Stonebridge Economic Outlook



January 8, 2018 Daniel E. Laufenberg, PhD

Economist

The Forecast—More Growth but Less Confident... Full Article on Page 2

The Stonebridge Capital Advisors' forecast has changed considerably from the October forecast. In particular, the recession has been postponed again to sometime in 2019. Federal income tax cuts and a still very accommodative monetary policy are the primary reasons for the postponement. The U.S. economy was far more robust late last year than expected and is expected to continue to do well for most of this year. Over the first eight years of the current expansion (from second quarter of 2009 through the second quarter of 2017), real GDP growth averaged only 2.2 percent annually. The inference might be that the slower paced expansion has helped the economy avoid the excesses of a business cycle, which in turn will allow the U.S. economy to avoid the shock that could lead to a recession. Although I tend to be an optimist, I am not that optimistic. Although the slower growth rate likely allowed the expansion to last longer than it would have if the pace had been stronger, it still will not allow it to last forever. More importantly, the stronger growth over the final three quarters of 2017 and the first half of 2018 may turn out to be the last hurrah of the current expansion. As long as business cycles exist, there will be recessions and expansions. And business cycles have not been "repealed."

Tax Reform and the Economy... Full Article on Page 9

Expectations about what the recently enacted tax reform legislation will do for the U.S. economy vary considerably. The reality is that it will certainly provide a modest degree of stimulus to the real U.S. economy in the near term but is unlikely to have the long-term benefit to potential real growth suggested by some. There are two aspects of tax cuts that typically boost the economy—lower marginal tax rates and expectations that the cuts are permanent. The Tax Cuts and Jobs Act provided one but it is unclear that it provided both. In particular, the cut in the corporate tax rate is permanent under the law but the individual tax cuts are not. And even then, there is some uncertainty about whether the cut in the corporate tax rate will survive the next Congress.

Is an Inverted Yield Curve Really Necessary?... Full Article on Page 11

All of my career, I have argued that an inverted yield curve was a necessary if not sufficient condition prior to a recession. The revised forecast now expects a recession next year, which provides plenty of time for the yield curve to invert as it has before every recession in the last sixty-five years. However, based on the Federal Reserve policy makers' expectations for short-term rates for 2018, it is difficult to see how the yield curve will invert before the end of the year. Although I doubt that it will be different this time, it could be that "quantitative easing" is unlike any monetary policy followed over the last half century or so. Indeed, the last time the yield curve did not invert prior to a recession was in 1953, which was preceded by a period when the Federal Reserve was unwinding its portfolio following the Treasury-Fed Accord that ended the pegging of interest rates during World War II.

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The Forecast—More Growth but Less Confident

The Stonebridge Capital Advisors' forecast has changed considerably again. In particular, the recession that was postponed to this year in the October 2017 forecast has been postponed again to next year in this forecast. Federal income tax cuts and a still very accommodative monetary policy are the primary reasons for the postponement. With such government debt financed largesse, it most likely will delay the finale of the current business cycle. Indeed, the still solid economic performance expected this year will be due in part to a shifting forward of activity from the future, which will increase the vulnerability of the economy to a shock later on. Timing such a shock clearly is difficult. One thing to keep in mind is that the current expansion is in its 103rd month, already one of the longest on record. The longest expansion lasted 120 months from March 1991 to March 2001.

A year ago, the outlook was for the U.S. economy to grow above trend in the first half of 2017, followed by substantially slower growth in the second half with the possibility of a recession starting near the end of the year. Clearly, that was not the case. If anything, it seems that the scenario was the opposite; that is, a sluggish start in the first quarter (1.2 percent at an annual rate) was followed by above trend growth in each of the next two quarters. And based on more recent data, the U.S. economy was on track to grow above trend again in the fourth quarter of 2017. In particular, real gross domestic product (GDP) growth was a solid 3.2 percent in the third quarter of 2017, following a gain of 3.1 percent in the second quarter, and now is expected to deliver roughly 2.7 percent growth in the fourth quarter. The implication is that real GDP is expected to increase 2.5 percent over the four quarters of 2017 versus a 1.8 percent gain for the same period a year earlier. The bulk of the improvement last year was due to stronger than anticipated business investment, especially fixed investment, as well as a small contribution from net exports. Not surprisingly, consumer spending most likely contributed about the same to overall real growth in 2017 as it did in 2016.

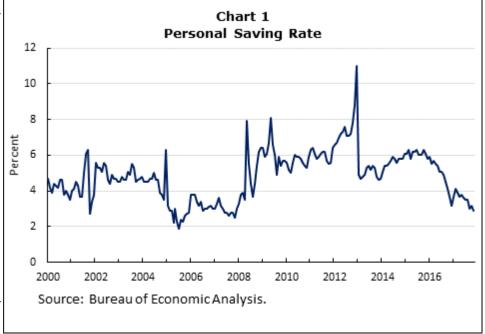
Also a year ago, both the broad and narrow measures of the consumer price index (CPI) were expected to accelerate to a pace that would be problematic for consumer spending. Although overall consumer price inflation increased modestly over the four quarters of last year to 2.1 percent from 1.8 percent a year earlier, core inflation (the price index excluding food and energy) seems to have decelerated to about 1.8 percent over the four quarters of 2017 from a 2.2 percent increase a year earlier. Clearly, inflation was not a problem for consumer spending last year but income might have been. Although real consumer spending likely grew close to 3.0 percent over the four quarters of 2017, real disposable income probably grew a more modest 2.0 percent, requiring consumers to reduce their saving to finance spending. As shown in Chart 1, the personal saving rate trended downward most of last year and was at its lowest level in the third quarter since November 2007, a month before the last recession started. Apparently, consumers had to reduce saving to spend at the pace they did last year. The implication is that maybe inflation is more of a problem for consumers than estimated by the CPI. Of course, dissaving is also a characteristic of a strong wealth effect, which certainly is possible given the surge in the stock market last year.

In addition, although the Federal Reserve hiked its federal funds rate target further in 2017 as anticipated, the pace was less aggressive than shown in the forecast a year ago. The expectation was that the federal funds rate would be raised to 2.5 percent by the end of last year. Instead, the Fed only raised rates half as much.

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In addition, Fed officials did a very good job of preparing for rate hikes, convincing the public that the hikes would not threaten the economic expansion. Moreover, the strong economic growth over the final three quarters of 2017 tends to support the Fed's actions.

Finally, corporate profit growth through the third quarter of 2017 was better than what was expected at the start of the year as well, owing in large part to a more



robust global economy. Interestingly, corporate profits, before taxes as measured in the National Income and Product Accounts, rebounded in the third quarter but to a level that was still not a record high (the record was set in the fourth quarter of 2014). From this perspective, the rally in the stock market over the last two years has been propelled by a more favorable multiplier than profit growth. Of course, S&P 500 operating earnings per share, after the oil price induced slump in 2015, rebounded to a record high in the third quarter of 2017 and is expected to register a new high in the fourth quarter.

Over the first eight years of the current expansion (from the second quarter of 2009 through the second quarter of 2017), real GDP growth averaged only 2.2 percent annually, well below the historical average of close to 3.0 percent. The inference might be that the slower paced expansion has helped the economy avoid the excesses of a business cycle, which in turn will allow the U.S. economy to avoid the shock that could lead to a recession. Although I tend to be an optimist, I am not that optimistic. Although the slower growth rate likely allowed the expansion to last longer than it would have if the pace had been stronger, it still will not allow it to last forever. More importantly, solid real growth over the last three quarters of 2017 and through most of 2018 may turn out to be the last hurrah that sets the economy up for the shock that will end the expansion. As long as business cycles exist, there will be recessions and expansions. And business cycles have not been "repealed."

So where are we in the current business cycle? Clearly it is safe to say that we are closer to the next economic downturn than the last one, but exactly how close is still unknown. As shown in Table 1, real GDP is now expected to continue to grow over the four quarters of 2018 at 2.0 percent, nearly three times faster than shown in the previous forecast but down from the projected 2.5 percent for 2017. In other words, the tax cuts that went into effect this year, along with a continuation of a very accommodative monetary policy, will go a long way to keep growth slightly above its potential for at least another year.

Fo		_	<i>(</i>			
2017f	2018f			2018f	2019f	
	Q1	Q2	Q3	Q4		
2.5	2.4	3.1	1.5	1.1	2.0	0.7
2.1	3.1	3.5	3.4	3.5	3.4	2.5
1.8	2.4	2.9	3.4	3.8	3.1	2,2
2.2	2.2	2.4	2.4	2.5	2.4	1.5
4.1	4.0	3.9	3.9	3.9	3.9	6.4
55.0	60.0	62.0	64.0	62.5	62.5	45.0
88.6	87.5	86.0	85.9	87.0	87.0	79.0
120.5	36.4	37.0	35.6	32.0	141.0	114.0
13.4	26.3	21.3	13.5	1.1	17.0	-21.2
1.3	1.6	2.0	2.4	2.5	2.5	1.0
2.4	2.5	2.6	2.7	2.7	2.7	2.5
4.2	4.3	4.4	4.5	4.9	4.9	4.0
4.4	4.7	5.0	5.4	5.5	5.5	4.0
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Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Standard and Poor's, Federa Reserve Board, Department of Energy, and Federal Home Loan Mortgage Corporation.

Annual changes in real gross domestic product (GDP) and all measures of inflation are percent changes from the fourth quarter of the previous year to the fourth quarter of the year indicated. The annua estimates of the unemployment rate, the price of crude oil, the trade-weighted dollar and all interes rates are averages for the last quarter of the year indicated. S&P 500 operating earnings per share fo the entire year.

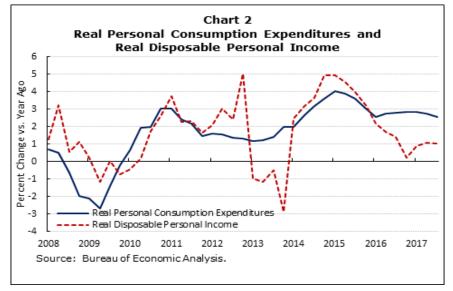
Quarterly changes in real GDP and all measures of inflation are percent changes from the previous quarter at annual rates. For the unemployment rate, the price of crude oil, the trade-weighted dolla and all interest rates, quarterly estimates are averages for the quarter indicated. S&P earnings are pershare for the period indicated.

f-forecast; bold type reflects a major change from the previous forecast

But as usual, quarterly growth rates will be uneven. For now, it looks as if the economy will deliver above trend growth in the first half followed by below trend growth in the second half. If this sounds familiar, it should because it is not too different from the year-ago forecast for 2017. Moreover, the factors driving the forecast for 2018 are not that different either. In particular, both business fixed investment and net exports are expected to contribute to real GDP growth in the first half of 2018 before fading somewhat in the second half. Consumer spending will still be important but its contribution to real growth this year may be a tad less than its contribution last year.

The problem for consumers will be purchasing power. In particular, the increase in real disposable income (which is after-tax and adjusted for inflation) is likely to accelerate in 2018 but from a relatively sluggish pace. As shown in Chart 2, real disposable personal income in the third quarter of

2017 was up a mere 1.0 percent from a year earlier, while real consumer spending was up 2.6 percent from a year ago. In fact, just maintain consumer spending growth at a similar pace for all of 2018, real disposable income most likely will need to improve dramatically. The individual tax cuts may help but we should be careful not to their potential overstate contribution. After all, real disposable personal income growth has been unusually



uneven so far during the current expansion. For example, real disposable income from a year earlier declined for all of 2013, which was the first time on record that this happened without a recession.

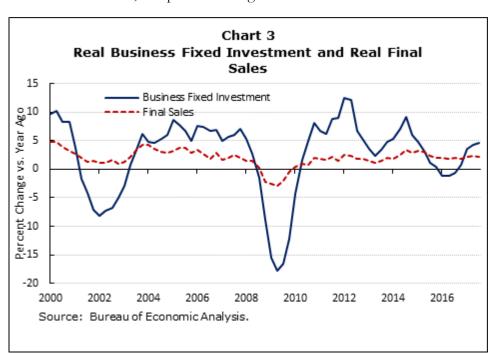
That said, job growth has been spectacular and relatively stable for an economy in the ninth year of an expansion with an aging labor force. Over the twelve months of 2017, nonfarm payroll employment, according to the establishment data, increased 2.2 million last year while the number of full-time employed persons, according to the establishment data, increased 2.4 million (part-time employment actually fell 0.6 million, causing the total number of employed persons to increase only 1.8 million).

Typically as the economy reaches full employment, job growth slows. With the latest reading (December 2017) of the civilian unemployment rate at 4.1 percent, most economists would agree that the U.S. economy is at full employment. Last year was unusual in that job growth did not slow. Whether it will be an issue in 2018 is unclear. Several factors very likely will affect job growth in 2018, including a growing segment of retiring baby boomers, changing immigration policies, a huge number of unfilled jobs, increases in minimum wages, health care policies, the tax changes, and business investment in new technology. I contend that the net effect of these factors will be a mild positive for job growth but probably more of a positive for wage growth. More importantly, most wage growth will occur only if business managers feel they have the pricing power to maintain profit margins. Consequently, the boost in wages may be offset by higher prices, offsetting to some degree the wage gains. If businesses are forced to raise wages due to a higher minimum wage but feel they do not have sufficient pricing power, then they most likely will offset the cost of the higher wage by reducing workers or hours worked. The key will be just how price inelastic the demand for their product might be and that will depend on how successfully they differentiated their product from others. With the internet, differentiation has become more difficult but not impossible.

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Business fixed investment is expected to contribute to growth again in the fourth quarter of 2017 and early 2018. With the large number of unfilled jobs available, there may be an effort by businesses to improve productivity by implementing more labor-saving technology. Indeed, some analysts suggest that the lower corporate tax rate will encourage businesses to make such labor-saving investments. While there may be some opportunity in this regard, I doubt that it is widely available. I contend that real final sales will be the determining factor more so than taxes when it comes to business fixed investment.

As shown in Chart 3, the percent change in real business fixed investment from a year ago tends to



track the percent change in real final sales directionally but with a slight "multiplier" effect. That is, for every percent change in real final sales, the percent change in real business investment is larger. That said, during the current expansion, this relationship broke apparently somewhat, down especially in 2015. But remember, that was most likely in response the

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plunge in crude oil prices starting in mid-2014 and continuing through all of 2015. U.S. investment in oil production followed prices downward. Assuming that oil prices remain relatively stable over the next year, then real final sales will once again be a key factor behind business fixed investment. As shown in Chart 2, real final sales increased 2.2 percent from a year ago in the third quarter of 2017 (the most recent data available) versus 2.0 percent in the third quarter a year earlier, which supports the recent rebound in business fixed investment.

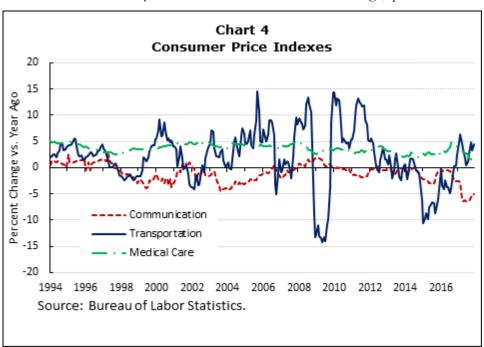
Finally, the inflation outlook remains very uncertain. If there is one aspect of the forecast that has surprised on the downside, it has been inflation. Obviously, structural changes in the global economy, including increased worldwide competition, the internet, and productivity enhancing technology, have allowed U.S. consumer price inflation to remain remarkably benign in the face of a prolonged period of unusually accommodative monetary policy. But the one thing that most analysts overlook is that inflation is measured far differently today than it was prior to 2000. According to the Bureau of Labor Statistics (BLS), the consumer price index (CPI) over the years has become a utility index rather than a pure price index in the search for a more comprehensive cost-of-living index. That is, under the current methodology, price changes are adjusted more extensively for new products and

quality differences and the weights assigned to each product category is adjusted for changes in consumer behavior in an effort to reflect the change in the value of goods and services rather than simply considering the change in prices of a fixed basket of goods and services for a particular segment of the population.

For example, consider the price changes of three general categories of consumer products over the last twenty-three years: communication, transportation and medical care. As shown in Chart 4, price behavior is different for the three categories, but even more so since the late 1990s. This was especially true for the prices of the transportation and communication categories. But what I find interesting was just how volatile transportation and communication prices have become as measured in the CPI. To a far lesser degree, even medical care prices have increased their range of annual percent changes in recent years.

Over the years, numerous changes have been made to the methodology used to calculate the CPI. One such simple but major change was made in 2004, when the price data collected to estimate the CPI was expanded to include all business days of the month. Prior to this change, price data were

collected during the business first 18 days of the month from January October and during the first 15 business days in November December. and Expanding data collection to days business decreased any bias in the CPI that resulted not collecting data when prices changed at the beginning or end of a sale held outside of the first three weeks or so of the month.



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But the most significant change, in my view, has been the expansion of adjusting prices for quality changes. According to the Boskin Commission, which was established in 1995 to study possible bias in the computation of the CPI, adjusting properly for new products and quality changes would alone reduce the percent change in the CPI by roughly 60 basis points per year. In the wake of the report, the BLS has endeavored to remove this particular bias from the CPI.

¹The Boskin Commission was formally called the Advisory Commission to Study the Consumer Price Index. The Boskin Commission Report was released in 1996 and concluded that the Consumer Price Index estimate of inflation was biased upward by a total of 1.1 percent per year, with new products and quality accounting for about half of this bias.

The best example of this is new vehicle prices included in the transportation category. According to the CPI, new vehicle prices in 2016 were little changed from 1997, yet the average retail price of a new vehicle in 2016 was double the average price in 1997. From a utility point of view, a new vehicle simply provides a means of transportation and if the price of the vehicle goes up because more bells and whistles have been added, then the higher price is not for the basic transportation service provided by the vehicle (and therefore not inflation) but rather quality improvements.

The communication price category of the CPI shown in Chart 4 has an interesting feature as well. Since 2004, the only time communication prices in the CPI advanced from a year earlier was during the 2007-2009 recession. My guess is that this was not due to higher phone or computer prices but rather a change in consumer behavior. That is, they probably were not replacing their phones or computers with the newer versions as readily during the recession as they did before or after.

The bottom line is that the average inflation rate has come down in recent years in part because of changes in methodology. In other words, prices still increase but they are accounted for differently in the CPI now than in the past, and the history of the CPI is never revised. Hence, it is totally inappropriate to compare the CPI over any extended period of time because of the ever changing nature of the index. According to the BLS, there is "no single best measure of inflation." In reality, each consumer purchases a unique mix of goods and services, which means that each consumer would technically need a unique CPI to capture its inflation experience over time. The BLS does offer a family of indexes for different users. A good example of this is a provision of the Tax Cuts and Jobs Act that would use the chained CPI rather than the CPI for Urban Workers to adjust income tax brackets going forward. The average percent change for the chained CPI since January 2001 was 1.9 percent, while the average percent change for the regular CPI over the same period was 2.1 percent. Although the gap looks small on average, it would represent a difference of 4.3 percent over the last 17 years.

Also in the report, the forecast has been extended to include 2019 (see Table 1). For the most part, the recession or at least significant slowdown that was expected this year has been postponed to 2019. The ongoing recovery from last year's, still favorable inflation reports, solid job growth, a very benign interest rate environment and a significant cut in the corporate tax rate all favor a continuation of the expansion for 2018. At the moment, it looks as if this will be the case for all of this year, which means the shockingly bad economic news is more likely to surface next year. Although it is never crystal clear, the leading candidate to cause that shocking news is inflation. But as usual, I maintain the right to change my mind.

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²Table 1 has been expanded to include an annual estimate for the current year rather than providing only the quarterly estimates. This makes historical comparisons a bit more convenient. A reminder that the first column of Table 1 is 2017, the next four columns are the four quarters of 2018 and the final column is 2019. I recommend reading the footnotes in the forecast table to better understand the details.

Tax Reform and the Economy

Let me start by listing some of the aspects of the Tax Cuts and Jobs (TC&J) Act of 2017 that this essay is not going to address. First, it will not provide a detailed description of the numerous changes to the tax code in the TC&J Act. I am neither a tax lawyer nor an accountant, so I will leave that aspect of the analysis to them. One thing for sure, any effort by Congress to simplify the tax code missed the mark by a mile. Second, this essay will not tell you what the tax changes will mean for you, in part because every situation is different and because there are so many moving parts to the tax code it would be impossible for such analysis to be relevant to everyone. Finally, there is no discussion of the political aspects of the TC&J Act. I will leave that to news commentators (have you noticed that they are not called reporters anymore) and political scientists.

What this essay will attempt to do is present some fundamental analysis of the economic consequences of the tax cuts in the TC&J Act. It may not be as exciting as the other issues mentioned above but it is key to the "jobs" part of the law. Expectations about what the recently enacted tax reform legislation will do for the U.S. economy vary considerably. Some contend that the cuts will not only have a positive impact on the economy in 2018 but it will boost labor productivity and potential economic growth in the long run. Others contend that the tax cuts will have little or no positive impact on the economy in 2018 and that the massive federal budget deficits from the decline in tax revenue will actually detract from economic growth in the long run. The reality may be that the economy benefits from the debt financed tax cuts initially but the long-run impact of the tax changes on the economy are more difficult to predict.

The textbook analysis suggests that in order for tax cuts to have a meaningful impact on the economy over an extended period of time, they need to be permanent cuts in marginal tax rates. This simple analysis is often lost in the details. The TC&J Act gets very mixed reviews on this score. For individuals, the marginal tax rate for many, but not all, will be reduced starting in 2018. The question is whether they will be permanent. There are two reasons to suspect that they may be viewed by consumers as temporary—the TC&J Act already includes an expiration date of December 31, 2025 for the individual tax changes and the Congressional election later this year could alter the future of the TC&J Act. Consumers historically do not change spending based on temporary fluctuations in income. Instead, most windfalls are saved and given that the personal saving rate has plummeted to near a record low recently, a boost to saving may be in the cards.

On the other hand, if consumers do spend their tax cut over the next year, the impact may be more nominal than real. In other words, with the economy already operating at full employment, there is very little room to boost production of goods and services, especially more labor-intensive services. The result may be higher prices rather than more real output and jobs. The other aspect of this is that consumers have already spent their tax cut, as evident by the plunge in their saving rate this year. I suspect that most consumers are less certain about what the tax changes will mean for them and will employ the wait and see strategy.

Business tax cuts in the TC&J Act more closely fit the textbook version of meaningful tax cuts for the economy. The marginal tax rates for most businesses have been reduced substantially and are considered permanent in the law.

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Clearly, this should help boost corporate investment if it wants to add to production. And for the most part, the investment will be focused on increasing automation since the work force already seems to be fully employed. This should help boost labor productivity and help offset increased labor costs. However, this may be difficult to do since businesses already have 6.0 million job openings that they are looking to fill.

When it comes to business investment and the decision to expand operations, tax rates are only one factor considered. The far more important question is whether consumers will buy whatever the new capacity produces. Hence, the key to whether businesses expand as a result of the TC&J Act will be whether consumers spend their tax cut and that is unclear.

This gets us to "jobs." The projection is that the TC&J Act will result in 339,000 more jobs than otherwise over the next ten years. Although this is touted as a positive for the tax cuts, it will be very difficult to verify if any additional jobs are created due to the tax cuts alone. Of course, the job gain expected from the tax cuts translates into only 3,000 more jobs a month, which could be met in part with the additional accountants and lawyers needed to interpret the tax code and to help businesses reorganize to take advantage of the new tax structure.

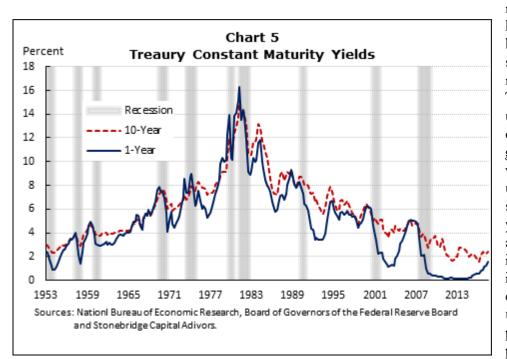
The bottom line is that the precise impact of the TC&J Act on the U.S. economy is impossible to predict. It will depend primarily on how consumers perceive their tax cuts and at the moment I can only guess that it will be perceived favorably in the near term but less so in the long run. As a result, the Stonebridge Capital Advisors forecast expects the tax cuts to be favorable for the economy at least in early 2018.

Is an Inverted Yield Curve Really Necessary?

All of my career, I have argued that an inverted Treasury yield curve is a necessary but not a sufficient condition for a recession to occur. That is, every U.S. recession over the last sixty-five years has been preceded by the yield curve inverting but not every inversion has signaled a recession. In the mid-1960s, the yield curve inverted briefly without a recession following. The point is that now it is accepted wisdom that the yield curve must invert before we need to worry about a recession.

An inverted yield curve is when the short-term interest rate rises above the long-term rate. At the moment, the Treasury yield curve, as measured by the spread between the 10-year yield and the 1-year yield, is still far from inverted but closer than it has been for many years (see Chart 5). In the fourth quarter of 2017, the 10-year yield was 82 basis points above the 1-year, the narrowest this spread has been on a quarterly basis since the fourth quarter of 2007.

Given that the expansion is now expected to continue through the end of the current year and the Federal Reserve is expected to hike its federal funds rate target at least another three times over the



next year, it is very likely that the spread between long short rates narrow even further. That said, it is still unclear that the yield will invert curve given that the Fed also will unwinding its balance sheet over the next year. This unwinding, along with the likely increase in issuance of Treasury debt associated with the tax cuts, should put some upward pressure on longterm yields. Such a

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development could make it even more difficult for the yield curve to invert. The thought process seems to be that if a yield curve inversion can be avoided, then the recession can be avoided as well.

Obviously, it does not work that way because an inverted yield curve is not the cause of a recession, it is at best a signal. This begs the question of what if anything has changed that would alter the signal. In this regard, monetary policy has been different since 2008 with several rounds of "quantitative easing." Although it is different from anything we have experienced in the last sixty-five years, it may not be so different from what happened seventy years ago. As shown in Chart 5, there was a

recession in 1953-54 in which the yield curve did not invert. The one factor that seemed to contribute to this outcome was the Treasury-Fed Accord of 1951 that ended the Fed's efforts to peg both short and long interest rates at artificially low levels to help ease the cost of financing World War II. Indeed, in the process of pegging rates, the Fed had acquired a substantial portfolio of Treasury debt and was in the process of unwinding its portfolio following the Accord. This was also a period when the federal government was issuing new debt to help finance the Korean War. Compare that with 2018, a year in which the Fed will be unwinding the massive debt portfolio accumulated as part of the plan to rescue the economy after the last recession, as well as the federal debt issuance to help pay for the new tax cuts. One could argue that the Treasury debt market will be in a situation this year not too different from the early 1950s.

This is just a thought and not necessarily the forecast. The more likely scenario continues to be that the yield curve inverts prior to the next recession. If the Stonebridge Capital Advisors' forecast is correct, there will be plenty of time for an inversion to occur before the expected recession in 2019. That said, there is a good chance that the inversion this time will be very slight and precede the next recession by only a few months. More importantly, be careful not to dismiss the possibility of a recession even if the yield curve fails to invert.

Daniel E. Laufenberg, Ph.D.