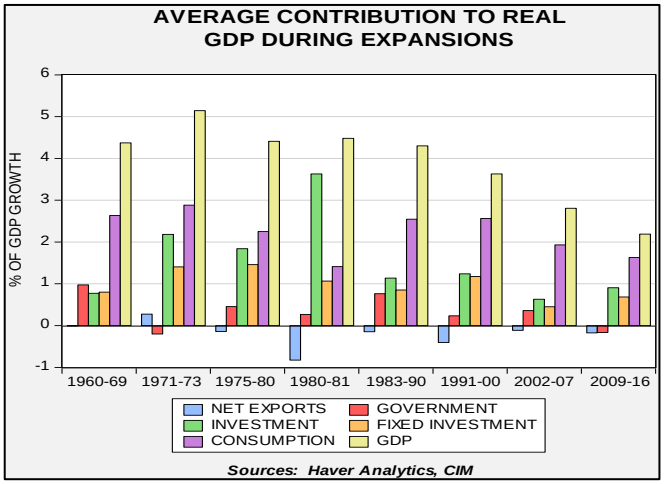
The Economy: Current Conditions

The U.S. economy continues to show steady growth. The Chicago Federal Reserve Bank (FRB) has created a National Activity Index which is a broad measure of U.S. economic activity. It remains around zero, suggesting an economy that is running near its trend growth rate.



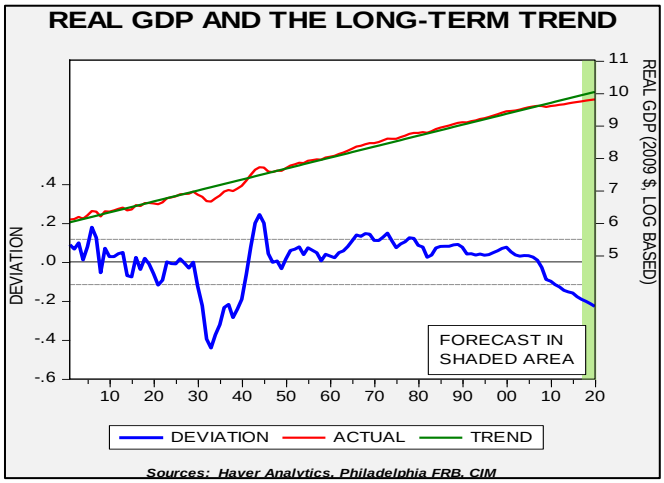
This chart shows the aforementioned index. We smooth it with a six-month moving average. The red line on the chart signals recession. The index remains comfortably above the level of recession but casual observation shows that this expansion has been slower than previous ones.

This chart shows the average contribution to real GDP for each business cycle starting in 1960. The yellow bar at the end of the series shows average GDP growth for the cycle. The first five expansions, from 1960 through 1990, show much stronger economic growth than the past two expansions. In the first five, GDP averaged over 4%. Since then, each cycle has shown progressively weaker growth. The average real growth for this expansion is 2.2%. Also of interest is that 74.4% of growth is coming from consumption in the most recent expansion, which is the highest of the eight expansions shown. The economy has become increasingly dependent on consumption for growth.

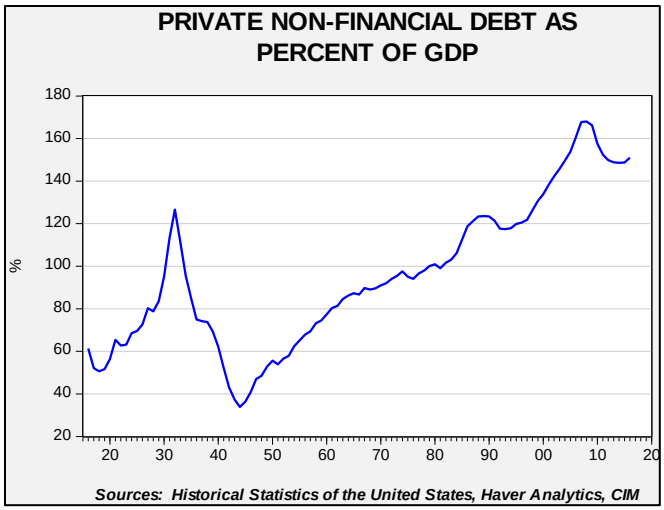


On a longer term basis, GDP remains well below trend.

This chart shows the results of regressing a time trend through real GDP data over the past 120 years. We have log-transformed the data. The lower line shows the detrended results. GDP remains well below its long-term trend; the only other time growth was this far below trend was during the Great Depression. Similar to the 1930s, the current economy is experiencing private sector deleveraging.

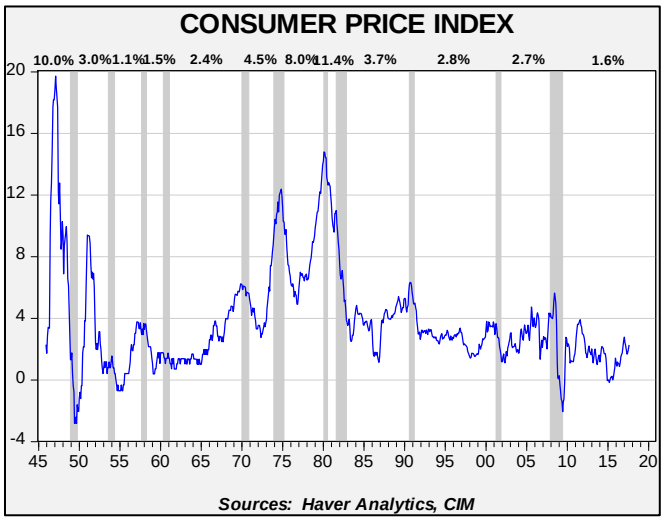


This top chart shows private sector non-financial debt (non-financial corporate debt plus household debt) relative to GDP. As the chart shows, during the Great Depression, the private sector was aggressively reducing debt. Similarly, we have seen deleveraging for much of the current recovery. However, in the last two quarters, private sector debt has started to rise faster than GDP; this rise is due to corporate debt as household debt relative to GDP has stabilized but not increased. Without rising debt, economic growth will likely remain sluggish.

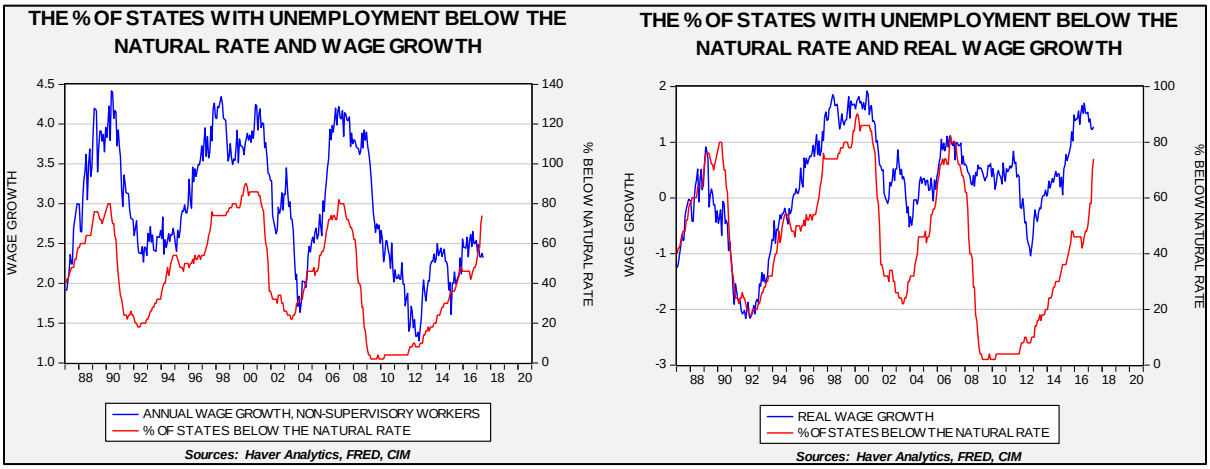


Slow economic growth, deregulation and globalization have fostered an era of low inflation.

This chart shows the yearly change in CPI with the average rate for CPI during each of the postwar expansions along the top of the graph. Inflation has only averaged 1.6% in this expansion, the slowest since the 1950s and the lowest inflation during a lengthy expansion in the postwar experience. Inflation has remained low despite low unemployment.

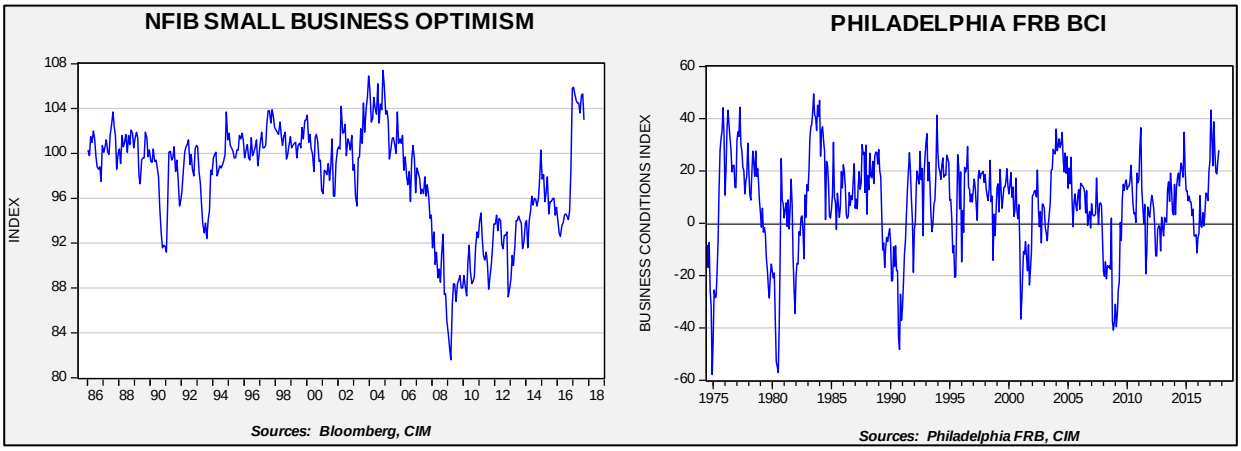


The chart below on the left shows nominal wage growth for non-supervisory workers compared to the number of states with state unemployment rates below the non-accelerating inflationary unemployment rate (NAIRU), an estimated level that attempts to quantify full employment. In general, labor market tightness is estimated by the higher percentage of states that are above NAIRU. The left chart suggests that wage growth is unusually low given the high percentage of states with low unemployment rates. However, the chart on the right shows the same calculation of state unemployment rates relative to NAIRU and inflation-adjusted wages. Because of low inflation, real wages are comparably elevated to other periods of tight

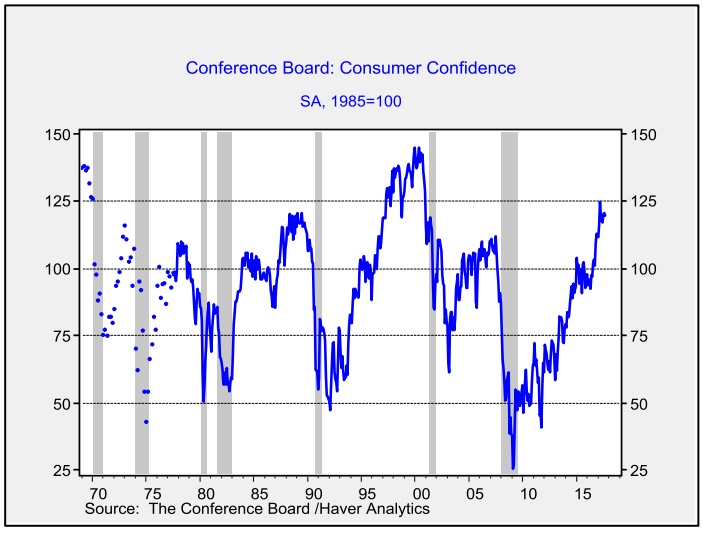


labor markets. This data suggests that one answer to the paradox of low wage growth is low inflation expectations. Workers don't expect significant wage growth and firms probably fear they won't be able to pass along higher costs. Although employer surveys complain about the lack of available workers, firms are reluctant to bid for these workers with higher wage offers.

The other interesting factor has been that consumer and business sentiment have improved rather dramatically since the November elections.

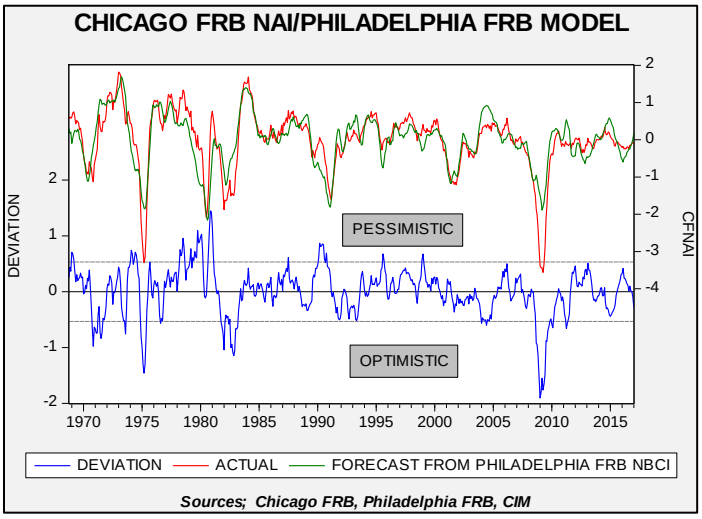


In the charts above, the chart on the left shows the National Federation Independent Businesses Small Business Optimism Index and the chart on the right is the Philadelphia FRB Business Conditions Index survey. Both are elevated compared to their historical data. Consumer sentiment is high as well.



Sentiment is elevated relative to the actual performance of the economy.

The bottom chart on the right shows the Philadelphia FRB Business Conditions Index, regressed against the Chicago FRB National Activity Index. The former is a measure of sentiment, whereas the latter is a measure of actual economic activity. When the lower line is below zero, the sentiment indicator is suggesting the economy should be stronger. Sometimes, as recessions end, sentiment improves much faster than the actual economy. This tendency explains why sentiment indicators are usually represented in leading indicators.

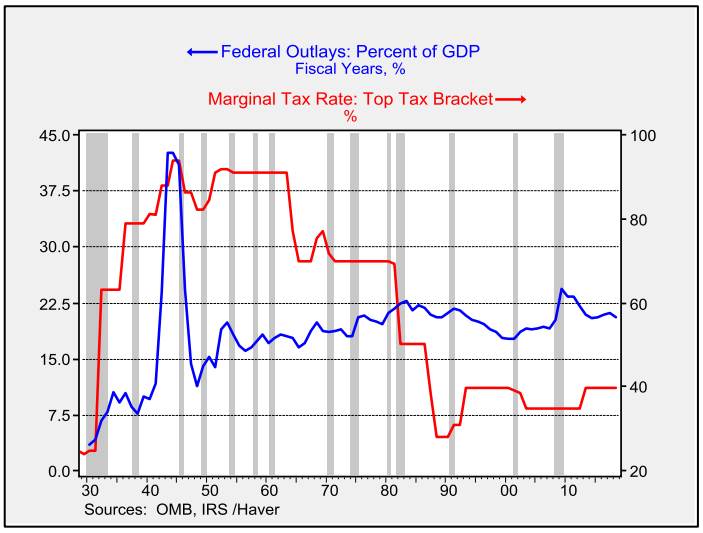


The Economy: Our Outlook

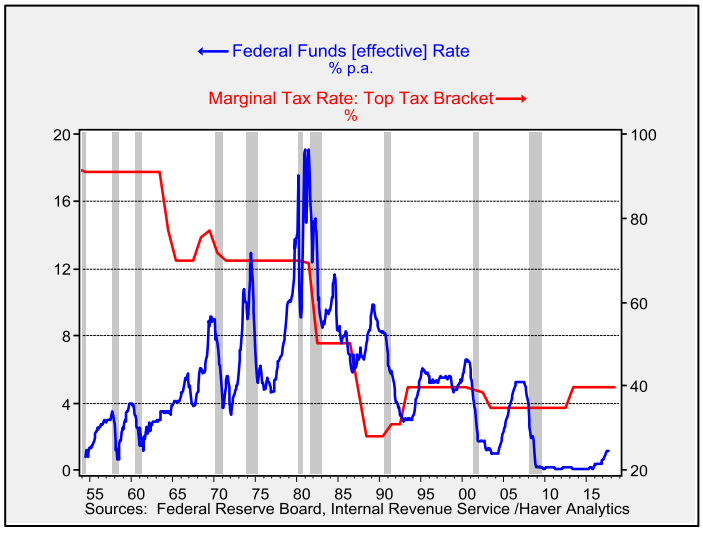
Our focus for this report is the upcoming year and the most important question is whether a recession will occur in 2018. For reasons we will discuss below, recessions are critical to the behavior of financial markets. The last major bear market in equities that occurred without a recession was in 1987. Since then, every major bear market has been associated with a downturn in the business cycle. In addition, fixed income markets tend to perform well during recessions, although allocation is important because credit risk can increase during downturns. Needless to say, we spend a significant amount of time monitoring the business cycle. At present, none of the recession indicators we monitor are signaling that a downturn is likely in the coming year.

In the postwar experience, there have been three general causes of recessions—policy errors, geopolitical events and inventory mismanagement. The latter has virtually disappeared as a cause due to improvements in inventory management. Thus, our concerns are focused on policy errors and geopolitical events. Our *2018 Geopolitical Outlook* will be published on December 18 and we would recommend readers refer to that report for our views regarding geopolitics.

Policy errors can originate from either fiscal or monetary policy. It has become less likely that fiscal policy will lead to recessions, but fiscal policy errors have caused recessions in the past.



The chart to the right shows fiscal outlays as a percentage of GDP along with the highest marginal tax rate. Perhaps the most famous fiscal policy recession occurred in 1937 when spending cuts and rising marginal tax rates triggered a downturn. The 1946 and 1949 recessions were partly due to fiscal spending cuts prompted by the end of WWII. However, since the Federal Reserve became independent of the Treasury in 1951, most recessions have been preceded by increases in interest rates.



This chart to the left shows that since the mid-1950s increases in interest rates have tended to precede recessions. The rate hikes during the 1960s and in 1994-95 occurred without triggering a downturn; these are generally referred to as "soft landings."

The Federal Reserve, by law, has two mandates—stable prices and full employment. The dual mandate can create what is known as the "Tinbergen[2] problem," which states policymakers need an equal number of policy tools for an equal number of policy problems. Thus, if the central bank can only adjust interest

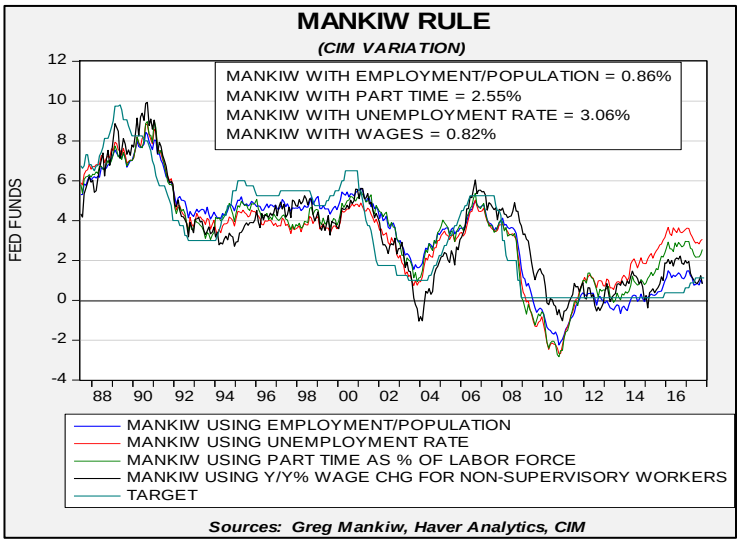
[2] Named after economist Jan Tinbergen.

rates but faces two policy problems, for example, rising inflation and falling employment, it cannot address both with interest rates alone. When the Federal Reserve raises rates, the financial markets react by raising market rates. If the latter overreacts, a recession becomes more likely.

The Fed began the most recent tightening cycle in mid-2013 when it announced it would be "tapering" its quantitative easing program. Since then, it has moved in a cautious manner, in part because this economic expansion has been slow and inflation remains contained. One of the signals that policy has become excessively tight can be found in the yield curve. The yield curve is perhaps the most reliable indicator of recession; once an inverted yield curve develops, a recession usually follows. Although calendar spreads can be calculated in a number of ways, at present, none of the various permutations of the yield curve are signaling inversion.

Economists have attempted to "code" the FOMC's Tinbergen problem with rules. The most famous is the "Taylor Rule," devised by Stanford economist John Taylor. A derivative of the Phillips Curve,[3] it tries to ascertain the neutral rate[4] for fed funds by comparing core inflation relative to a target (usually 2%) and GDP relative to potential GDP. The problem with the rule is that potential GDP cannot be determined with certitude. In response to this unknown, Greg Mankiw, a Harvard economist, recommended replacing the GDP/potential GDP calculation with the unemployment rate. Essentially, both models attempt to set a neutral policy rate by comparing inflation and economic slack.

We have adopted the Mankiw models but we have created four variations of the rule due to the differences between various measures of labor market slack.



This chart shows the results of four different variations of the Mankiw Rule, with economic slack estimated by different measures of the labor market. There have historically been deviations among the four variations, which highlights the problem posed by rules-based policy making. However, the current dispersion is unusually wide. Given the current results, the Federal Reserve is either well behind in tightening (using the unemployment rate and involuntary part-time workers as a percentage of the labor force) or already above the neutral rate (using the employment/population ratio and wage growth for non-supervisory workers). Most members of the FOMC ascribe to some variation of the Phillips Curve; hawks tend to follow the variations using the unemployment rate or involuntary part-time employment, arguing for higher rates, while doves migrate toward variations using the employment/population ratio or non-supervisory wage growth, suggesting policy should remain easy. Chair Yellen has tried to navigate between the two factions, raising rates enough to placate the hawks but not moving too quickly to avoid angering the doves.

[3] The Phillips Curve postulates that there is a relationship between the labor markets and inflation; the less labor market slack, the greater the level of inflation.

[4] The neutral rate is a policy rate that is neither stimulative (leading to faster growth and higher inflation) nor constraining (leading to slower growth and lower inflation).

The odds of a monetary policy error will be elevated in 2018. Although the governor vacancies are dominating the discussion about the Federal Reserve, this year's rotation of voting regional bank presidents is unusually hawkish. This table shows our "hawk/dove" analysis of the FOMC.

		all	2017	2018	2018 New	
Yellen		3	3	3	Powell	3
vacant			3	3	Taylor	1
Brainard		4	4	4	Brainard	4
Powell		3	3	3	vacant	
Quarles		2	2	2	Quarles	2
vacant					vacant	
vacant					vacant	
Dudley		3	3	3	Dudley	3
Evans		4	4		Evans	
Bullard		5			Bullard	
George		1			George	
Mullinix		1		1	Mullinix	1
Bostic		3		3	Bostic	3
Williams		2		2	Williams	2
Mester		2		2	Mester	2
Rosengren		2			Rosengren	
Kashkari		5	5		Kashkari	
Kaplan		3	3		Kaplan	
Harker		2	2		Harker	
		2.81	3.20	2.60		2.33

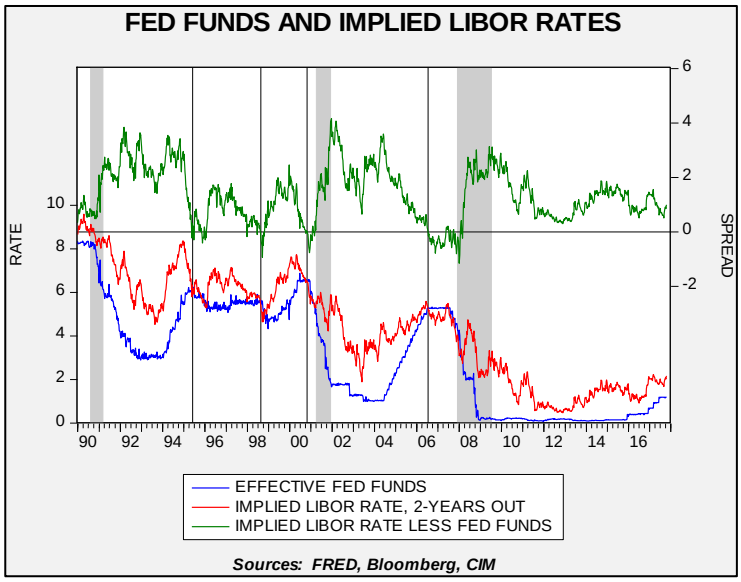
We rate members on a 1-5 scale, with 1 being most hawkish and 5 being most dovish, based on our analysis. The 2017 voting roster was more dovish than the FOMC as a whole, at a score of 3.20 versus 2.81 for the overall average. We include Vice Chair Fisher's position in the 2017 average because he voted for most of the year. For comparison purposes, next year's voting FOMC was destined to be much more hawkish than the current roster given the new regional FRB members who will vote next year. Note that the 2017 roster included Minneapolis FRB President Kashkari and Chicago FRB President Evans, both prominent doves. Next year's roster has no level 5 doves. So, even if Yellen had been reappointed, the FOMC voting roster would have been more hawkish than in 2017. Our new estimate for 2018 assumes that John Taylor, well-regarded in GOP circles, will get appointed as a governor (we are assuming vice chair, but it may just be a governor position). However, even without any additional governors appointed in 2018, the average voter score would still be 2.50.

Thus, incoming Chair Powell will be working with a much more hawkish voting FOMC in 2018. And, because Powell is not an economist (he is a lawyer by training), he may have a difficult time arguing against the hawks who will push for higher rates. We rate Powell as a level 3 (policy moderate) due to his voting record, which has matched Chair Yellen's. However, because he isn't an economist, we have no academic record to investigate to determine his personal policy views. Most of his focus while a Fed governor appeared to be on regulation. Thus, there is the potential for a policy surprise. As an analogy, Powell is like a college coach who inherits players from his predecessor. Until he does his own "recruiting" (adopts his own policy), we expect him to mostly follow the path laid out by Yellen for 2018, which probably includes three or four hikes in 2018 with a year-end target of 2.25% to 2.50%.

Another important dynamic in 2018 will be the environment Powell creates at the Federal Reserve. This is important because, as a general rule, any more than two dissents is something of a vote of "no confidence" in a Fed chair, and three or more call into question whether the chair can govern the board effectively. With the appointment of Powell as chair and the expected appointment of John Taylor as vice chair, the new 2018 roster would be almost a full dove "short" relative to 2017. This roster would have only one member who would tend to dissent against hikes, Lael Brainard. It would not be a shock (again, assuming Taylor as vice chair) that a decision to stand pat on policy could result in two automatic dissents (Taylor and Mullinix), and maybe Mester and Williams would join in opposing steady policy. Four dissents would almost certainly force Powell to acquiesce to a rate hike. **The bottom line is that policy could tighten significantly next year; we are assuming a year-end fed funds target of 2.25%. Even this level increases the odds of a monetary policy mistake in 2018. However, the impact of a policy mistake probably won't be felt until 2019.**

So, how will we know if the Fed is making a policy error? One of the ways we like to measure monetary policy tightness is through comparing fed funds to the implied three-month LIBOR rate from the two-year deferred Eurodollar futures. The Eurodollar futures market is where interest rate swaps are offset;

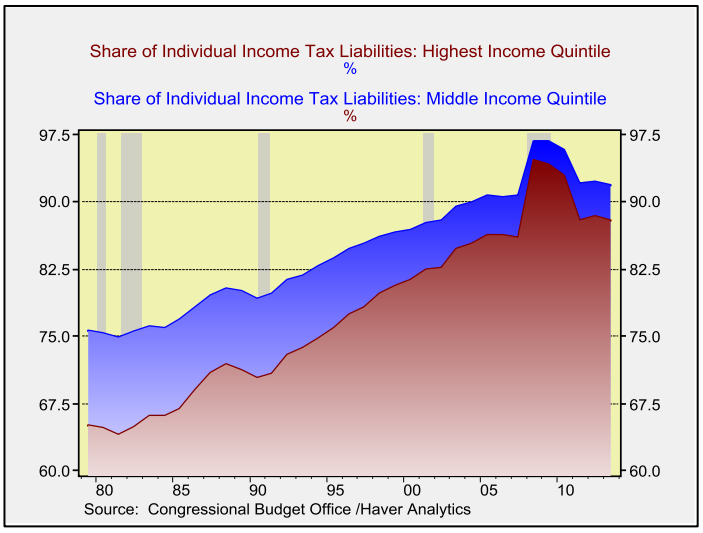
when debtors with variable rate loans fear rising rates, they swap their loans for a fixed rate. Bankers offset the effects of higher rates in the Eurodollar futures market. The implied LIBOR rate from the deferred Eurodollar futures market offers a clue to what the market has discounted about policy tightness. At the same time, the implied rate also indicates the reference rate for future borrowing. When the implied LIBOR rate falls while the central bank is tightening, it suggests that borrowing demand is probably declining.



This chart shows the effective fed funds rate along with the implied three-month LIBOR rate from the two-year deferred Eurodollar futures. We have also added the spread between the two rates. The two-year deferred Eurodollar futures is a market estimate of where the three-month LIBOR rate will be in two years. We have drawn vertical lines during periods when the implied rate fell below fed funds. There are some interesting observations to glean from this analysis. First, the 1990-91 recession occurred without the spread falling below zero. That recession was caused by a geopolitical event, the First Gulf War. In addition, we had two false positives in 1995 and 1998. However, note that in both periods the Federal Reserve eased policy when the implied LIBOR rate fell below fed funds and the spread eventually moved above zero. The tightening cycle that began in late 1998 did eventually trigger a recession as the spread became negative in late 2000. Before the 2007-09 recession, we had a negative reading on the spread but it lasted more than a year before the recession was triggered. Notice that the implied LIBOR rate rose in mid-2008; this rise was part of the Great Financial Crisis when investors were desperately attempting to acquire safety assets. In order to make monetary policy stimulative, the implied LIBOR rate must decline. History suggests that the implied LIBOR rate will likely rise, at least initially, as the FOMC raises rates. When the implied rate stops rising into tightening, it indicates policy has tightened enough and further hikes raise the odds of a downturn. At present, the spread is positive so there is room for the FOMC to raise rates. We will be monitoring this spread for signals from the market about the state of the economy relative to monetary policy.

We usually don't spend a lot of time on fiscal policy but GOP lawmakers are working furiously to make tax changes. We expect tax cuts to be enacted by 2018, although the effects should be modest. A major boost to fiscal spending would either come from transfer payments to lower income households or direct government investment. Tax cuts will almost certainly come at the higher end of the income brackets, simply because they pay most of the tax.

The most recent data available is for 2013 but, in that year, the top quintile paid 88% of all federal taxes compared to 3.9% for the middle quintile. In 1986, the last time there was a major overhaul of taxes, the highest quintile paid 69% and the middle quintile paid 9.2%. Thus, by default, tax relief will only be meaningful for the upper income brackets. Unfortunately, we would expect much of the tax relief to be saved, and in an economy with persistently low inflation the problem isn't the lack of supply side growth, but demand side. Tax cuts will have, at most, a modestly positive effect on aggregate demand.



Another way of thinking about the impact of tax changes is through the savings identity.

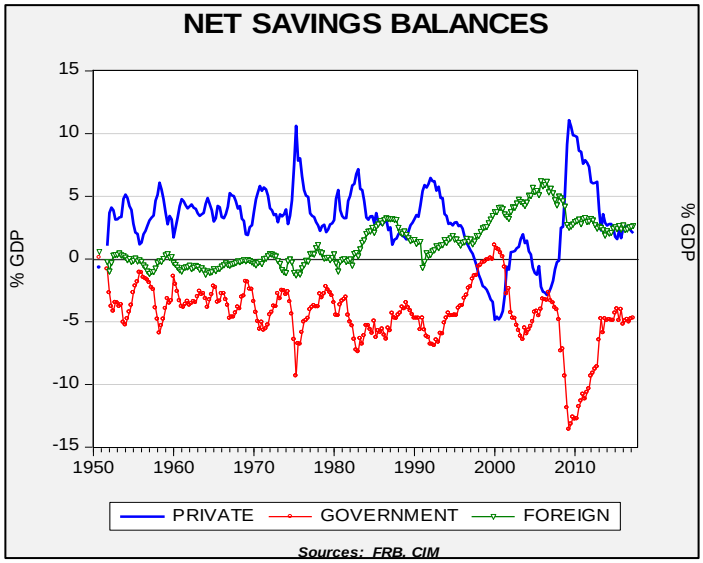
0 = (investment - saving) + (government outlays - revenue) + (-1*current account)

Or, in other words:

0 = (net private saving) + (net fiscal position) + (foreign saving)

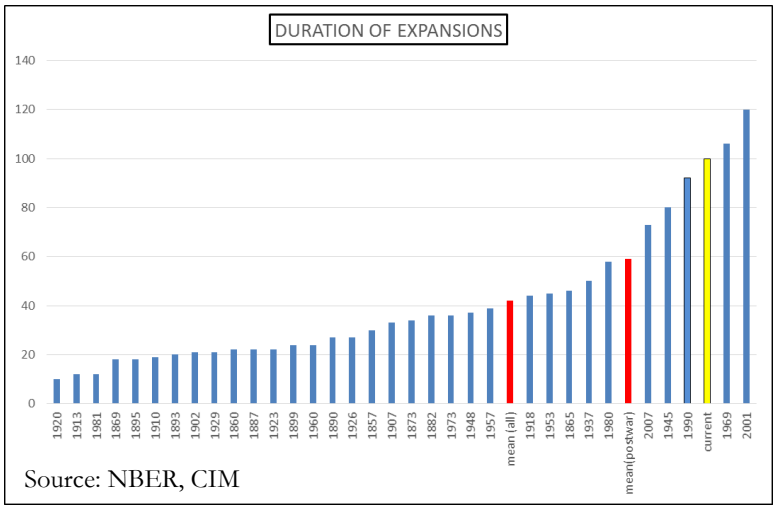
Because the relationship is a macroeconomic identity, it works in real life!

The blue line on the chart is net saving after investment provided by businesses and households. The red line is net saving from the government sector. The green line is what foreigners provide in saving; this is the additive inverse of the current account. Currently, scaled to GDP, we fund a 4.7% government deficit (dissaving) by 2.1% from private saving and 2.6% from foreign saving. If the tax bill results in a larger fiscal deficit, either net private saving must rise or foreign saving must rise, or a combination of the two. Increasing private saving occurs by either boosting business or household saving (by reducing business spending or household consumption) or reducing investment. Since the goal of tax cuts is to boost growth and investment, the fiscal deficit would require even more private investment to offset the increased spending and investment. Or, the current account deficit must increase to attract foreign saving. But, one of the principal platforms of the Trump administration is to reduce the trade deficit. So, either the trade goal must be given up or the private sector must fund government dissaving. Either one could have unexpected outcomes. Our guess is that the trade deficit will rise and the increased deficit will be funded by foreign inflows.



Although deregulation may boost investment and business activity, we have doubts that the tax bill will have much of an impact on investment growth. After all, with interest rates at very low levels, it's hard to imagine there are any investment projects not currently viable that would be once tax reform is enacted. Our expectation is that government dissaving will be funded by foreigners, leading to more concern within the administration over a widening trade gap. If actual trade impediments ensue, inflation will likely rise, perhaps significantly. We don't expect inflation and trade impediments to be a significant issue in 2018; however, beyond that, it may be a much larger concern.

We don't expect the detrimental effects of monetary policy tightening to affect the economy until late 2018. Fiscal policy may not be effective in lifting the economy but it won't hurt much in the short run. Given the lags observed in monetary policy, economic weakness probably won't become evident until 2019. This has been a long expansion; although business cycles don't end because of old age, this one is rapidly approaching the second longest since records began in 1850.



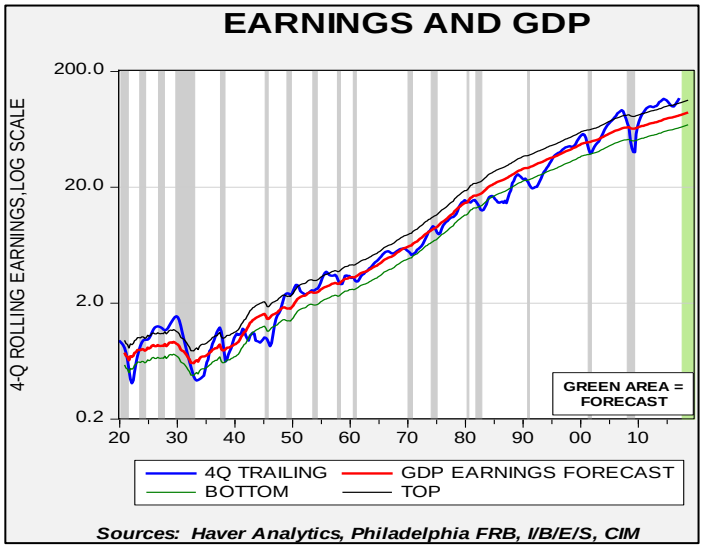
If our forecast is correct, the current expansion will become the second longest in April 2018.

Our baseline expectations for 2018 are 2.25% real GDP growth, with faster growth in H1 and a more noticeable slowing in H2. Inflation is expected to remain controlled, with core PCE staying under 2% well into 2018. Labor markets will continue to tighten but wage growth will remain muted due to falling inflation expectations.

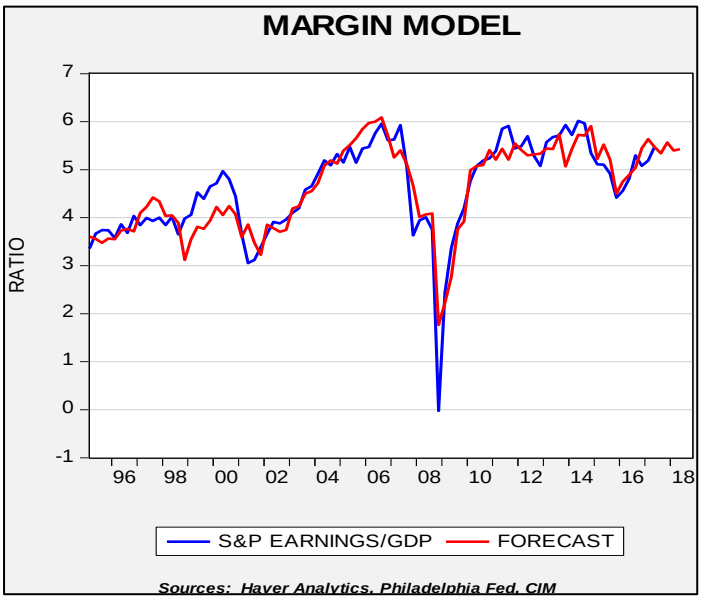
Equity Markets

If our forecast for no recession in 2018 is accurate, profit margins should remain elevated.

This chart regresses the four-quarter trailing S&P earnings against nominal GDP. When the blue line exceeds the red line, margins are expanding. In other words, the red line shows what earnings should be based on economic activity. When the blue line is above the red line, it implies that earnings are exceeding levels implied by the overall economy. As the chart shows, it's not unusual for earnings to weaken into a recession. However, in the last two business cycles, earnings have fallen rather profoundly, from a standard error above to a standard error below the GDP forecast. The last time we saw such variance tied to the business cycle was in the 1930s. We are

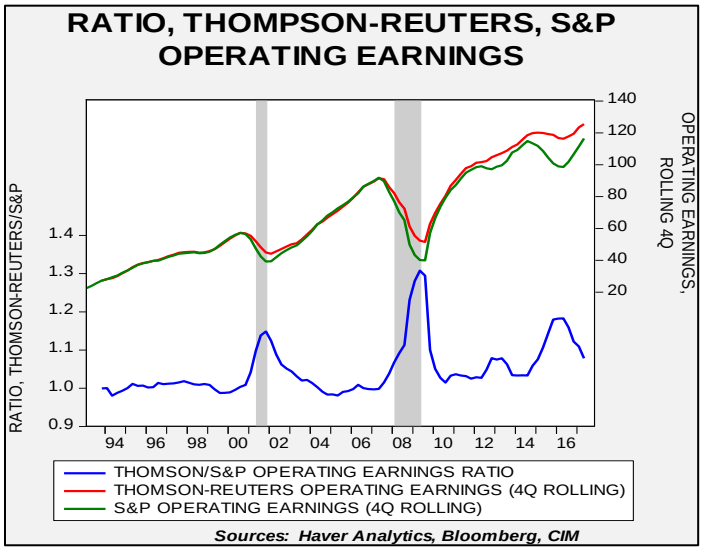


assuming this margin pattern will persist, which explains why we pay such close attention to the business cycle; when the next recession hits, we would anticipate rather severe margin contraction. The forecast on the chart comes from the consensus forecast for GDP from the Philadelphia FRB Professional Forecaster's survey. For reference, GDP accounts for $82.42 of S&P earnings.[5] The current four-quarter trailing earnings for Q2 is $115.92. According to the data, even a pullback to the GDP forecast would be a significant drop in earnings. At the same time, margins should remain elevated in the absence of a recession.



This chart shows S&P 500 earnings as a percentage of GDP along with our forecast. We expect earnings to remain elevated at 5.5% of GDP.

We use Standard & Poor's earnings data in our research. This is because we have a longer history of this data. The other primary data source is Thomson-Reuters. In recent years, the latter source has recorded higher earnings than the former.



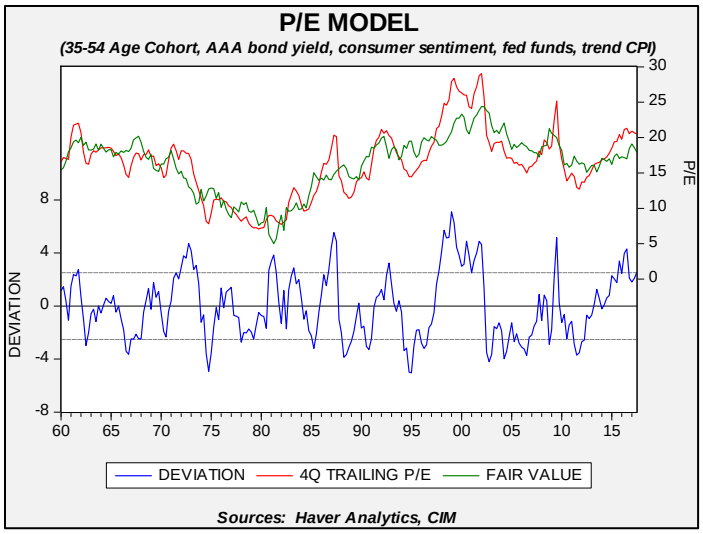
Currently, the ratio of the two series is 7.7%. On average, it is 4.8%, so we expect faster S&P growth relative to the Thomson-Reuters series. Still, over time, the spread has widened and appears it will remain persistently above parity. At the same time, it is evident that the difference narrows near the end of recessions.

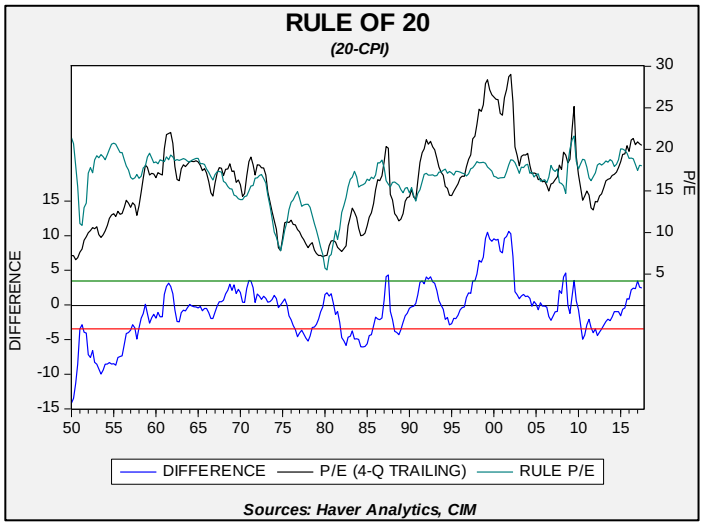
The current[6] consensus forecast for operating earnings from Thomson-Reuters is $145.69. Our forecast for the Standard & Poor's calculation of operating earnings is $129.82, which would generate Thomson-Reuters operating earnings of $138.29. It is still too early to determine if (a) the Trump administration will implement corporate tax reform, and (b) what it will look like. A reasonable estimate of a drop in the statutory tax rate from 35% to 25% would probably generate an after-tax earnings boost of around $10 per share. Thus, investor optimism over tax policy is reasonable. Still, even with tax reform, we expect an operating earnings number, calculated by Thomson-Reuters standards, of $138.29.

[5] For the second quarter 2017, using four-quarter trailing operating earnings with data from Standard & Poor's.
[6] As of 10/31/2017

Armed with that number, the price/earnings multiple (P/E)[7] becomes the next step in calculating next year's market performance. We take two different approaches to estimate the S&P P/E multiple. Based on our basic P/E model, the current multiple is elevated.

The current fair value P/E is 17.9x; the forecast for next year is 18.8x.





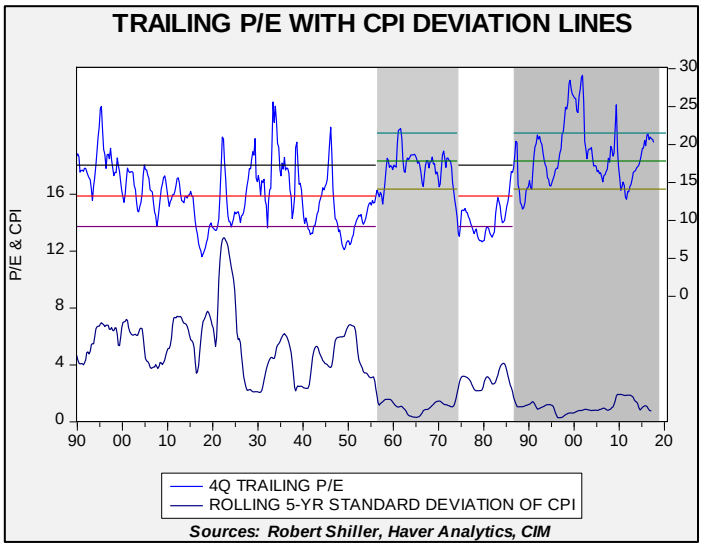
Another model we use for calculating the P/E is an old one, based on the "20 less CPI" calculation.

This model suggests that the current multiple is elevated as well.

We note that the relationship between consumer confidence and the P/E has tightened significantly over the past three decades. Incorporating consumer confidence into the Rule of 20 model generates a P/E of 21.1x.

In addition, there is a historical precedent for higher multiples during periods of low inflation volatility.

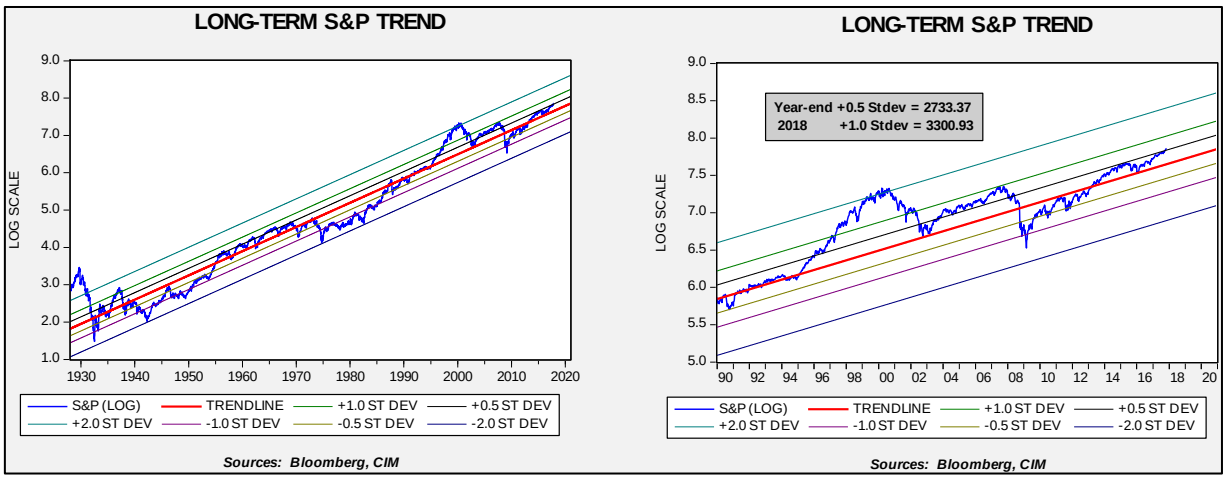
This chart shows the four-quarter trailing P/E (upper blue line), the long-term average during periods of high inflation volatility and standard deviation bands along similar lines during periods of low inflation volatility (periods of low inflation volatility marked in gray). Note that the P/E averages 17.7x during periods of low inflation volatility compared to the high inflation volatility average of 13.1x. Most long-term studies disregard inflation volatility, and the current P/E is very high based on long-term numbers. However, when inflation volatility is low (a five-year standard deviation of <2.5%), the multiple is higher.



[7] Again, basis the Standard & Poor's earnings calculations.

The bottom line is that margins remain elevated, with business, investor and consumer confidence high and inflation volatility low. This is an environment that is bullish for equities; thus, our year-end estimate for the S&P 500 Index is 2739.20.[8]

Our estimate is roughly consistent with trend growth.

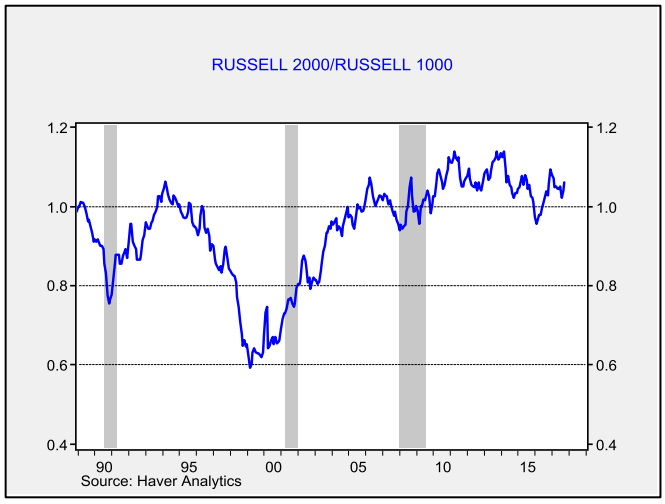


The chart above on the left shows the S&P 500 Friday closes, log-transformed. We regress a time trend through the data to show the long-term trend and the index's deviation from that trend over time. The chart on the right is the same data but with a much shorter time frame. If we stay on the current trend line, which is 0.5 deviation above trend, we will have a year-end S&P 500 at 2733.37, fairly close to our forecast.[9]

There is a possibility that the S&P 500 Index could rise to the next upper deviation level. This "melt-up" scenario is consistent with the continued expansion of the business cycle, ample liquidity, tax cuts and elevated sentiment. Although this isn't our base case, we view the odds of an equity melt-up as higher than normal. Overall, we believe the combination of tighter monetary policy and geopolitical risk will prevent the melt-up scenario, but it has a high enough probability for us to mention it as a possibility.

In terms of capitalization, large caps have done modestly better than small caps this year.

In general, large caps tend to outperform with a weaker dollar and are able to better withstand tighter monetary policy relative to their small cap counterparts. However, the GOP tax plan may reduce the tax burden on small cap equities, thus small caps tend to gain when it appears that progress is being made on tax reform. We don't have a strong position on capitalization at present but, if pressed, we would say that tighter monetary policy is a greater threat to small caps.

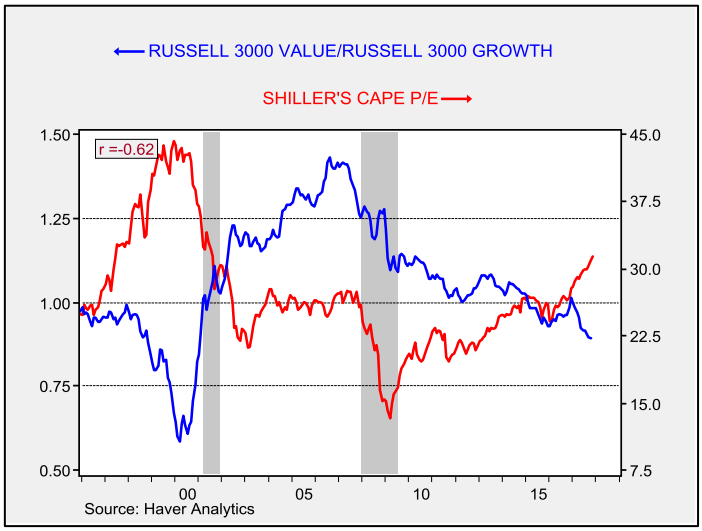


[8] Calculated using our estimate of Standard & Poor's operating earnings of $129.82 multiplied with a 21.1x P/E multiple.

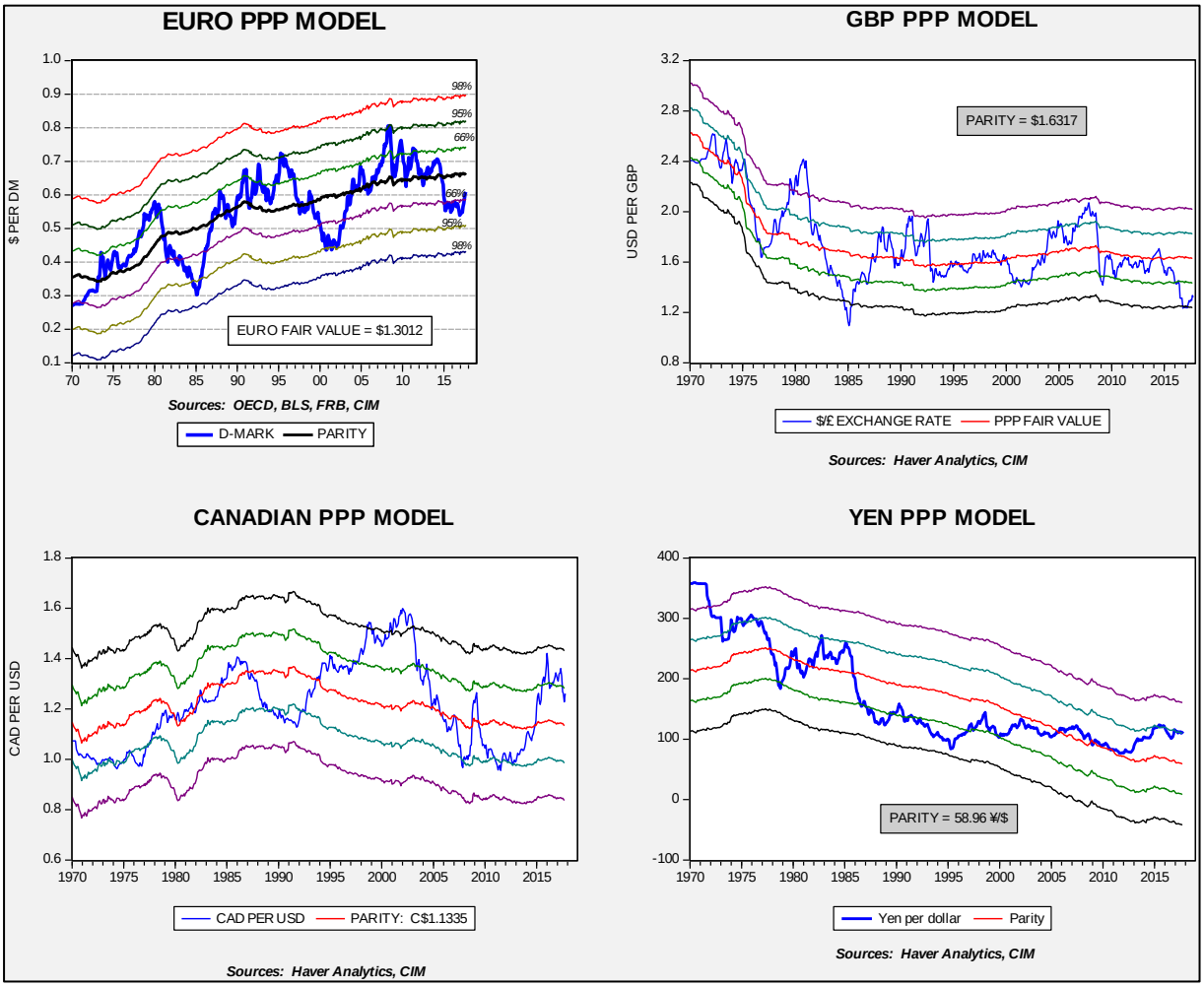
[9] As a point of reference, trend line growth would put the S&P 500 Index at 2263.39 at the end of 2018.

On the other hand, growth has been recently outperforming value. In general, growth tends to do better during periods of rising P/E multiples, while value outperforms when P/Es are flat.

This chart shows the ratio of the Russell 3000 Value Index compared to the Russell 3000 Growth Index along with Robert Shiller's cyclically adjusted P/E (CAPE). The CAPE deflates both the price index and earnings and further adjusts earnings on a 10-year average. By doing so, the CAPE gives a better picture of the overall trend in P/Es. As mentioned above, the chart confirms that growth tends to outperform during periods of rising P/Es, but value does better when P/Es are flat. Since we expect continued multiple expansion, growth should continue to outperform in 2018.

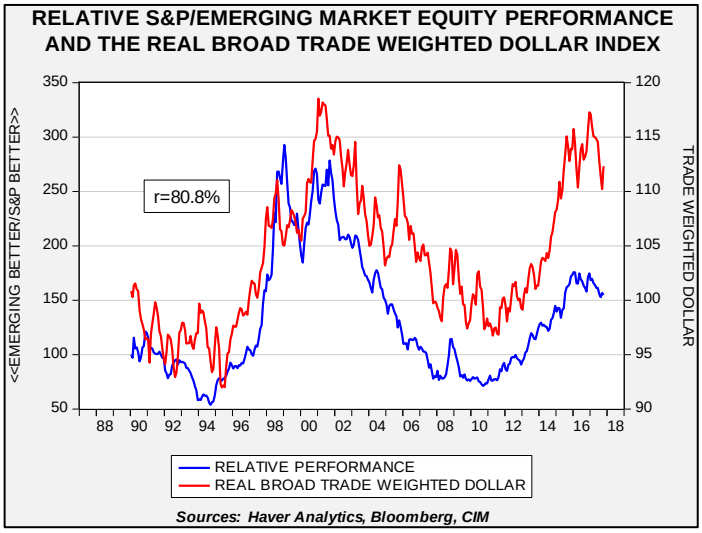


Foreign equities enjoyed a very strong year in 2017; we generally expect another good year in 2018. A key element to foreign equity performance is the dollar's behavior. Using purchasing power parity, a measure of exchange rate valuation based on relative inflation rates, the dollar remains overvalued.



The above charts show parity models for four currencies. Although the degree of overvaluation has eased this year, overall, the dollar remains rich relative to inflation rates. Purchasing power parity is not a perfect measure of exchange rates but at the extremes it usually signals a turn is likely. As the charts show, being one to two standard errors from fair value is usually a good place to allocate into assets of that currency. With U.S. monetary policy slated to tighten, we still may see the dollar hold its value or even gain in the early part of the year. However, given these valuations, the degree of dollar strength should be muted. **Over time, a weakening dollar acts as a tailwind for foreign investing.**

This chart on the right shows the relative performance of the S&P 500 and emerging markets. The data indicate that relative performance is closely correlated to movements in the dollar. Thus, we favor foreign markets in asset allocation.



Fixed Income

In general, there are two decisions in fixed income—how much credit risk and duration risk does a fixed income investor want to take? Monetary policy since the Great Financial Crisis has tended to support both duration and credit risk. Monetary policy has depressed volatility across markets, rewarding equity and fixed income investors for accepting risk. With the FOMC moving to raise rates, the situation in fixed income is potentially becoming more risky.

The U.S. Treasury market has both a domestic and international component. While all sovereign debt markets have a domestic component, the international component is especially a factor for the U.S. because the dollar is the reserve currency. In our Treasury model, we use inflation expectations and fed funds for domestic elements. For foreign elements, we use the yen/dollar exchange rate, German bund yields and oil prices. Our model suggests that the dynamics of the yield curve are affected primarily by the domestic component.

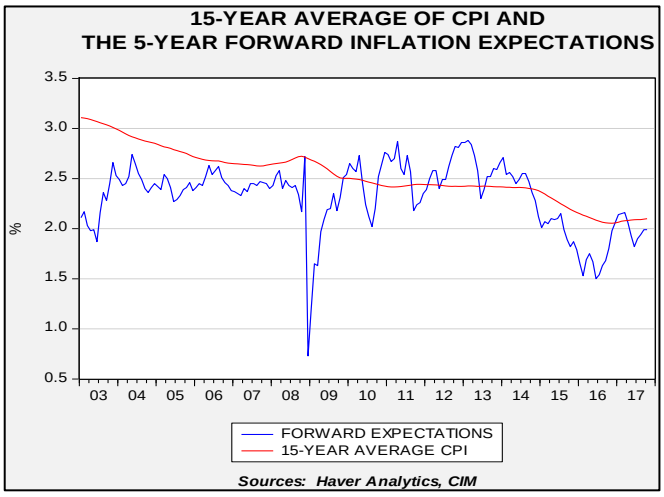
Shifts in the yield curve are driven mostly by a combination of monetary policy and inflation expectations. As a general rule, short-duration instruments are more sensitive to monetary policy and less to inflation expectations. Long-duration instruments have the opposite characteristics. These characteristics are confirmed when we model the two-year Treasury and the 10-year Treasury.

This table lists the coefficients of our Treasury model. The impact of the inflation variable has more than twice the impact on the 10-year Treasury compared to the two-year Treasury. At the same time, the impact of fed funds is more than twice as important to the two-year Treasury compared to the 10-year Treasury.

	2-Year	10-Year
Constant	-0.381	-0.576
Inflation	0.235	0.503
Fed funds	0.672	0.321
¥/$	0.005	0.009
German Bunds	0.153	0.317
WTI	-0.005	0.005

Our inflation variable is really about measuring inflation expectations. We use the 15-year moving average of the yearly change in CPI and developed this variable based on Milton Friedman's research; he postulated that inflation expectations are formed over a long period of time. This is our proxy for

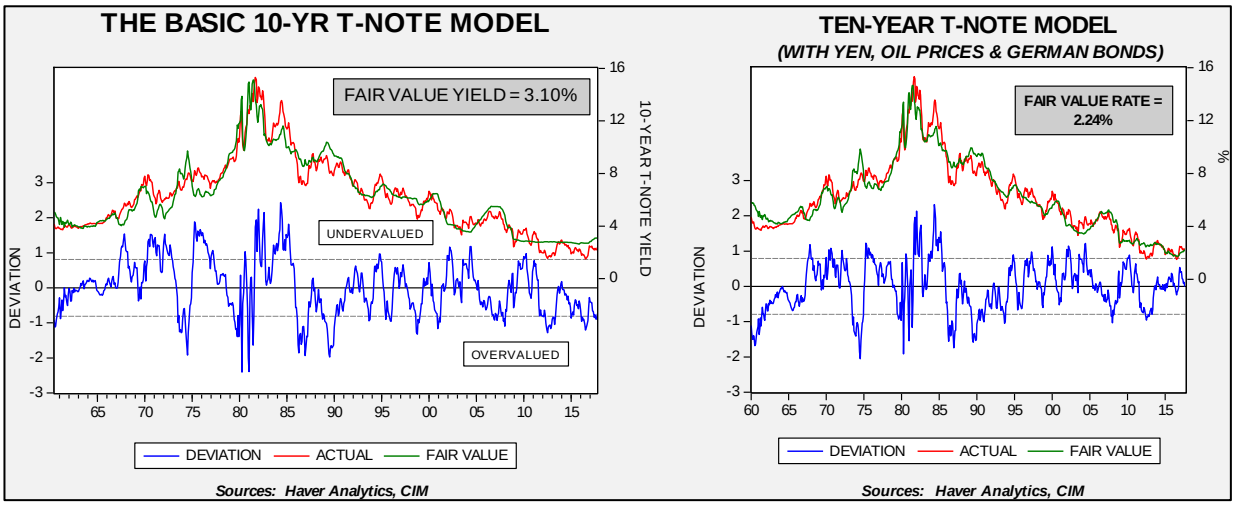
inflation expectations. Although this moving average works reasonably well over time, we do realize that inflation expectations can have sudden shifts.



This chart shows the 15-year average of inflation compared to the implied five-year forward inflation rate from TIPS. While the moving average isn't a perfect proxy for inflation expectations, it has worked as a measure of central tendency since 2009. It's difficult to know how the average compares over a longer time frame since the instruments haven't been around for very long, but it is a workable proxy for our purposes.

When inflation expectations become volatile, policymakers describe these conditions as times when inflation expectations become "unanchored." These periods can make the conduct of monetary policy difficult. If inflation expectations rise, policymakers are likely to raise rates aggressively to contain those fears. At the same time, a decline in expectations can be just as problematic. The yield curve will flatten if the FOMC is raising the target for fed funds while inflation expectations are falling. The FOMC would generally prefer a steeper yield curve, but the Federal Reserve doesn't do a good job of explaining why it wants "higher inflation," which would seem to be a goal worth avoiding. What it really means is that it wants steady to modestly higher inflation expectations when it is raising the policy rate; otherwise, the yield curve will flatten and increase the likelihood of a recession.

Foreign factors have generally kept long-term interest rates lower than they would be based solely on domestic factors.



The model on the left regresses the 10-year T-note yield against fed funds and the aforementioned inflation proxy, generating a fair value yield of 3.10%. To better account for the effects of overseas activity, we add oil prices (WTI), the yen/dollar exchange rate and German bund yields to the basic model. Adding these variables reduces the fair value yield to 2.24%.

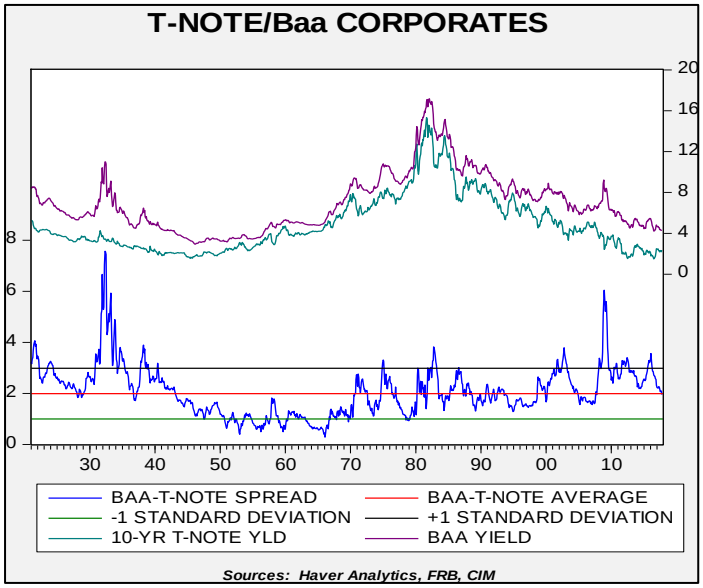
If we assume steady inflation expectations, a yen/dollar exchange rate of 113, German yields of 0.50%, oil at $65 per barrel and fed funds of 2.25%, the 10-year fair value yield would be 2.51%. The major unexpected element is German bund yields. If ECB tapering raises German interest rates, the fair value

yield will exceed the aforementioned fair value. For example, a 1.00% German bund lifts the 10-year fair value to 2.62%. An inflation scare would be much more potent; lifting inflation expectations from 2.1% to 2.5% lifts the fair value yield to 2.79%. The good news for the FOMC is that raising rates before an increase in actual inflation reduces the likelihood that inflation expectations will become "unanchored" and drive long-term rates significantly higher. The downside, as noted above, is that faster than expected policy tightening will tend to lift short-term rates quicker and may trigger a flattening yield curve and increase the odds of a recession.

The bottom line is that we expect a modest increase in long-term Treasury yields next year, with a range of 2.25% to 2.50% on the 10-year Treasury. Shorter term Treasury yields will rise faster next year, leading to a flattening yield curve. As noted above, we don't expect four rate hikes by the FOMC next year despite its insistence that this is its intended path; the major unknown is whether the incoming chair will feel comfortable not following the path created by Chair Yellen. We assume Chair Powell will want to avoid recession and therefore the pace of tightening will be slower than currently projected by the Federal Reserve.

In terms of credit, current spreads suggest that fears of credit problems are rather low.

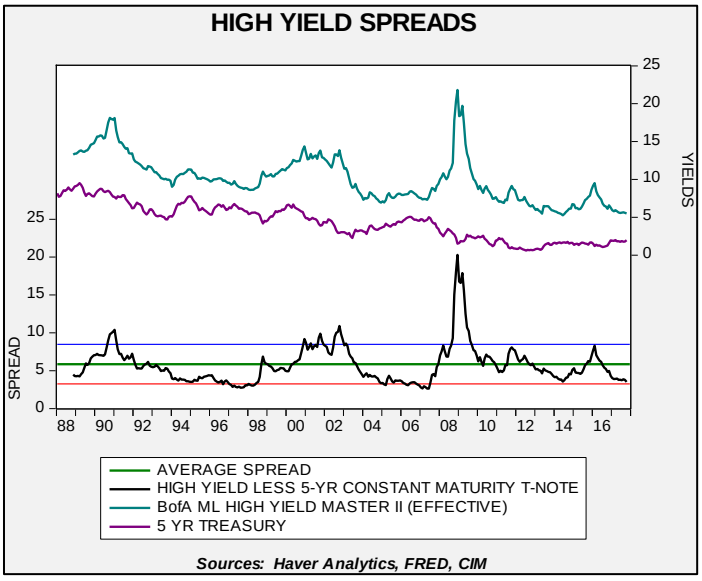
This first chart shows the 10-year T-note yield along with Baa corporate yields. The current spread is essentially on its long-term average. Credit spreads tend to widen during periods of financial stress and recession; although we have generally supported accepting credit risk in portfolios, a more neutral stance is probably warranted at current spreads. On the other hand, we haven't yet seen conditions that would prompt the need to forego the yield advantage offered by corporate credits.



High yield suggests a similar story.

The bottom chart shows the spread between high-yield bonds and similar term Treasuries. The spread is one standard deviation from the average. Although the spread can remain low for extended periods, history does show that the spread can widen out rapidly due to recession or an increase in financial stress. Again, the attractiveness of credit has declined the longer this expansion and supportive monetary policy continues.

In general, fixed income does provide some portfolio protection from a recession. Even with monetary policy tightening, the impact on long-duration bonds should not be severely bearish.

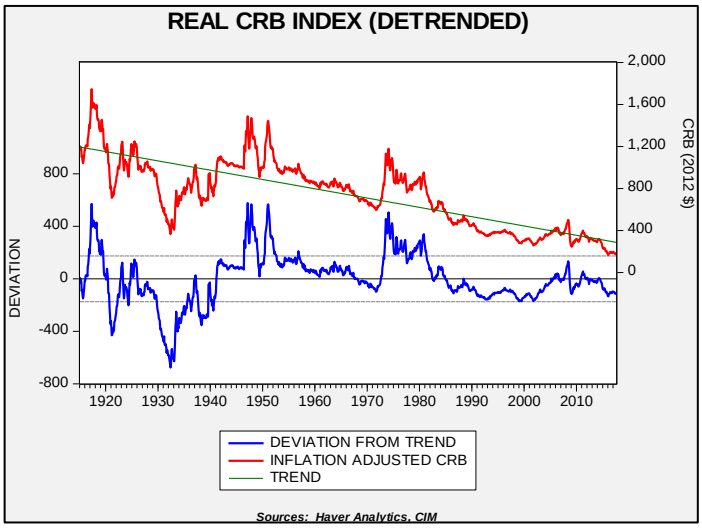


We don't expect inflation to rise and we don't anticipate inflation expectations to change significantly, either. Credit isn't all that attractive at this point, but the risks in credit are not too high. Fixed income is essentially a fully valued market.

Foreign Exchange and Commodities

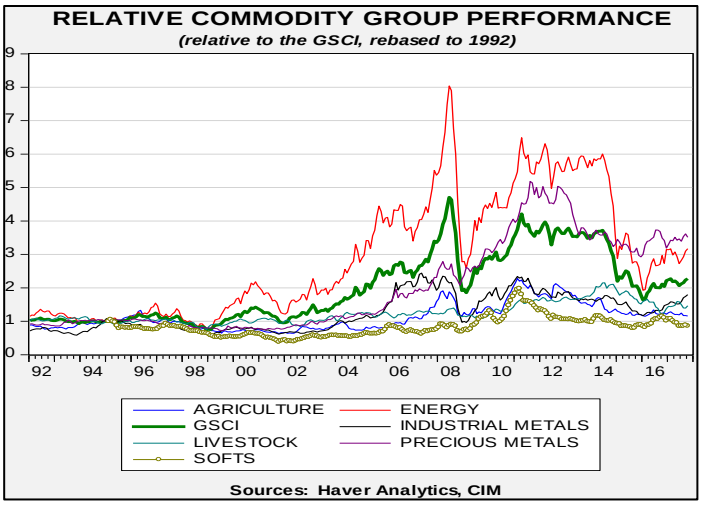
We have mostly covered our views on the dollar in the equity section. Although monetary policy tightening may support the dollar in 2018, the deep level of overvaluation will likely prevent any major rallies from developing. Additionally, if the FOMC begins to back away from further tightening in H2 2018, foreign currencies will likely trend higher for an extended period of time.

Commodities have been running below their long-term trends.



This chart shows the inflation-adjusted CRB Commodity Index over the past 102 years. Over the long run, commodity prices usually fail to keep up with overall consumer inflation. In a sense, this is why capitalism won; over time, firms, households and the government become steadily more efficient in consuming commodities. This efficiency means that commodity prices usually struggle to keep up with overall consumer prices. However, as this chart shows, there are periods when commodities outperform. These phases are usually tied to wars or periods of extreme inflation (and, it should be noted that these often occur at the same time). Even the commodity bull market in the last decade paled in comparison to earlier events. That bull market was mostly due to China's strong, investment-led growth. We don't expect that type of growth to be repeated in the coming years.

Although commodity prices remain below trend, they will tend to struggle to return to trend without higher inflation. This doesn't mean that some sectors of commodities won't do well. In the last decade, nearly all commodity groups did well; now, individual groups tend to perform based on their specific fundamental factors.



This chart shows the relative performance by group of the GSCI Commodity Index. This year, precious and industrial metals have performed well, whereas energy has been volatile and the other sectors have struggled. For 2018, we are favoring oil and gas. Rising tensions in the Middle East and continued OPEC output discipline should support higher oil prices. In fact, we expect geopolitical conditions to be supportive for oil prices; specific issues will be examined in our *2018 Geopolitical Outlook*. These tensions would support precious metals as well; a weaker dollar would also be bullish for this area. However, outside of precious metals and gold, the commodity space is generally less attractive.

In the long run, we remain bullish on commodities. We expect the U.S. to continue its withdrawal from the superpower role which will create a power vacuum that will lead to insecurity of the commodity supply. Although the signs of that situation are steadily developing, we don't expect it to have an outsized effect on commodity prices in 2018.

Bill O'Grady, *Chief Market Strategist*
Mark Keller, *CEO and Chief Investment Officer*

November 30, 2017

This report was prepared by Bill O'Grady and Mark Keller of Confluence Investment Management LLC and reflects the current opinion of the authors. It is based upon sources and data believed to be accurate and reliable. Opinions and forward looking statements expressed are subject to change. This information does not constitute a solicitation or an offer to buy or sell any security.