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The Longbrake Letter*

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I. Desire for Change Trumps Character in America's Presidential Election

In a stunning surprise to financial markets and many Americans, Donald Trump was elected on November 8, 2016 to be the next president of the U.S. As I will discuss in this month's letter, the reasons for Trump's success should not have come as a surprise. A majority of Americans have become increasingly dissatisfied with changes in America's social, political and economic fabric, which many view as undermining the opportunity to live the American dream and undercutting American exceptionalism. In this context, "Make America Great Again," resonated.

The desire for change was evident in the 2008 election of Barack Obama. But, Obama did not provide the kind of change that many Americans yearned for and the malaise deepened. An analysis of voting patterns in the 2016 election revealed that many who had voted for Obama in 2008 and 2012 because he was the candidate for change were disillusioned by the prospect that Clinton would follow in Obama's footsteps and voted for Trump. Trump was the candidate of change; Clinton was the candidate who would maintain the status quo.

We know from polling results that both Trump and Clinton had unusually high unfavorability ratings. Trump's ratings were a little worse than Clinton's and many assumed that his self-centered personality and bigoted and inflammatory statements would swing voters to the lesser of evils. But, as we now know, the desire for change trumped character.

Last month I began this letter by talking about two economies. On the one hand, if one only listened to the consensus, one would be optimistic that the US economy is moving forward steadily with strong employment, low inflation, and low interest rates. However, on the other hand a more critical look at

*The information contained in this newsletter does not constitute legal advice. This newsletter is intended for educational and informational purposes only.

recent data and assessment of years of aggressive and market-intrusive monetary policy, not only in the US but in all major developed economies, leads to a much different and more troublesome outlook. At least one credible commentator argued that the probability of recession in the U.S. over the next 12 months was 50 percent.

In previous letters I have discussed the growing imbalances in the global economic and political fabric. Because there is much at stake the established political and financial elite have had an enormous vested interest to maintain stability at all costs — slow and steady growth. Until Donald Trump's surprise election to be the next president of the U.S. that strategy had been successful.

I went on to say that events such as the British Brexit vote, the rise of Donald Trump, the erosion of Angela Merkel's political dominance, the collapse of productivity and decline in real economic growth, are undermining the foundation of the old order.

Well, here we are. The American people voted for change and elected Donald Trump. Not only did they elect Trump, they gave him an all-Republican Congress. The old order — the political and financial elite — have been rebuked. Whether they retain significant influence over economic policy remains to be seen.

Recent economic data reports have come down on the side of the slow and steady growth economy. Trump's proposed economic policies provide reason to be optimistic that growth might be a little stronger over the next year or two. However, the other economy, the one teetering on the edge of recession, is not buried. A recent informal poll of members of the Conference of Business Economists (I am a member) revealed that a majority expect economic growth to improve, but a majority also believes that the odds of a recession in the next 12 months have risen.

This view is corroborated by **Goldman Sachs (GS)** recession risks analysis. According to **GS**, U.S. recession odds are currently 4 percent, but rise to 21 percent in next year and 26 percent over the next two years. Recession risks in Europe rise from 6 percent currently to 27 percent and 43 percent over the next one and two years. Canada and Japan have a greater than 50 percent chance of recession within the next two years.

As I discuss in this letter, there is always opportunity and risk in change. Adverse risks of significant policy changes are likely to be amplified by the significant global economic imbalances that have been building and by escalating political instability, particularly in Europe. Most all would agree that Trump's election has elevated uncertainty. Uncertainty has risen because analysts are unsure about the potential impacts Trump's policy agenda might have or what feedbacks implementation of his policies will set in motion.

In the immediate aftermath of the election, markets are brimming over with optimism. Investors now expect stock prices to rise 10 percent in coming months compared to a view of no change prior to the election.

According to Louis-Vincent Gave of GavekalResearch, the markets' revised outlook is based on the following logic:[1]

[1]Louis-Vincent Gave. "Making America Great Again," GavekalResearch, November 18, 2016. (Proprietary document.)

- A clean-sweep by the GOP in Washington should mean tax cuts, deregulation, more infrastructure spending and bigger budget deficits.
- The threat of bigger budget deficits justifies a bond sell-off.
- Higher yields mean a stronger U.S. dollar.
- Bigger budget deficits will trigger an adjustment in inflation expectations.
- The higher U.S. dollar means that emerging markets will underperform.

In this logic lie seeds of reversal. Higher inflation and interest rates and a stronger dollar, if they rise too far, will put a brake on growth. Suck a brake could take hold before fiscal stimulus has a direct impact on economic activity. In other words, recession could set before fiscal stimulus is effective. Charles Gave's recession indicator is currently -3 and declining. Recession historically has occurred when this indicator fell below -10.

II. America's Crumbling Social System

Why did Donald Trump win the presidential election when the New York Times, based on a sophisticated statistical model, cited an 84 percent probability that Hillary Clinton would prevail? Why did Donald Trump win when a respected financial market and political analyst gave Hillary a 70 percent chance of winning with a divided Congress and assigned only a 5 percent probability to the ultimate realized outcome of Trump's election and an all-Republican Congress?

The short answer is that a substantial proportion of the electorate wanted change and through the vagaries of the Electoral College, the votes for change prevailed. Donald Trump was the candidate for change; Hillary Clinton was the candidate for the status quo — continuing the policies of President Obama. As Peter S. Goodman put it: "*The old ideological divisions of left and right have effectively been eclipsed by a new economic taxonomy — those who have benefited from globalization and those who have not . . . college-educated urbanites making a comfortable living in the quintessential trades of globalization — finance, technology and media — disdained Mr. Trump. People in the center of the country who lack degrees and have seen jobs transferred to China and Mexico played a leading role in delivering the White House to Mr. Trump.*" [2]

Goodman's summary is part of the story. But it is an oversimplification of a far more complex set of forces that have been reshaping America's social system for decades.

In a paper I wrote in 2013, "*America's Crumbling Social System: Potential Solutions Involving Religious and Non-Profit Leadership and Organizations*," I described the forces eroding America's social system.[3] Some salient excerpts from the paper are quoted below:

[2] Peter S. Goodman. "Trump Rides a Wave of Fury Than May Damage Global Prosperity," New York Times, November 9, 2016.

[3] William A. Longbrake. "America's Crumbling Social System: Potential Solutions Involving Religious and Non-Profit Leadership and Organizations," paper prepared for the Henry Kaufman Forum on Religious Traditions and Business Behavior, October 31, 2013.

There is ample evidence that all is not well in the United States — America's social system is crumbling. The paper begins by defining the elements of an ideal social system and then documents how America's social system has steadily moved farther away from the ideal in recent decades. Trends in income, wealth, and cultural inequality are indicia of the decline. The dominance of shareholder wealth maximization and efficient markets theory and the operation of free markets has been coincident with these trends and amplified them. Concurrently, America's social contract shifted from a high-wage to a low-wage orientation. Collectively, the American social system has become less inclusive and more extractive — serving the interests of a few.

Human beings care about their own welfare and success. But their behaviors are also motivated by family, clan and society's wellbeing. Acting in one's self interest does not always result in collective benefit to society. For that reason all civilizations have developed governance systems to regulate behaviors and all civilizations have embedded values, belief systems and norms that guide human interactions. Values, beliefs and norms are the foundation of the world's great religions. Religions guide individual behaviors, and the institutions of religion provide enforcement mechanisms that establish order and predictability. Governments regulate commerce and appropriate behaviors. They also provide for the common defense and public goods and services. The institutions of government also establish order and predictability.

In addition to growing income and wealth inequality, the cultural divide is also growing. "The American Way of Life," which involved a civic culture that encompassed an extremely large portion of Americans of all classes and muted differences among them, and which has been celebrated as the "Middle Class" — the backbone of American culture — appears to be giving way to a new upper and a new lower class complete with a deep cultural chasm between them. The opportunity for upward mobility, the cornerstone of the "American Dream," appears to be diminishing. The social fabric has frayed as the institution of marriage has declined and the percentage of single-parent households has increased. The incidence of criminal behavior has increased in the new lower class. And, involvement in community-based social value creation has diminished. In short, cultural inequality has emerged as old social norms have given way to behaviors that are deleterious to overall social welfare.

Emerging cultural inequality involves the breakdown in the old social norms which governed behaviors deleterious to overall community welfare. The old social norms began to unravel as government programs diminished the importance of non-governmental organizations, such as religious denominations and churches. And the weakening of these institutions led to a weakening in the role of these institutions as enforcers of the social norms. Feedback loops kicked in and the decline in non-governmental organizations and the breakdown in social norms evolved over time and the negative consequences of growing cultural inequality grew.

The new upper and low classes are pulling apart and the middle class is shrinking. Michael Austin put it starkly: "We are indeed splitting into tribes in the country, but the pie is almost certain to continue shrinking rapidly for the vast majority of us." Charles Blow voiced similar sentiments: "America is quickly dividing itself into two separate nations, regional enclaves of rigid politics, as the idea of common priorities fades further into a distant past."

Globalization has served to amplify the trends driving the crumbling of America's social system. As I discuss elsewhere in this month's letter, globalization erodes a sense of identity and belonging. Because globalization transcends the boundaries of traditional governance units — towns/cities, counties, states and the nation — but lacks the political cohesiveness of those governance units, it erodes effective enforcement

of social norms.

Arthur C. Brooks, president of the American Enterprise Institute — a leading conservative think tank, and Sherrod Brown, Democratic U.S Senator from Ohio, in separate opinion-editorial commentaries have articulated the powerful human emotions and anguish of working-class America.[4,5] Notice that both focus on the importance of "**dignity**."

Brooks talks about the acute crisis that has been rolling through working-class America. He acknowledges concern about growing inequality but asserts that the relevant gap is "**dignity**." "*Too many Americans have lost pride in themselves. We sense dignity by creating value with our lives, through families, communities, and especially work . . . the U.S. is bifurcating into a nation a winners and losers, and this distinction is seeping into American culture . . . where . . . experts heard incoherent specifics, many voters heard a consistent deeper theme: A promise to work hard at restoring left-behind Americans' dignity by bringing back jobs and striking back at the cultural elites who disdain them.*"

Senator Brown observes that the Rev. Dr. Martin Luther King, Jr. taught us that all work has **dignity**. "*People take pride in the things they make, in serving their communities in hospitals or schools, in making their contribution to society with a job well done. But over the past 40 years, as people have worked harder for less pay and fewer benefits, the value of their work has eroded. When we devalue work, we threaten the pride and dignity that come from it. . . . American workers . . . understand . . . that you build a society and an economy from the middle class out. . . . [the worker force] feels betrayed by trade and tax policies that create immense affluence at the top and take wealth from workers.*"

Trump is the beneficiary of the angst and desire for change that has flowed from the loss of dignity and the erosion of the bonds that historically held together a vibrant and cohesive American society and culture. But, if Trump governs by attacking globalization's scapegoats — trade and immigration — and does not seek to restore dignity to work, narrow the class divide and resurrect the American dream for all, he will surely fail and America's social system will continue to crumble.

III. Potential International Impacts of a Trump Presidency

Naturally, a change in the U.S. presidency raises international concerns. Because of Trump's rhetoric during the campaign, concerns about the U.S.'s security commitments (NATO) and stance on trade (North American Free Trade Agreement [NAFTA] and Trans-Pacific Partnership [TPP]) are elevated.

What appears to be at work in the Brexit and U.S. presidential outcomes is a reaction to the consequences of the forces of globalization that have held sway in recent decades. Globalization has led to the decline of the nation-state as an effective governing political unit, as global financial markets and corporations have evolved in ways that transcend the control and influence of nation-states. Powerful secular trends, including population aging, energy availability, climate change, migration, technological advances in communications and supply chains, are global in their impacts, but effective governance is lacking. It is not surprising, then, given this unsettling milieu, which has contributed to job losses and anxiety about cultural identity, that populism, nationalism, protectionism (anti-trade), and nativism (anti-immigrant)

[4] Arthur C. Brooks. "How Trump Filled the Dignity Deficit," *The Wall Street Journal*, November 10, 2016.
[5] Sherrod Brown. "When Work Loses it Dignity," *The New York Times*, November 17, 2016.

have come to have significant impacts on the political landscape.

Attempts to form regional governments, such as the European Union (EU), have to date been unsuccessful. Such governments have not figured out how to deal simultaneously with all-encompassing issues affecting their members while preserving the sovereignty of individual member nation-states. Moreover, citizens' first allegiance goes to those like themselves with a common culture, common values, and often common ethnicity. Germans and French, for example, have allegiance first and foremost to Germany and France and the governments of those nation-states. There is little allegiance to the EU and the technocratic European Commission bureaucracy in Brussels.

Trump's election as U.S. president is illustrative of the anxieties about the impacts of globalization and the sense of loss of cultural identity. It is not a one-off event. Europe appears to be next in line to be subjected to the forces that led to Brexit and Trump.

1. Significant Global Implications of a Trump Presidency

Anatole Kaletsky of GavekalResearch immediately following the election of Donald Trump to be the next president of the U.S. summarized four favorable and five unfavorable global implications of a Trump presidency.[6]

a. Favorable Implications

a) **Expansionary U.S. Fiscal Policy** — faster growth is likely during the first two years of a Trump administration and this will benefit the global economy.

b) **Tax Reform** — rationalization of corporate taxes through lower tax rates and simplification will encourage growth.

c) **Deregulation** — modification of environmental and energy regulation is likely and could lead to lower energy prices; policies to encourage higher wages are probable to fulfill campaign promises.

d) **Geopolitics** — Kaletsky's rationale is interesting and is not the common view. He suggests that Trump *"... will make the world more peaceful and calm ... even though it will make it less democratic ..."* The thought is that Trump's approach will be transactional — deal making — rather than ideological. It would involve establishing spheres of influence for countries such as Russia, Iran, and China.

b. Unfavorable Implications

a) **World Trade** — policy is likely to shift from promoting free trade to protectionism. Trump has announced that he will withdraw from TPP. World trade has already been decelerating and could actually decrease in coming years.

[6] Anatole Kaletsky. "What A Trump Presidency Means for Global Investors," KavekalResearch, November 10, 2016. (This is a proprietary document.)

b) **Monetary Policy, Inflation and Bond Yields** — this is the flip side of fiscal stimulus in an already near full employment economy. Inflation expectations and realized inflation will rise and that will result in tighter monetary policy and higher interest rates. This concern is examined in Section V below. While inflation is not likely to rise a great deal, short-term interest rates could rise quite a bit.

c) **U.S. Dollar** — stronger economic growth and higher interest rates will result in a stronger dollar. This is particularly likely because of weak growth and low interest rates in Europe and Japan.

d) **Emerging Markets** — trade protection and a more expensive dollar will adversely affect emerging market countries, particular those with a high dependency on dollar funding.

e) **Europe** — political contagion could have a "*dramatic*" and adverse effect on the EU and the euro. Brexit and Trump have legitimized populist politicians in many European countries.

On balance, the unfavorable implications for the non-U.S. global economy outweigh the favorable implications.

2. Is Trouble Ahead for the Global Economy?

Desmond Lachman of the American Enterprise Institute thinks so. He worries that "*... a perfect international economic storm could be brewing that could have serious consequences for the U.S. economy.*"[7] Lachman summarizes significant financial risks that have accumulated over the past six years, largely as a consequence of unorthodox policies. First, global debt to GDP ratios have risen to dangerously high levels. Second, investors have "*recklessly*" reached for yield engendering financial asset bubbles and the mispricing of credit risk. Third, persistently low interest rates have weakened troubled banks' balance sheets. Fourth, easy access to credit has created significant vulnerabilities (Lachman calls them fault lines) in global economies which could adversely affect economies like China and deepen recessions that are already in progress in major emerging economies, such as Brazil, Russia, and South Africa. The U.K. and Italy are also candidates for financial and economic crises.

3. Europe

Trump's election victory will provide considerable momentum to Euroskeptic anti-establishment political movements in Europe and could accelerate the slow fragmentation of the European Union (EU), which has been underway since the Great Recession. Terrorism, immigration and differential economic performance across member countries are steadily undermining the foundation of the EU.

There is a common thread between themes Donald Trump successfully exploited in his campaign for the U.S. presidency and the vote in the U.K. in June to leave the EU and the upsurge in populist political movements and anti-EU sentiment in Europe. Globalization is blamed for the loss of jobs and immigration is criticized as a threat to national identity and security. These themes resonate with voters who do not see a benefit in free trade or unrestricted immigration. The Schengen Agreement requires free movement

[7] Desmond Lachman. "Trouble Ahead for the Global Economy," American Enterprise Institute, November 2016.

of all nationalities across borders of EU member countries. Negotiation of the Transatlantic Trade and Investment Partnership between the U.S. and the EU is probably dead.

Several European countries have elections in coming months which could be impacted by Trump's ascendancy.

Italy — a constitutional referendum is scheduled on December 4, 2016 to approve a proposed change that would limit the role of the Senate and shift power from Italy's regions to the central government. The intent is to provide a stronger and more stable central government and improve its ability to enact and implement policies to accelerate economic growth. Recent polls indicate a plurality of "No" votes but with an extremely large percentage of prospective voters indicating they are undecided. If the referendum fails, Prime Minister Matteo Renzi might be forced to resign and/or a new parliamentary election might be scheduled. If he does resign, new elections would probably be held. If he does not, the next regularly scheduled elections will occur in May 2018.

Recent polling results indicate that Renzi's Democratic Party is favored by 33 percent of Italian voters and the Euroskeptic Five Star Movement is favored by 29 percent. Italy's new electoral law (not the subject of the December 4th referendum) specifies a two-round process to elect a prime minister. This law is effective for the next regularly scheduled parliamentary election in May 2018. Under the new law the party that gets the most votes will get bonus seats in the parliament which would give it 54 percent of the seats, provided that it received at least 40 percent of the votes. If the winning party did not receive at least 40 percent of the votes, a second round of voting would be scheduled between the two parties that received the most votes in the first round. It is unclear whether the new electoral law or the old one would apply to a special parliamentary election prior to May 2018.

In addition to incipient aggravation of already existing political instability posed by the constitutional referendum, Italy's banking crisis has yet to be resolved. It has been papered over for the time being but could re-emerge if political instability crescendos.

Only 54 percent of Italians support remaining in the euro. Given this underwhelming support and the uncertainty of Italian politics, Italy could become the source of the next or perhaps final phase of the EU's drawn-out existential crisis. Things could get very messy in Italy.

Austria — the anti-establishment Euroskeptic Freedom Party is likely to win the presidency on December 4, 2016. The Freedom Party is currently well ahead of the Social Democratic Party by a margin of 34 percent to 27 percent. Polls indicate that the Freedom Party presidential candidate is narrowly favored.

Netherlands — general elections are scheduled for March 2017. The Netherlands' anti-establishment, Euroskeptic Freedom Party is in a dead heat with the People's Party for Freedom and Democracy. Polls indicate that each is preferred by 27 percent of the electorate. Because the Netherlands has a proportional parliamentary system, whichever party polls the most votes would be given first opportunity to form a government. Trump's election may provide momentum to the Freedom Party.

France — the presidential election will be held in two rounds in April and May 2017 followed by parliamentary elections in June. Marine Le Pen's National Front Party is currently favored by 28 percent compared to the Republican Party's 34 percent. France's Socialist Party, which currently controls the presidency and the parliament, is a distant third. Trump's election is likely to enhance Marine Le Pen's

first round presidential election prospects. However, even if she is the frontrunner in the first round of voting, she is unlikely to prevail in the second round. France's Republican and Socialist parties are likely to combine their votes in the second round. However, there is a possibility that the National Front Party could win the parliamentary elections in June. In any event, anti-immigration and Euroskepticism sentiment is likely to escalate in France.

Germany — Bundestag elections are scheduled for October 2017. Angela Merkel has recently announced that she is running for a fourth term as Chancellor. Currently, Merkel's Christian Democrat Union is favored by 33 percent of the electorate and its current government partner, the Social Democratic Party, is polling 22 percent. The anti-establishment, Euroskeptic Alternative for Germany (AfD) is favored by 14 percent. As matters currently stand a continuation of the grand coalition of the Christian Democratic Union and the Social Democratic Party seems the most likely outcome. However, if AfD continues to gather momentum in the polls, a different outcome is possible. Germany's Chancellor is selected by the Bundestag, so Merkel's continuation as Chancellor will depend upon securing a majority of Bundestag votes. To enter the Bundestag, a party must poll at least 5 percent of the votes cast. It that hurdle is attained the allocation of Bundestag seats is proportional to votes cast.

4. Middle East

Turkey's government, in the wake of the unsuccessful coup attempt earlier this year, is becoming more authoritarian and is asserting increasingly its interest in spreading its sphere of influence into territories governed by the former Ottoman Empire.

Iran, too, has interest in extending its influence. But, Turkey and Iran are competitors. ISIS is slowly being defeated and once that task is accomplished, its existence will no longer serve as a unifying force. This raises the likelihood of a more direct confrontation between Turkey and Iran. Things could get very messy in the Middle East in coming months.

Trump has criticized the nuclear accord the U.S. reached with Iran and will scrutinize closely Iran's compliance with terms of the agreement and will probably be quick to re-impose sanctions. Iran, for its own part, has ample incentive to avoid sanctions by complying with the terms of the agreement. Iran needs to encourage foreign investment, which would become much more difficult if the U.S. imposes economic sanctions. Also, Iran needs to maintain economic strength to preserve its standing in the Middle East and support its competition with Turkey and Saudi Arabia.

5. Russia

Russia is hopeful that a Trump presidency will lead to the removal of economic sanctions. As president, Trump will have executive authority to ease or eliminate sanctions. Presumably, such a policy action would require concessions from Russia with respect to the Ukraine and Syria. Putin is unlikely to concede much. Thus, because the Republican and military establishments are wary of Russian geopolitical ambitions, sanctions may become the subject of discussion but of little action. Nonetheless, foreign policy analysts fear that Russia might exploit discussions to intimidate European countries, particularly those who were part of the former Soviet Union.

Russia is also interested in weakening NATO's security role in former Soviet Union satellite countries. Trump's campaign rhetoric about NATO is seen as helpful to Russia's foreign policy interests. Again, while nothing may change, ambiguity has already been created and that will influence political and policy developments in Europe and particularly in eastern European countries.

6. Japan

Ratification of the TPP trade deal was critical to Japan's fight to defeat deflation and strengthen its economy. The U.S. will not ratify TPP as long as Donald Trump is president, so TPP is effectively dead. China will be the principal beneficiary because it will have greater scope to promote its own trade pact, the Regional Comprehensive Economic Partnership and Free Trade Area of the Asia-Pacific.

On the other side of the ledger, Japan will benefit from a depreciation of the yen's value as the dollar strengthens in response to prospects of U.S. fiscal stimulus.

7. China

Trump's election has created uncertainty about U.S. — Chinese relations. That uncertainty extends to other Asian countries, such as South Korean, the Philippines, and Hong Kong.

It remains to be seen whether Trump is truly serious about carrying out his campaign threat to label China as a currency manipulator and slap 45 percent tariffs on U.S. imports of Chinese goods. The scope of this proposal on its face is ridiculous as it would be enormously harmful to both countries. But, it does imply that relationships between the two countries are likely to become more confrontational during a Trump Administration. One can take solace from Donald Trump's boast about his prowess as a dealmaker. That will suit the Chinese just fine as they will be pragmatic in forging "deals" that benefit Chinese economic and political interests. One commentator has suggested the U.S. policy under a Trump presidency could shift "*. . . from an ideological model based on the promotion of democracy to a more isolationist model with a hint of mercantilism . . .*"[8] The view is that the U.S. would be less inclined to intervene in the affairs of emerging democracies, such as Hong Kong.

Trump's anti-trade views and the certainty that the U.S. will not ratify the TPP trade agreement, hands the advantage to China to negotiate trade deals with its Asian neighbors. In the long way this will contribute to the rise of Chinese regional hegemony.

8. Mexico

Mexico's currency plummeted more than 13 percent in the aftermath of Trump's election as short-term funds fled the country. In the longer run, Mexico stands to lose a great deal if Trump carries through on his threat to renegotiate NAFTA. Approximately 80 percent of Mexican exports go to the U.S. But the U.S. has significant investments in Mexico which would be harmed if there is a significant curtailment of trade.

[8] Rodger Baker. "An Asian Perspective on the U.S. Elections," Stratfor, November 16, 2016.

One source asserts that 90 percent of U.S.-based Fortune 500 companies have significant investments in Mexico.

IV. Outlook for U.S. Economic Activity Under a Trump Presidency

Bank of America/Merrill Lynch **(B of A)** in the immediate aftermath of Donald Trump's presidential election victory shaved its expectation for real GDP growth in 2017 from 2.1 percent to 1.8 percent, but upon second thought, after watching how markets responded to the election, **B of A** revised its 2017 real GDP growth forecast to 1.9 percent. Still **B of A** expects the uncertainty spawned by Trump's election to slow economic activity in the first half of 2017 but then activity will accelerate in the second half of 2017.

After reflecting a bit, Goldman Sachs **(GS)** chose not to change its 2017 real GDP growth forecast, which remains at 2.1 percent. However, **GS** opined that Trump's policies could boost growth in 2017 and 2018, but could have negative consequences later on, depending upon the course of trade, immigration, and monetary policies. In any event, core inflation is likely to edge higher.

Although initial negative reactions of markets and professional forecasters to Trump's election was similar to initial reactions to the vote in the U.K. to leave the European Union, markets quickly reacted to Donald Trump's presidential victory and forged a favorable consensus, based upon campaign speeches and website postings, about what fiscal policy might look like under a Trump Administration with an all-Republican Congress.

1. Market Resets Expectations for the Economic Outlook

Market participants decided that an all-Republican government would assure enactment of many of Trump's policy proposals, which on balance they expect to have favorable impacts on the economy.

Stock prices rallied, bond yields soared, and the dollar strengthened, reflecting expectations that these policies will bolster economic growth and corporate profits, but also drive inflation higher.

But, just as the market overreacted negatively initially to Trump's unanticipated election victory, the rapid reversal in sentiment may prove in the long run to be overly optimistic.

Key elements of Trump's policy agenda include tax reform, fiscal stimulus (tax cuts and infrastructure spending), reduction in regulatory oversight, international trade restrictions, including tariffs and renegotiation of agreements, and limitations on immigration. With the exception of trade and immigration, which would have negative consequences for the macro-economy, the other initiatives generally would have positive impacts in the short run but more mixed impacts in the longer run. For the time being it appears that the market has chosen to downplay the possibility of more restrictive trade and immigration policies.

There is much work ahead. Not all proposals will become law and many proposals will undergo substantial modification before becoming law. All of this will take time, which means that it will take upwards of a year or longer before significant policy changes are implemented.

But, this does not mean that markets will be unaffected in the short run. Expectations changed decisively in the immediate aftermath of the election. Changes in expectations and changes in uncertainty have psychological impacts on the timing of decision making and on financial conditions. We know that real economic activity is impacted for better or worse by changes in sentiment and financial conditions, even when no overt policy changes have occurred.

Between November 8, the day of the election, and November 18, the 10-year Treasury yield soared 46 basis points from 1.88 percent to 2.34 percent. Similarly, the dollar's trade-weighted value has risen sharply. These developments reflect recalibrations in expectations about fiscal stimulus and changes in trade policy. But, higher interest rates and a stronger dollar will contribute to tighter financial conditions and that, in turn, could slow economic activity, at least in the near term, as **B of A** anticipates.

So, although markets appear to be signaling optimism about prospects for U.S. and global economic activity, the risks of setbacks in a still fragile global economic and political environment seem to have gotten greater.

Thus, an evolving view held by many professionals is that economic activity is likely to improve in coming months but that simultaneously the odds of recession have risen. This view seems entirely logical. Or, put more technically, the distribution of outcomes has broadened so that the expected value has increased but so, too, has the probably of tail risk, i.e. recession.

2. Corporate Tax Reform

Tax reform has been under discussion in Congress for quite some time, but Trump's election and a Republican Congress elevates the likelihood that legislation will be passed within the next year. The main focus will be on reducing the federal corporate income tax rate from 35 percent to 15 percent (Trump's proposal) or 20 percent (House of Representatives — Paul Ryan's proposal). In conjunction, the corporate tax code will probably be simplified by eliminating or modifying a plethora of deductions. Significant proposals include:

- Elimination of deductibility of interest expense
- Immediate expensing of capital investment rather than requiring depreciation over time
- Redefining domestic and foreign income to be based upon where sales occur rather than where production occurs, which would penalize companies that manufacture abroad, but sell domestically, and benefit companies that produce domestically and sell abroad

3. Tax Holiday for Repatriation of Foreign Earnings

Corporate tax reform should lessen the current incentive for U.S. companies with international operations to sequester profits and cash in foreign countries to avoid paying U.S. taxes. The average corporate tax rate globally is 22.5 percent, which is well below the U.S. corporate tax rate. Thus, in a low interest-rate world, U.S. corporations have found it cheaper to borrow funds for U.S. operations and investment rather

than bringing back foreign profits and paying U.S. taxes. It is estimated that U.S. companies have about $2.6 trillion in earnings held in foreign subsidiaries.

Repatriation of earnings might be accelerated by enacting a "tax holiday" at a much lower temporary rate — Trump has suggested 10 percent. If this were to occur, tax revenues would be boosted temporarily but the Joint Committee on Taxes believes a tax holiday would reduce the amount of taxes paid in the long run. Studies show that repatriation of earnings during a holiday accelerated the return of earnings that would have been repatriated eventually anyways. In addition, studies indicate that most repatriated earnings went directly into increased stockholder dividends and did not finance go into investment or research. That is because companies are able to finance such activities domestically and are not constrained by parking cash in foreign subsidiaries.

4. Personal Income Tax Cuts

President-elect Trump has proposed simplifying the personal income tax rate structure and reducing the top rate bracket from 39.4 percent to 33 percent. The proposal also would eliminate the net investment income tax of 3.8 percent, the alternative minimum tax and gift and estate taxes. Carried interest would be taxed at normal income tax rates rather than at lower capital gains rates.

President-elect Trump's tax cut proposals for corporations and individuals would reduce tax revenues by $400 billion annually. Tax experts point out that this would have a devastating and irresponsible impact on the federal deficit. A much smaller annual reduction in taxes seems probable.

5. Infrastructure Spending and Increased Defense Spending

There is broad agreement that the federal government needs to accelerate spending to modernize and replace much of America's aging physical infrastructure. There is also sentiment to invest in education and research. In addition, Trump has proposed eliminating the Budget Control Act's sequester on increased defense spending.

Two of Trump's advisors have proposed to fund $1 trillion in infrastructure construction over ten years through private financing. According to this proposal, 17 percent of a project would be financed with equity, of which 82 percent or approximately 14 percent of project financing would come from federal tax credits, and the remaining 83 percent of financing would be private debt. However, Trump's website only specifies $550 billion for infrastructure spending and provides no financing details.

Critics of the advisors' proposal point out that many needed infrastructure projects would not generate the kind of revenue essential to entice private investor funds. Because the plan is based upon tax credits it would not work for large pools of capital, such as pension funds, which are tax exempt.

Because of broad support, some kind of infrastructure spending program is probable, but may involve a different funding mechanism.

6. Trade Policies

Trade seems very likely to be restricted in coming months. During the campaign, President-elect Trump promised to renegotiate NAFTA (North American Free Trade Agreement). He also asserted that China should be designated as a currency manipulator. The Republican Party platform declared that the U.S. should exit the World Trade Organization (WTO) and impose 35 percent tariffs on imports from Mexico and 45 percent tariffs on imports from China. President-elect Trump has announced that the U.S. will withdraw from TPP. TPP has been an important part of Japan's program to conquer deflation.

As president, Trump will have considerable executive discretion to impose changes on the terms of trade. Changes that seem most likely would entail imposing import tariffs which would raise the cost of imports to U.S. consumers. Average tariffs have declined from about 20 percent in the 1930s to about 1.5 percent today. **GS** estimates that an increase in tariffs by 10 percentage points would depress imports by 5 percent and raise the core PCE price level by 0.6 percent over time. There would be a short-term boost to U.S. GDP growth as consumers shift from foreign to domestic goods. However, if foreign countries retaliate, exports would also decrease and this would adversely impact U.S. manufacturers and depress GDP growth. Other likely effects of an increase in tariffs would be tighter monetary policy and reduced investment activity.

7. Immigration

During the campaign Trump vowed to build a wall between the U.S. and Mexico to block illegal immigration. As president-elect, his rhetoric has softened and he now refers to a fence. This talk is symbolic of more likely policy actions to reduce immigration. The president has considerable executive discretion to adjust policy and restrict immigration.

In the extreme, Trump could force deportation of undocumented immigrants. It is estimated that there are 11.3 million undocumented immigrants, 8.1 million of whom have jobs. Deportation of these immigrants would not only be heart-breaking but have devastating negative impacts on the U.S. economy. More recently, Trump has qualified that deportation would be limited to approximately two million "criminal illegal immigrants."

8. Monetary Policy

Currently there are two vacancies on the Board of Governors of the Federal Reserve System. In addition, Janet Yellen's term as chair expires at the end of January 2018 (Trump has already said he will not reappoint her) and Stanley Fisher's term as vice chair expires in June 2018. This means that Trump can appoint two members of the Federal Open Market Committee (FOMC) immediately and another two within a year. The FOMC has 12 voting members. If Trump chooses more hawkish members, it could tilt monetary policy in coming months toward a more restrictive bias — that could lead to higher interest rates sooner than later. This is probably not an immediate risk and may prove not to be a risk at all.

In addition, Trump has been supportive of congressional legislation to require the Government Accountability Office (GAO) to conduct audits of FOMC monetary policy. If such legislation were enacted,

in theory it could impinge upon the FOMC's independence and could lead to increased political influence on the conduct of monetary policy.

9. Regulatory Reforms

Republicans have been eager to repeal parts of the Dodd-Frank act, passed in 2010 to regulate financial institutions, and to repeal the Affordable Care Act (ObamaCare) and restructure health insurance, perhaps through health savings accounts. Replacement or reconfiguration of ObamaCare will be a very challenging undertaking and thus is likely to take one or perhaps even two years to develop into a comprehensive piece of replacement legislation.

Republicans are also unhappy with certain aspects of the Consumer Financial Protection Bureau.

In addition, there is considerable negative sentiment among small business owners, many of whom were Trump supporters, about the oppressive impact of federal regulation. Thus, it seems probable that Trump will appoint regulators who favor less intrusive regulation. Trump appointees could suspend, reconsider, or place on hold major regulatory initiatives such as the Department of Labor's fiduciary rule affecting standards of conduct for advising investors, the Environmental Protection Agency's climate change regulations affecting fossil fuels, the Federal Communication Commission's broadband policy, and the Treasury Department's temporary inversions regulations intended to discourage U.S. companies from sheltering earnings from U.S. taxes.

10. Goldman Sachs' Economic Analysis of Possible Policy Initiatives

GS conducted several simulations of the impacts of Trump's economic proposals on real GDP growth, the unemployment rate, core PCE inflation, and the federal funds rate covering fiscal stimulus, trade, immigration, and more restrictive monetary policy.[9]

As one would expect, **fiscal stimulus** boosts real GDP growth, inflation, and the federal funds rate. The unemployment rate falls.

Outcomes for **higher tariffs**, assuming foreign retaliation, are uniformly negative — real GDP growth falls, the unemployment rate rises, inflation increases, and the federal funds rate falls in response to a weaker economy.

Slowing **immigration** decreases real GDP growth and raises the unemployment rate, which might not be intuitively obvious. There is no material impact on inflation or the federal funds rate.

The **hawkish monetary policy** simulations are interesting — real GDP growth declines, the unemployment rate rises, and inflation falls. The federal funds rate, as a consequence of intentional policy, spikes in the short run, but then converges with the base-case path in the longer run.

GS then combined these four categories and simulated three policy scenarios: "Full," which combines

[9]Sven Jari Stehn and Alec Phillips. ""Economic Implications of the Trump Agenda," US Economics Analyst, Goldman Sachs Economic Research, November 12, 2016.

all four categories as outlined in Trump briefing documents, "Benign," which includes only the fiscal stimulus category, and "Adverse," which omits the fiscal stimulus category.

GS's simulations are table top exercises and do not reflect a combination of policies that are more probable. But, in its final set of simulations **GS**'s simulated the consequences of its view of the eventual policy consensus.

Although it will take time for consensus to emerge and for Congress to enact legislation, **GS** has forged a view about what it believes will be plausible policy outcomes. It simulated the economic consequences of these policies over the period 2017 to 2022. GS divided expected policies into four categories — fiscal, trade, immigration, and monetary policy:

Fiscal — $50 billion annually in new spending ($40 billion for infrastructure and $10 billion for defense **(positive impact)**

Fiscal — $100 billion annually in tax cuts ($70 billion in individual taxes and $30 billion in corporate taxes); **B of A** is forecasting $200 to $300 billion in tax cuts in 2017 and $2 to $3 trillion over the next ten years **(positive impact)**

Trade — a 4 percent increase in tariffs on imports **(negative impact)**

Immigration — a slowing in the rate of population growth by 0.1 percent annually due to tighter immigration policies; this amounts to about a 9 percent decline in the current 1.1 percent annual rate of population growth and would slow labor force growth and depress potential real GDP **(negative impact)**

Monetary Policy — tighter monetary policy due to appointment of more hawkish FOMC members **(negative impact)**

In **GS**'s simulation real GDP initially rises about 10 basis points in the second half of 2017 but is 10 to 20 basis points worse in 2018 and beyond. Inflation rises about 5 basis points and the federal funds rate increases about 20 basis points over the entire period through 2022. The unemployment rate falls initially by less than 10 basis points but by 2021 rises slightly above **GS**'s base case.

On balance, GS's composite probable scenario does not have very significant impacts on the four key economic variables. Given that there are significant negative potential policy risks, it is hard to fathom why markets have reacted so favorably in the immediate aftermath of Donald Trump's election to be president.

V. Analysis of Economic Impacts of Fiscal Policy Options

In this section I examine the possible economic impacts of various fiscal policy options using my econometric model.

Options that involve infrastructure spending take time to implement but have greater beneficial impacts over time compared to options that involve tax cuts.

Generally, I have followed **GS**'s lead on assumed tax cuts and infrastructure spending.

1. Fiscal Stimulus Scenarios

Economic impacts of fiscal policy changes can be assessed using my econometric model of the economy. I compare three scenarios — "**Infrastructure Stimulus**," "**Small Tax Cut**," and "**Infrastructure and Big Tax Cut**" with the base-case scenario of "**Full Employment**."

Infrastructure Stimulus — assumes $500 billion spent over the next ten years on defense and infrastructure projects, beginning in the fourth quarter of 2017. The entire $500 billion is assumed to be financed through borrowing, in other words, not new taxes.

Preliminary

Table 1 shows the assumed timing of these investments. Initially, during 2017 and 2018, infrastructure spending boosts the rate of growth in government investment spending, but since the stimulus is assumed to be front loaded, the rate of growth falls to less than the long-term trend level until 2023 when it returns to its trend level of 1.2 percent. (Note: state and local and federal investment spending has grown at an average annual rate of 1.2 percent over the past 17.5 years. A $500 billion one-time federal increase in investment spending would boost the average annual growth rate over the next 10 years from 1.2 percent to 1.3 percent.)

Table 1
Fiscal Stimulus — Infrastructure Spending and Tax Cut Scenarios
(in billions of dollars)

	Infrastructure Spending			Small Tax Cut	Big Tax Cut
	Amount	**Base Growth**	**Scenario Growth**	**Amount**	**Amount**
2017	$25	1.30%	2.16%	$25	$50
2018	$100	1.30%	3.82%	$100	$100
2019	$100	1.30%	1.26%	$100	$100
2020	$75	1.28%	.44%	$75	$100
2021	$50	1.21%	.39%	$50	$100
2022	$30	1.15%	.50%	$30	$100
2023-26	$30	1.15%	1.15%	$30	$100
TOTAL-AVERAGE	**$500**	**1.20%**	**1.30%**	**$500**	**$950**

Small Tax Cut — assumes $500 billion in tax cuts over the next ten years financed entirely through borrowing. To simplify the comparison of the "**Small Tax Cut**" scenario with the "**Infrastructure Stimulus**" scenario, the tax cuts are assumed to be equal to and occur at the same time as additional

infrastructure expenditures.

Infrastructure & Big Tax Cut — assumes $500 billion in additional infrastructure spending over ten years **and** $100 billion in tax cuts annually split between $70 billion in personal income taxes and $30 billion in corporate income taxes. It is assumes that only half of the annual reduction in income taxes is implemented in 2017; however, Congress could make tax cuts retroactive for the entire calendar year.

2. Fiscal Stimulus Scenarios — Summary of Impacts

Average 10-year economic outcomes for the "**Infrastructure Stimulus**," "**Small Tax Cut**" and "**Infrastructure & Big Tax Cut**" scenarios are compared in **Table 2** with the Congressional Budget Office's (**CBO**) and my "**Full Employment**" scenarios.

Notice that the average 10-year changes in economic outcomes for the three scenarios compared to the base case "**Full Employment**" scenario are generally relatively small. Of course, because much of the stimulus is front-loaded, the impacts in the near term are somewhat greater, although not as much as one might expect. **Charts 1-13** compare the outcomes of the five scenarios over the 10-year period.

3. Fiscal Stimulus Scenarios — Impacts on Individual Economic Variables

Government Investment Growth is shown in **Chart 1**. Average investment growth increases 10 basis points in the "**Infrastructure Stimulus**" and the "**Infrastructure & Big Tax Cut**" scenarios. The effect of front-loading and the subsequent reversion to trend is very visible. There is no change in government investment growth in the "**Small Tax Cut**" scenario.

Chart 2 compares the impact on potential real GDP growth of various fiscal stimulus scenarios with the "**Full Employment**" base case scenario and **CBO**'s projections. Tax cuts have very little impact on potential real GDP growth because there are negligible effects on the labor force and productivity, which are the two economic variables that determine long-run potential growth. Although some might argue that tax cuts might have supply side benefits of encouraging investment and greater growth in the labor force by boosting participation rates, there isn't much empirical evidence to support meaningful positive supply side impacts of tax cuts.

However, additional infrastructure spending boosts productivity (see **Chart 3**). For each increase of 10 basis points in the growth rate in government investment spending, productivity growth improves by approximately 4.3 basis points. This relationship is evident in **Table 2** which shows that productivity growth averages 1.71 percent annually in the base case "**Full Employment**" scenario and 1.76 percent in the "**Infrastructure Stimulus**" scenario. However, the improvement in productivity is not uniform over the ten-year period because it is assumed that additional infrastructure spending is heavily loaded at the front end of the period.

All fiscal stimulus scenarios boost projected actual real **GDP growth** (see **Chart 4**). Average 10-year real GDP growth improves 6 basis points in the "**Infrastructure Stimulus**" scenario, 4 basis points in the "**Small Tax Cut**" scenario, and 9 basis points in the "**Infrastructure & Big Tax Cut**" scenario. Notice that the "**Small Tax Cut**" scenario differs little from the base case "**Full Employment**" scenario.

CHART 1 – Government Investment Growth

(average annual rate)

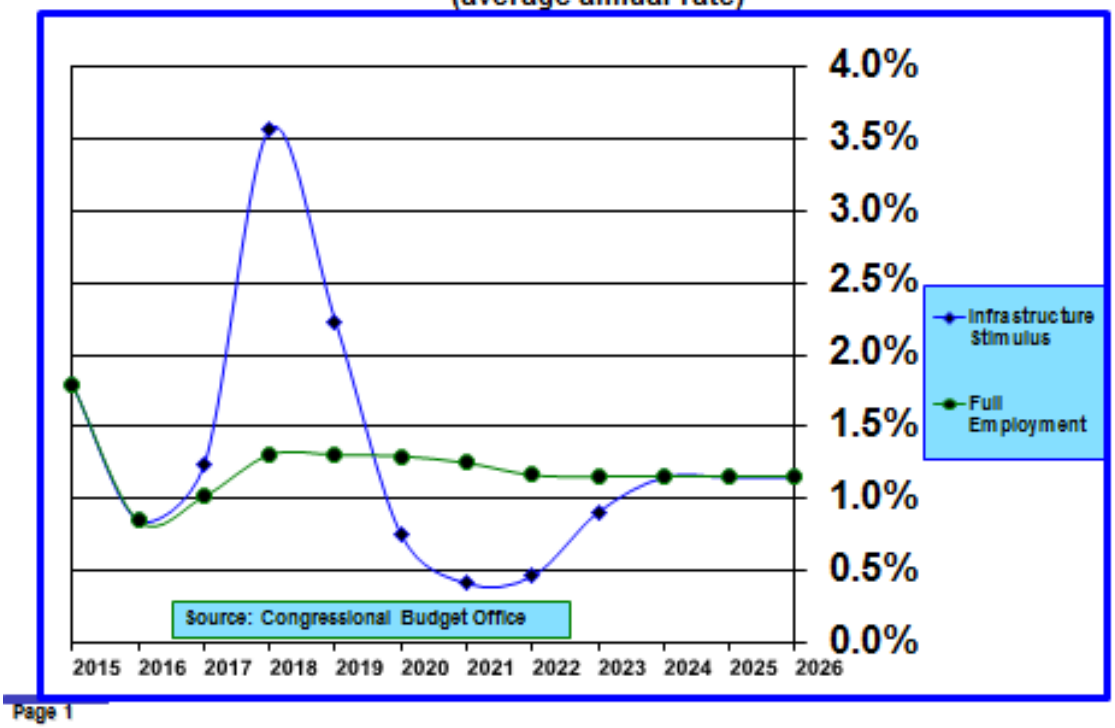

CHART 2 – Potential Real GDP Growth

(average annual rate)

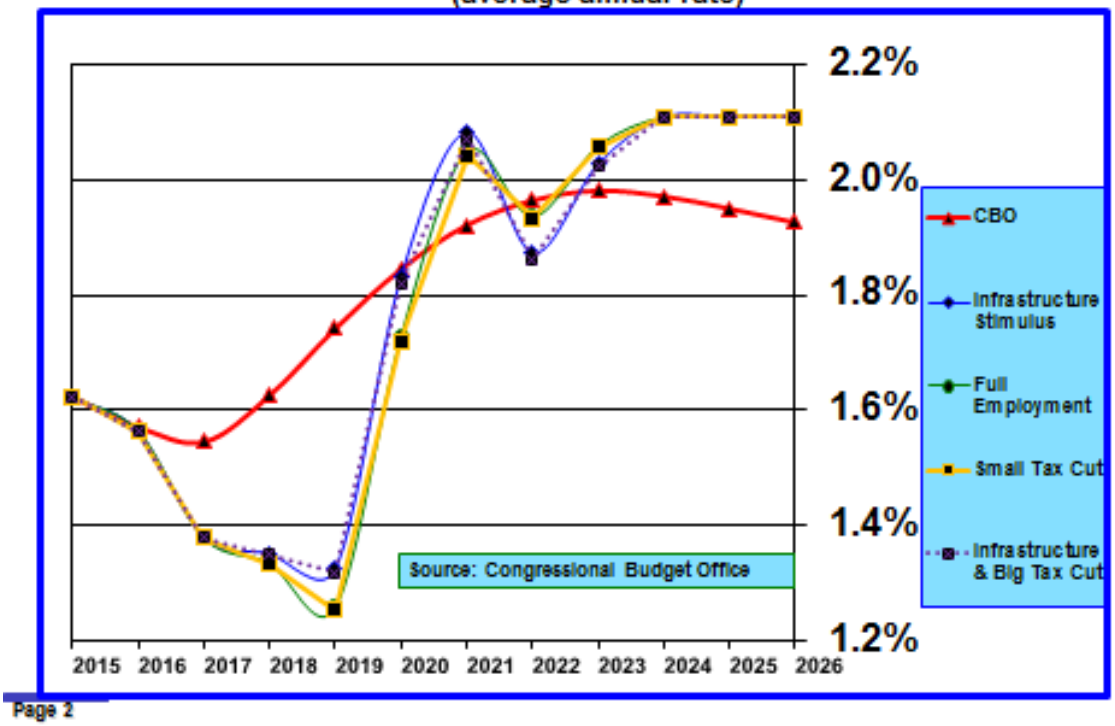

Table 2
Fiscal Stimulus — Infrastructure Spending and Tax Cut Scenarios — Average 10-Year (2017-2026) Impact on Economic Variables

	CBO	Full Employment	Infrastructure Stimulus	Small Tax Cut	Infrastructure & Big Tax Cut
Government Investment Growth		1.20%	1.30%	1.20%	1.30%
GDP Growth — Potential	1.85%	1.81%	1.82%	1.80%	1.82%
GDP Growth — Actual	1.96%	1.91%	1.97%	1.93%	2.00%
Output Gap	.46%	.54%	.09%	.39%	-.14%
Productivity	1.74%	1.71%	1.76%	1.70%	1.75%
Core PCE Inflation	1.97%	1.75%	1.79%	1.77%	1.82%
Payroll Employment (2026 in thousands)	151,982	153,885	154,274	154,037	154,547
Increase (000)	-1,903	0	389	152	662
Unemployment Rate	4.87%	4.63%	4.39%	4.58%	4.30%
Wage Rate Growth	3.11%	2.98%	3.06%	3.00%	3.09%
Real Consumer Spending		2.15%	2.20%	2.15%	2.19%
Federal Funds Rate	2.49%	1.72%	2.15%	1.81%	2.28%
10-Year Treasury Rate	3.37%	2.21%	2.34%	2.24%	2.39%
Annual Budget Deficit/GDP	3.71%	3.76%	3.67%	3.92%	3.99%
Cumulative Deficit/GDP	77.6%	81.3%	80.4%	81.3%	81.3%
2026	82.4%	86.2%	85.3%	86.2%	85.9%
2026 Public Debt (trillions)	$22.28	$22.28	$22.10	$22.63	$22.83
Increase (Decrease)	$0.00	$0.00	$-0.18	$0.35	$.55

However, the effect of infrastructure spending boosts real GDP by 33, 24, and 19 basis points in 2018, 2019 and 2020, respectively. Then, as the momentum of infrastructure spending fades, real GDP growth generally underperforms the base case "**Full Employment**" scenario. Real GDP growth is boosted in the "**Infrastructure & Big Tax Cut**" scenario by 36, 28, and 23 basis points in 2018, 2019, and 2020 respectively.

CHART 3 – Productivity

(annual rate of change)

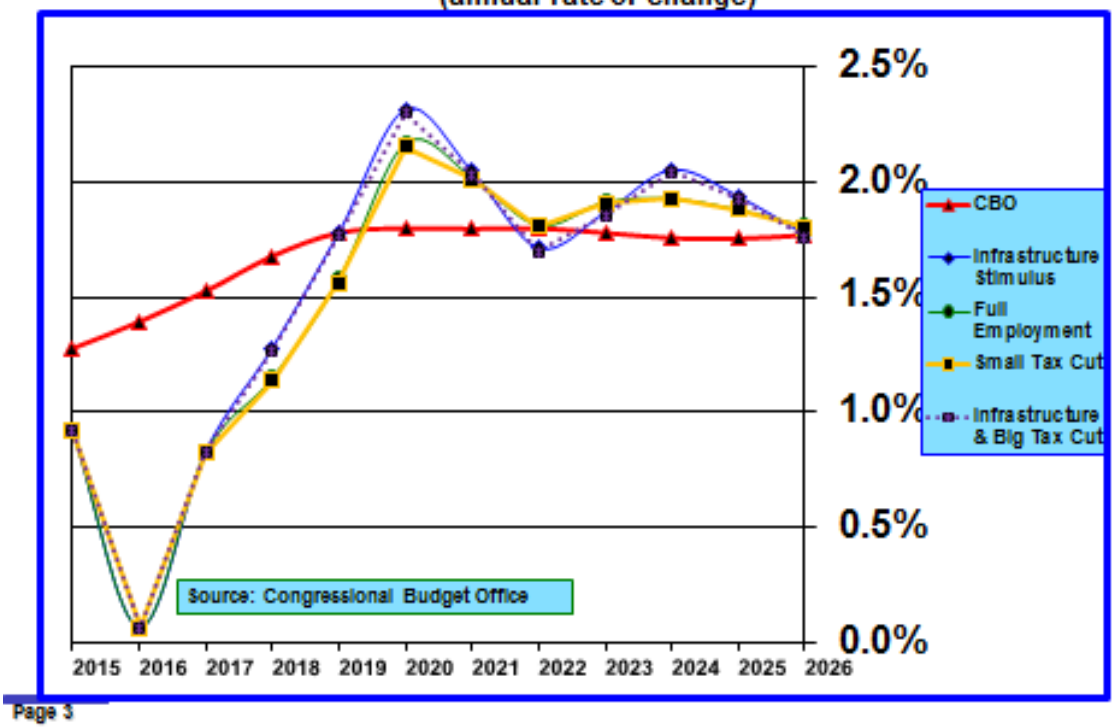

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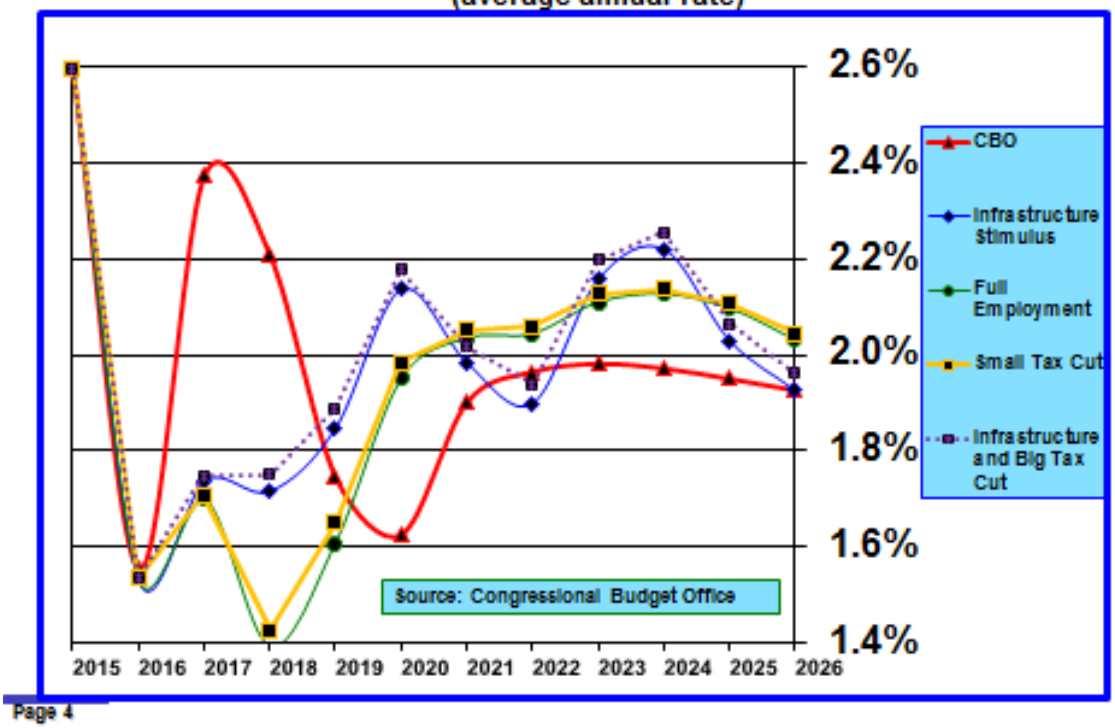
CHART 4 – Actual Real GDP Growth

(average annual rate)



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Infrastructure spending is more effective in raising economic output than a comparably-sized tax cut. In economic jargon, the fiscal multiplier, dollar for dollar, is greater for infrastructure spending than for a comparably sized tax cut. This phenomenon also holds for other economic variables.

Combining a large tax cut of $100 billion annually with an infrastructure spending program in the "**Infrastructure & Big Tax Cut**" scenario boosts projected actual real GDP by about 3 basis points.

Chart 5 compares the real **GDP output gap** for the various scenarios over the 10-year period. The output gap improves by an average of 15 basis points in the "**Small Tax Cut**" scenario, by 45 basis points in the "**Infrastructure Stimulus**" scenario and by 68 basis points in the "**Infrastructure & Big Tax Cut**" scenario. Notice that after 2018 the output gap for the two infrastructure stimulus scenarios becomes positive. This means that the economy would be running a bit hot and this would escalate upward pressure on inflation and wage rate growth.

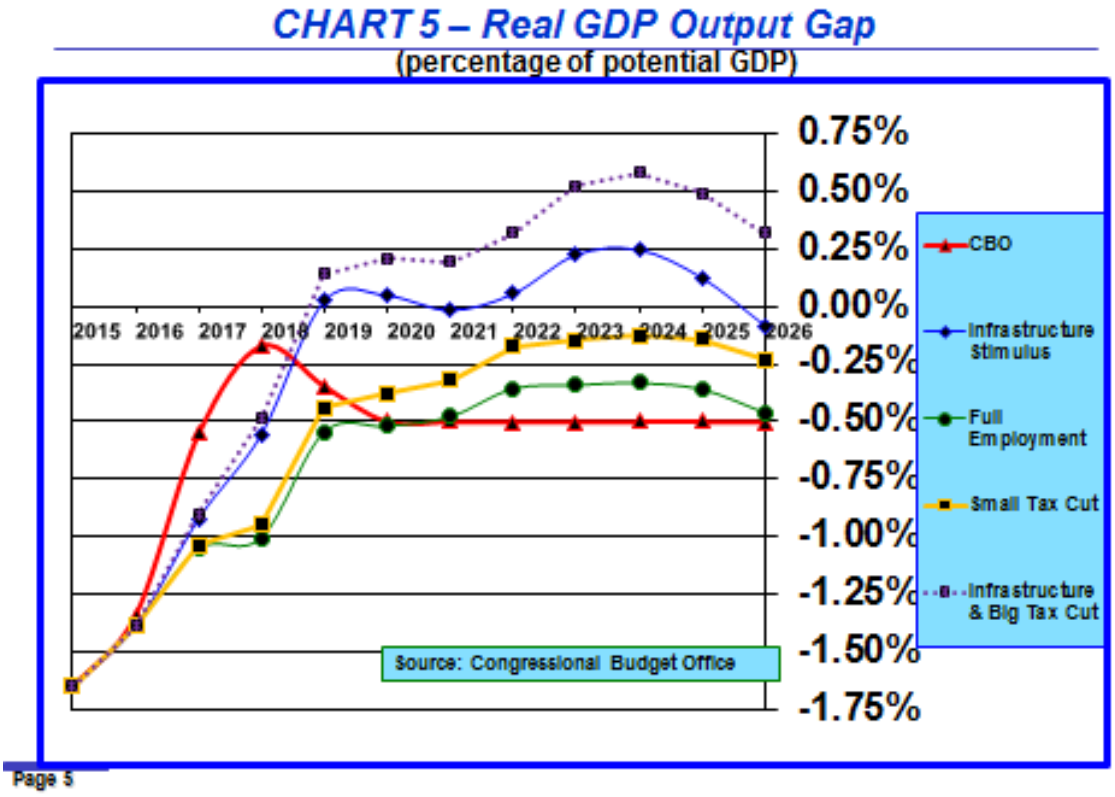
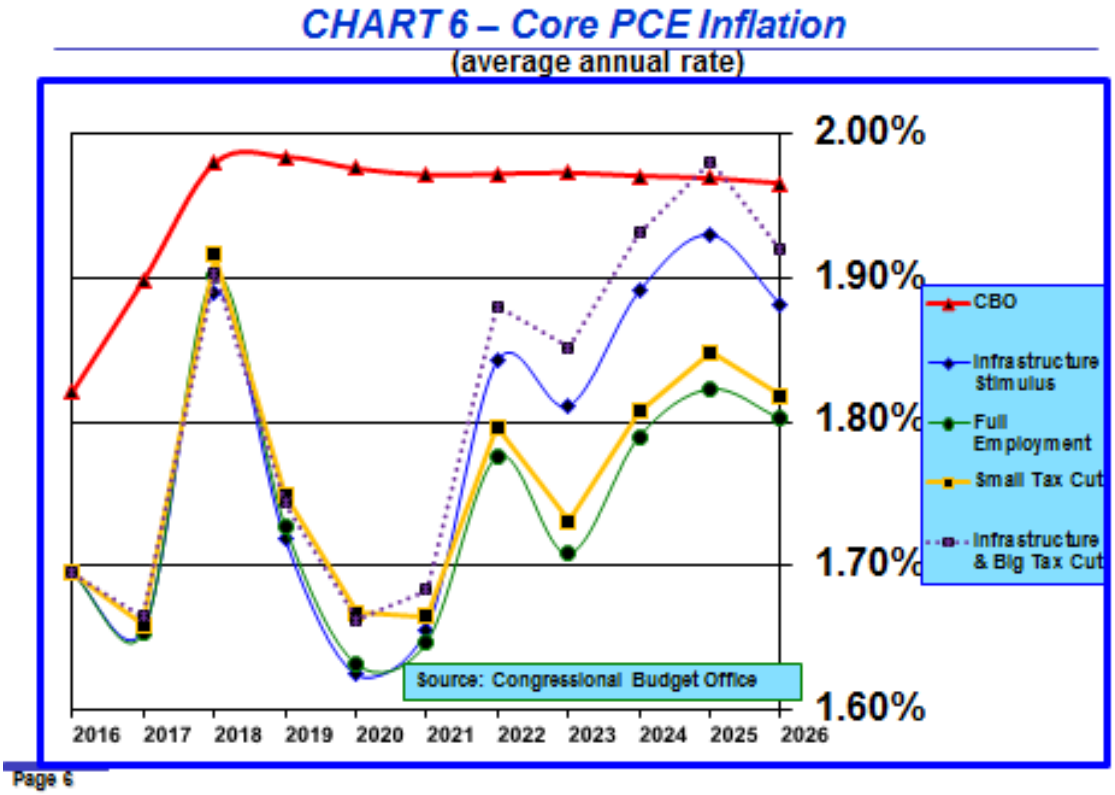


Chart 6 compares **core PCE inflation** for the various scenarios over the 10-year period. Average inflation over the 10-year period rises by an average of 2 basis points in the "**Small Tax Cut**" scenario, by 4 basis points in the "**Infrastructure Stimulus**" scenario, and by 7 basis points in the "**Infrastructure & Large Tax Cut**" scenario. These differences on average are quite small, but as time passes and the economy runs hot, the differences grow a little bit, although not worrisomely so — 2, 8, and 10 basis points by 2026 for the "**Small Tax Cut**," "**Infrastructure Stimulus**," and "**Infrastructure** & **Big Tax Cut**" scenarios, respectively.



However, as can be seen in **Chart 7**, the impact of fiscal stimulus is greater on wage rate growth and the size of the impact escalates as the unemployment rate falls. Wage rate growth rises on average over the ten-year period by 2 basis points in the "**Small Tax Cut**" scenario, by 8 basis points in the "**Infrastructure Stimulus**" scenario, and by 11 basis points in the "**Infrastructure & Big Tax Cut**" scenario. As time passes and the economy runs hot, the differences grow to 3, 13, and 19 basis points by 2026 for the "**Small Tax Cut**," "**Infrastructure Stimulus**," and "**Infrastructure & Big Tax Cut**" scenarios, respectively.

Chart 8 compares **payroll employment** growth for the various scenarios over the 10-year period. The growth rate varies little over the long run, ranging from 0.58 percent to 0.62 percent. However, the cumulative impacts over time, which are shown in **Table 2**, are more important. A comparably-sized fiscal stimulus accomplished through additional infrastructure spending has a much greater favorable impact on creating jobs than a fiscal stimulus restricted to tax cuts — 389,000 additional jobs compared to 152,000. The cost per job of an infrastructure stimulus is approximately $130,000 compared to $330,000 for a tax cut stimulus.

Combining infrastructure stimulus with a large tax cut — "**Infrastructure & Big Tax Cut**" scenario — creates 662,000 jobs at a cost of approximately $220,000 per job.

Chart 9 shows the projected **unemployment rate** for the various scenarios over the 10-year period. Because the size of the labor force is assumed to be unaffected by fiscal stimulus, the decline in the unemployment rate in the various scenarios depends entirely on the number of new jobs created. The

CHART 7 – Hourly Wage Growth

(average annual rate)

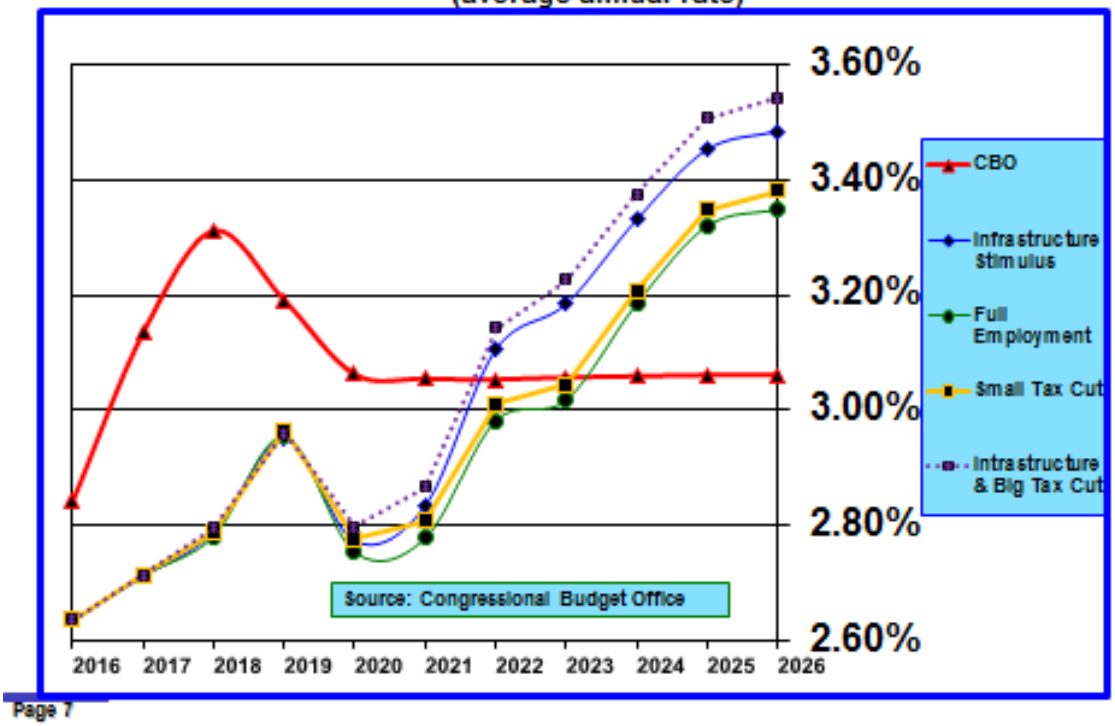
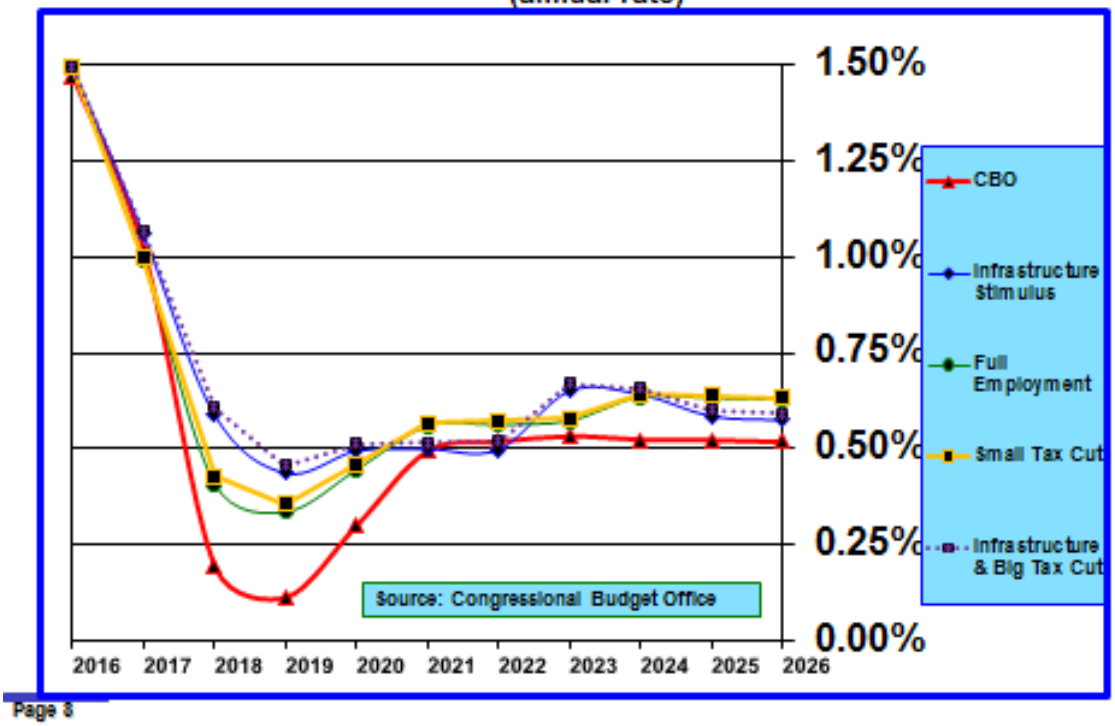


CHART 8 – Payroll Employment Growth

(annual rate)



unemployment rate is projected to fall by 2026 to 4.57 percent in the "**Small Tax Cut**" scenario, 4.45 percent in the "**Infrastructure Stimulus**" scenario, and 4.30 percent in the "**Infrastructure & Big Tax Cut**" scenario compared to 4.66 percent in the "**Full Employment**" base-case scenario and 4.93 percent in the **CBO** scenario.

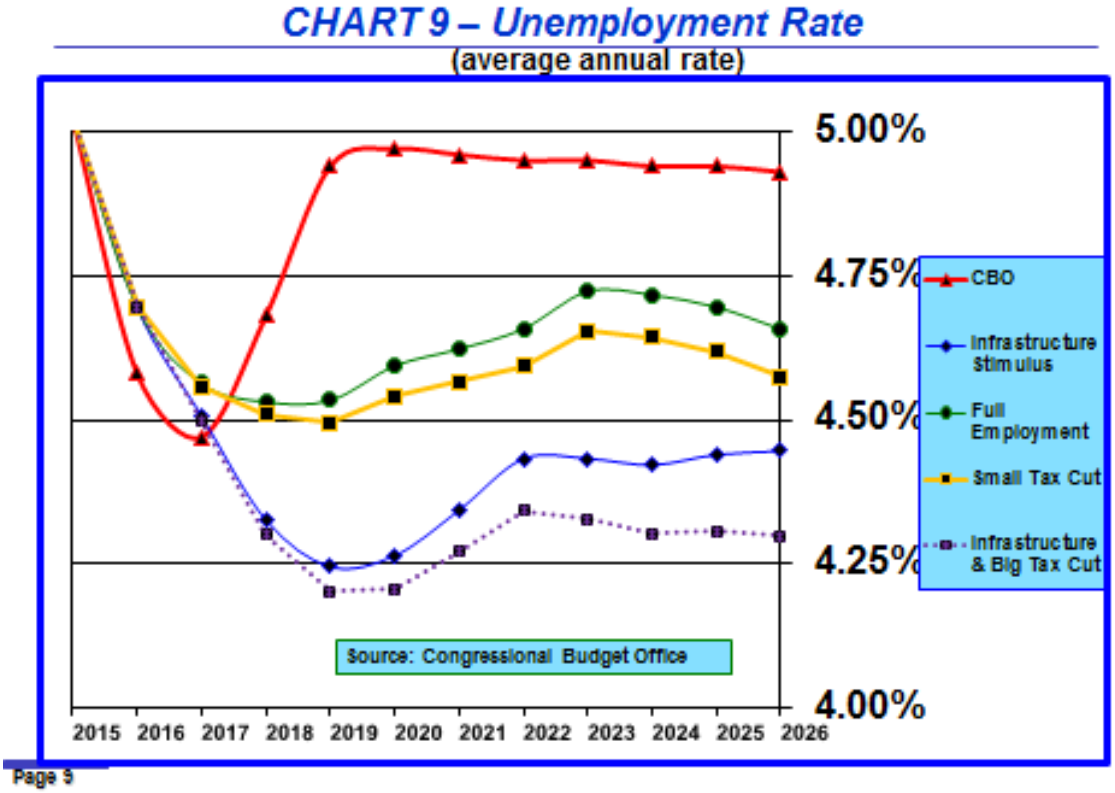


Chart 10 shows projections for the **federal funds rate** and **Chart 11** shows projections for the **10-year Treasury rate** for the various scenarios over the 10-year period. The average federal funds rate rises 9 basis points, 43 basis points, and 56 basis points, and the average 10-year Treasury rate increase 3 basis points, 13 basis points and 18 basis points, respectively for the "**Small Tax Cut**," "**Infrastructure Stimulus**," and "**Infrastructure & Big Tax Cut**" scenarios compared to the "**Full Employment**" scenario. Short-term rates are much more responsive to a falling unemployment rate.

Notice that the federal funds rate projections are somewhat below CBO's estimates and the 10-year Treasury yield estimates are considerably below CBO's estimates. The differences are due in part to somewhat lower projected inflation but also to lower projections of the short-term and long-term real interest rates.

Chart 12 compares the annual **federal budget deficit** as a percentage of nominal GDP for the various scenarios over the 10-year period. The deficit worsens over time and fiscal stimulus funded either through reduced tax revenues or borrowing worsens deficit projections.

Chart 13 compares the accumulated **federal government debt held by the public** as a percentage of projected nominal GDP over the 10-year period for the various scenarios.

CHART 10 – Federal Funds Rate

(average annual rate)

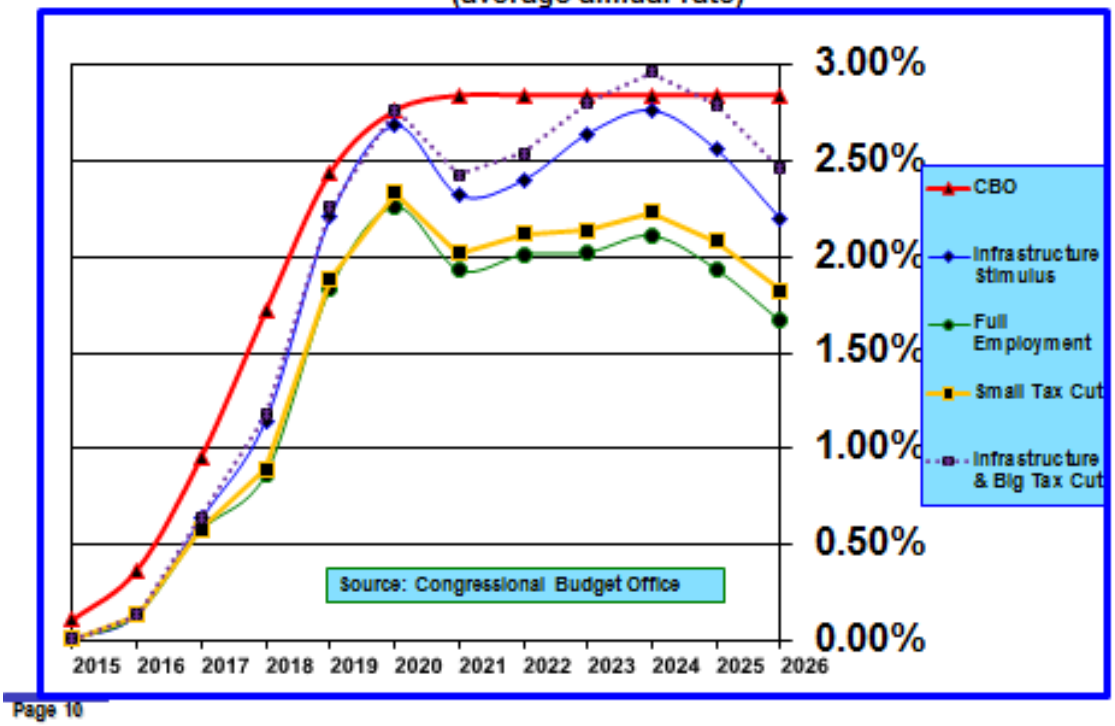


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CHART 11 – 10-Year Treasury Yield

(average annual rate)

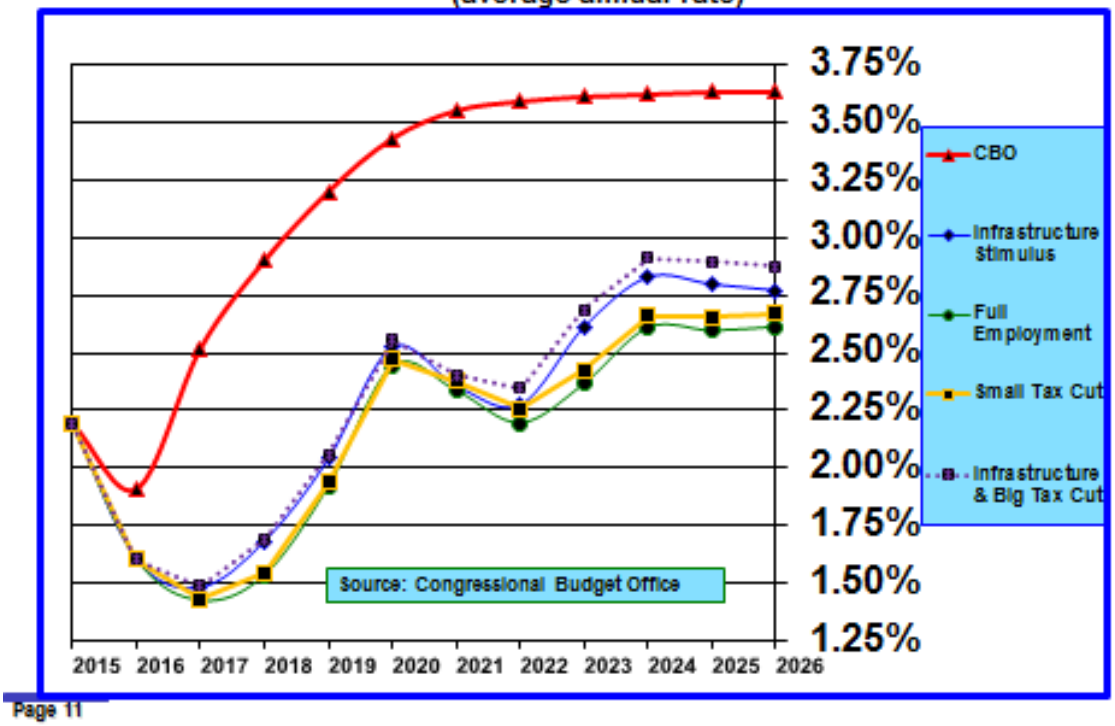

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CHART 12 – Annual Federal Budget Deficit

(percentage of nominal GDP)

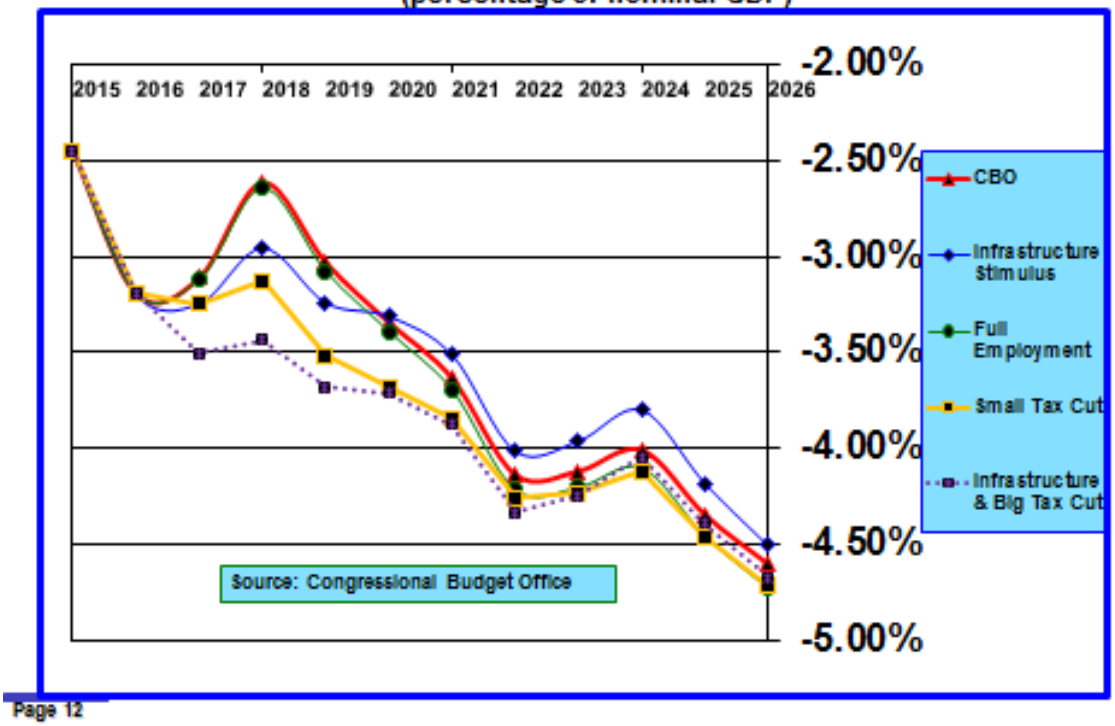

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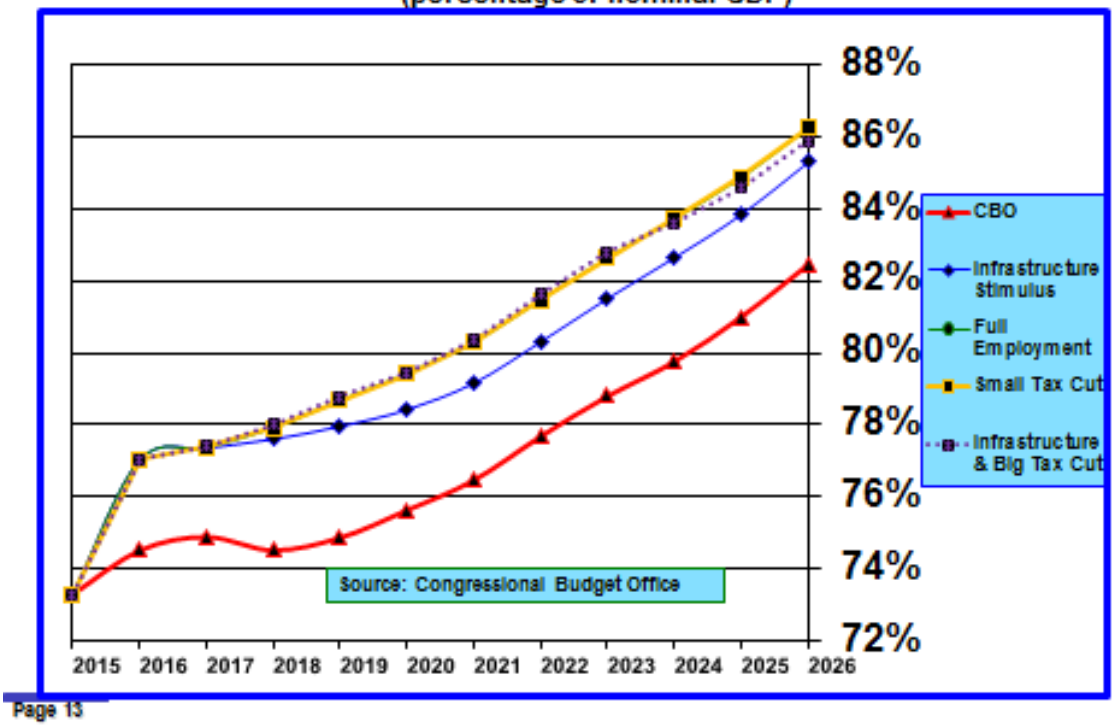
CHART 13 – Outstanding Federal Debt to Nominal GDP

(percentage of nominal GDP)



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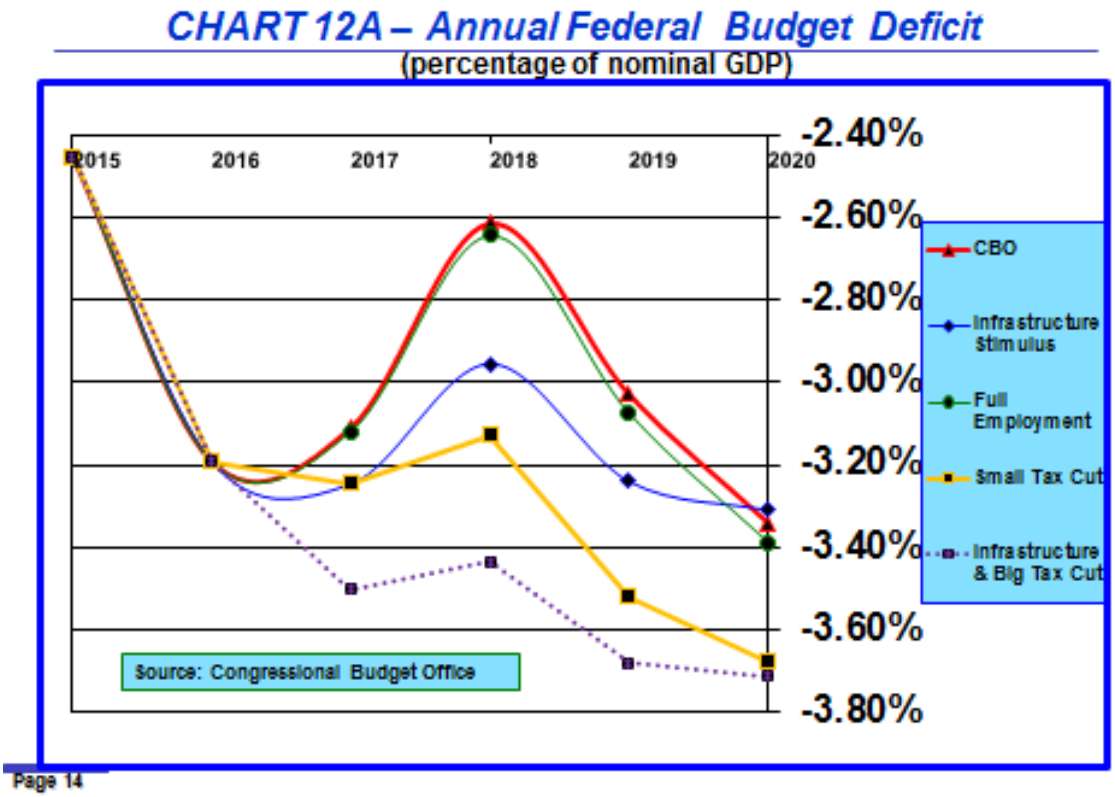
Fiscal stimulus is intended to accelerate economic growth. As this occurs both the deficit and nominal GDP are affected. The deficit will rise by the amount of the deficit but that increase will be offset by additional tax revenues. The offset can be partial or be greater than one-to-one, if the multiplier of the stimulus exceeds a value of 1.0. Also, nominal GDP will rise lifting the denominator of the deficit ratio.

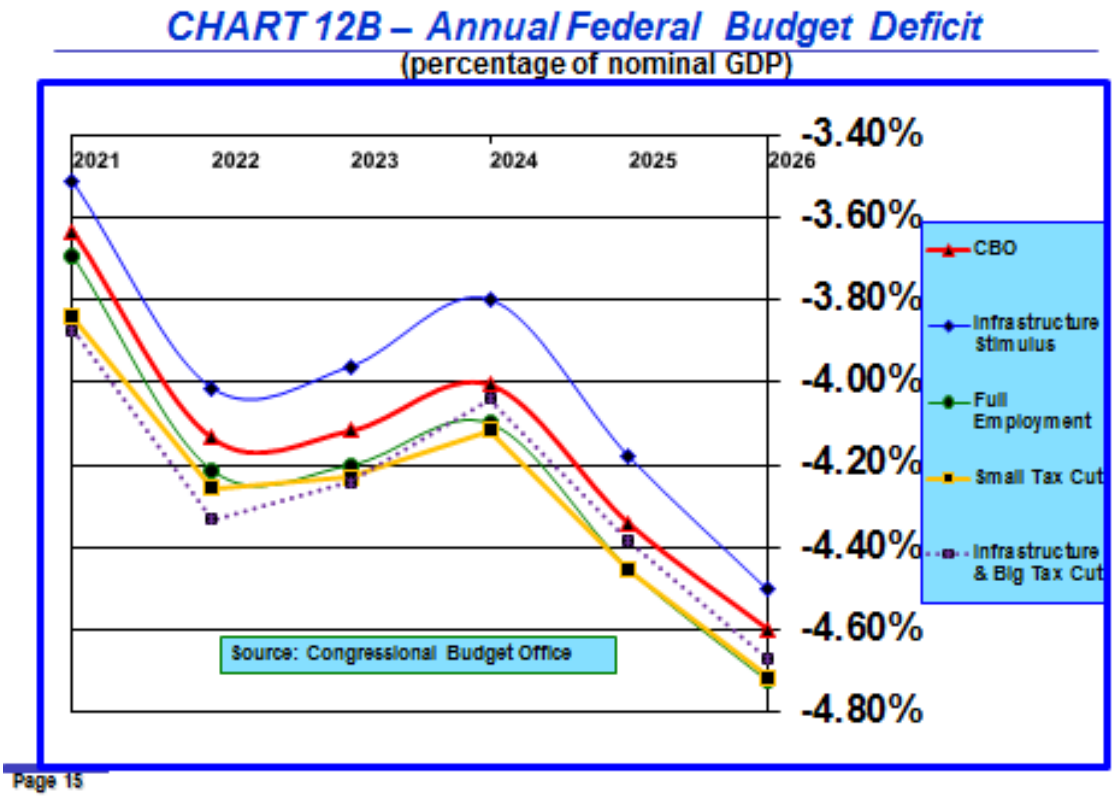
There several interesting observations that can be drawn from **Chart 12**, which can be seen more easily by splitting the data in **Chart 12** into two sub-time periods, 2015-2020 (**Chart 12A**) and 2021-2026 (**Chart 12B**), and changing the scale.



First, notice in **Charts 12A** and **12B** that the annual federal budget deficit for the **CBO** scenario and the "**Full Employment**" base-case scenario track each other closely. This similarity was an intentional modeling component.

Second, the budget deficit as a percentage of nominal GDP increases in all fiscal stimulus scenarios in 2017, 2018 and 2019. However, by 2020, the budget deficit as a percentage of nominal GDP is lower in the "**Infrastructure Stimulus**" scenario than in the **CBO** and "**Full Employment**" base-case scenarios. These favorable differences widen thereafter, as can be seen in **Chart 12B**, reaching an annual level of 4.50 percent for the "**Infrastructure Stimulus**" scenario in 2026 compared to 4.73 percent in the "**Full Employment**" base-case scenario and 4.60 percent in the **CBO** scenario.

Third, a $500 billion infrastructure stimulus has a multiplier 1.36. That means that the stimulus reduces debt held by the public rather than increasing it. This results from the outstanding federal debt held by the public dropping from $22.285 trillion in the "**Full Employment**" base-case scenario (see **Table 2**) to



$22.103 trillion in the "**Infrastructure Stimulus**" scenario. This means that the infrastructure stimulus generated $682 billion in net tax revenues at a cost of $500 billion. (Note: even though the amount of federal debt held by the public declines, the cost of servicing federal debt because of higher interest rates rises $25 billion and reduces the net tax revenue benefit.) Also, the infrastructure stimulus boosts nominal GDP by $248 billion and real GDP by $102 billion in 2026, resulting in a nominal GDP effectiveness of $.50 and a real GDP effectiveness of $.20 for each dollar of stimulus.

Fourth, a $500 billion small tax cut stimulus has a multiplier 0.31. That means that the stimulus increases debt held by the public rather than reducing it. This results from the outstanding federal debt held by the public rising from $22.285 trillion in the "**Full Employment**" base-case scenario (see **Table 2**) to $22.631 trillion in the "**Small Tax Cut**" scenario. This means that the small tax cut stimulus generated $154 billion in net tax revenues at a cost of $500 billion. The small tax cut stimulus boosts nominal GDP by $109 billion and real GDP by $40 billion in 2026 — not much bang for the buck — a nominal GDP effectiveness of $.22 and a real GDP effectiveness of $.08 for each dollar of stimulus.

Fifth, $500 billion in infrastructure spending combined with a $950 billion tax cut has a multiplier 0.62. That means that the stimulus increases debt held by the public rather than reducing it. This results from the outstanding federal debt held by the public rising from $22.285 trillion in the "**Full Employment**" base-case scenario (see **Table 2**) to $22.829 trillion in the "**Infrastructure & Big Tax Cut**" scenario. This means that the combined stimulus generated $906 billion in net tax revenues at a cost of $1.45 trillion. The combined stimulus boosts nominal GDP by $434 billion and real GDP by $174 billion in 2026 — a nominal GDP effectiveness of $.30 and a real GDP effectiveness of $.12 for each dollar of stimulus.

4. CBO Fiscal Multipliers

Table 3 shows fiscal multipliers estimated by **CBO**.[10] My fiscal multipliers are derived independently from my econometric model. However, my fiscal multipliers are very similar to those of CBO with respect to the general categories of taxes and infrastructure spending. I do not estimate fiscal multipliers for government transfer payments.

Table 3
Estimates of Fiscal Multipliers

Category	Type	CBO	Bill
Taxes			
	Corporate	0.2	.31
	Individual — High Income	0.4	.31
	Individual — Low/Middle Income	0.9	.31
Transfers	General	1.3	
	Payments to Retirees	0.6	
	Local & State Non-infrastructure	1.1	
Government Purchases		1.5	1.36
Infrastructure		1.3	1.36

5. Concluding Observations

If politicians focus on improving U.S. competitiveness and boosting growth, the options of choice should be corporate tax reform and infrastructure spending. Tax cuts are popular, but they are far less effective in improving growth. Total federal debt to nominal GDP is at a high level and will escalate rapidly as a larger proportion of the population moves into retirement and draws social security and Medicare benefit payments. If growth does not improve, the public debt ratio will eventually explode and force a lower standard of living.

Outside of the benefits infrastructure spending will have in boosting lackluster productivity marginally, none of the policy options under discussion is targeting improving investment and productivity. Thus, there is not much hope that the potential rate of growth will improve. While I assume that future productivity growth will return to about 1.7 percent in coming years from zero currently, I have little real conviction that will actually happen. Thus, the risks to future potential growth are to the downside.

Other policy options, such as trade and immigration restrictions, may be politically popular at the moment, but their implementation will worsen growth in the longer run. These policies are not a winning solution. But, in a world of increasing income inequality and loss of personal dignity, trade and immigration are handy scapegoats. Policies need to focus on restructuring the economy to provide dignified work opportunities to all and lessen the extent of income inequality. Such policies are not on the table.

Thus, I am forced to conclude that we appear to be fated to continue to progress in a direction that

[10] A comprehensive review of fiscal multipliers can be found in: Daan Struyven. "A Review of Fiscal Multipliers," US Daily, Goldman Sachs Economic Research, November 16, 2016.

will worsen the class divide that the recent election made painfully evident and that real growth and thus improving living standards will continue to disappoint and what little there is will probably continue to be captured by the elite upper class.

VI. Recent U.S. Employment Developments

As the labor market approaches full employment there is increasing evidence that employment growth is slowing. October's payroll employment gains were 161,000, bringing this year's monthly average down to a still well above trend level of 181,000. However, as the economy nears full employment, it is inevitable that monthly payroll growth will converge to the underlying natural rate of growth in the labor force, which currently is in a range of 70,000 to 80,000 monthly. John Williams, president of the San Francisco Federal Reserve Bank in a recent speech pegged the monthly number at 80,000 with a range of 50,000 to 100,000, depending upon potential labor force trends and participation.

Job growth has already begun to slow. Monthly employment growth has averaged 181,000 so far in 2016 compared to 229,000 in 2015 and 251,000 in 2014. Slowing employment growth is reasonable and not worrisome because, while a small amount of slack remains in the labor market, the market is clearly very close to full employment based on many traditional measures.

1. Employment Growth

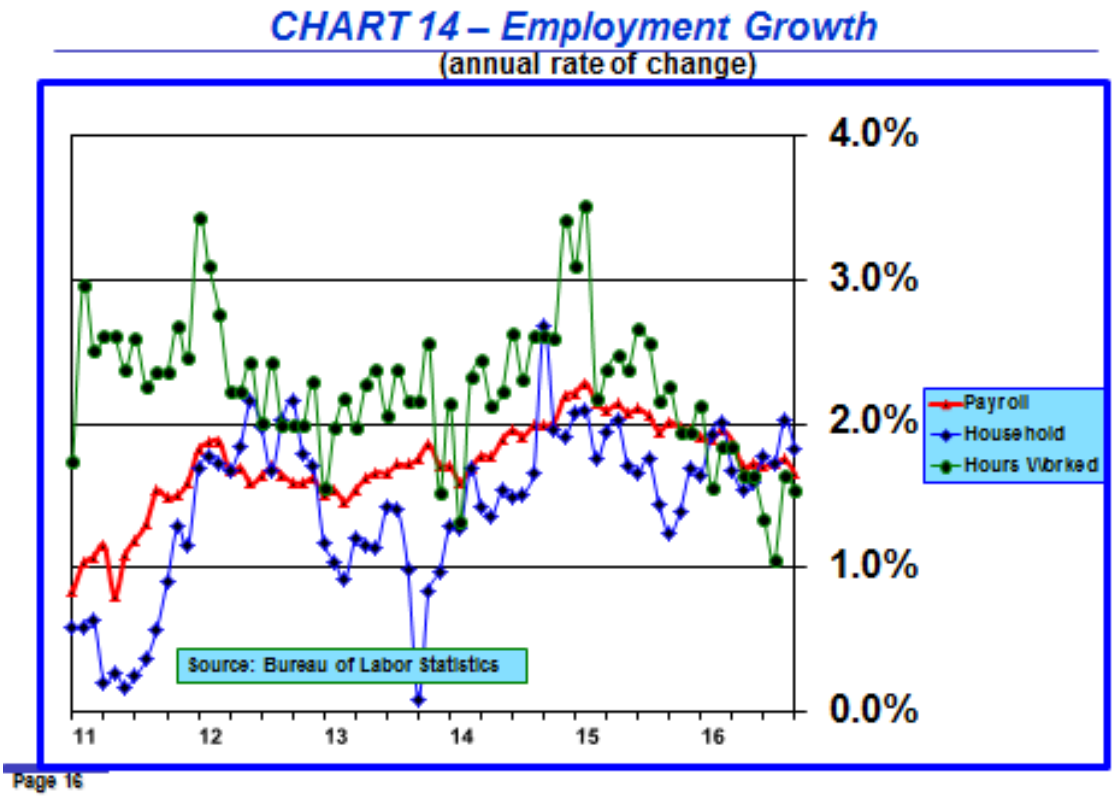
The trend in the 12-month rate of growth in payroll employment is slowing gradually, down to 1.65 percent in October compared to 1.95 percent in 2015 and the peak rate of annual growth of 2.14 percent in March 2015.

Household employment fell 43,000 in October after rising 354,000 in September and 97,000 in August. Household employment growth has averaged 199,600 monthly over the first ten months of 2016. Monthly estimates of household employment growth are very volatile so a better sense of trend can be gained by looking at average monthly changes in household employment over longer time periods. Over the past 12 months, monthly household employment growth has averaged 227,300 compared to 196,400 for payroll employment. Household employment has grown 1.83 percent over the last 12 months, while payroll employment has grown 1.65 percent.

But, growth in total hours worked by all employees has been slowing more rapidly than growth in numbers of employees as the average length of the work week has shortened. The 12-month growth rate in total hours worked by all employees in October was 1.53 percent compared to 2.25 percent a year ago.

Chart 14 shows the three measures of employment growth — payroll employment, household employment, and total hours worked. Probably the most important thing to notice in **Chart 14** is the choppy downward trend in growth. This is indicative of a maturing labor market that is at or near full employment.

Generally, in the early stages of recovery employers increase the length of the work week of existing workers before hiring new ones resulting in total hours worked growing faster than the other two labor growth measures. This pattern reverses when economic activity weakens — employers cut hours before

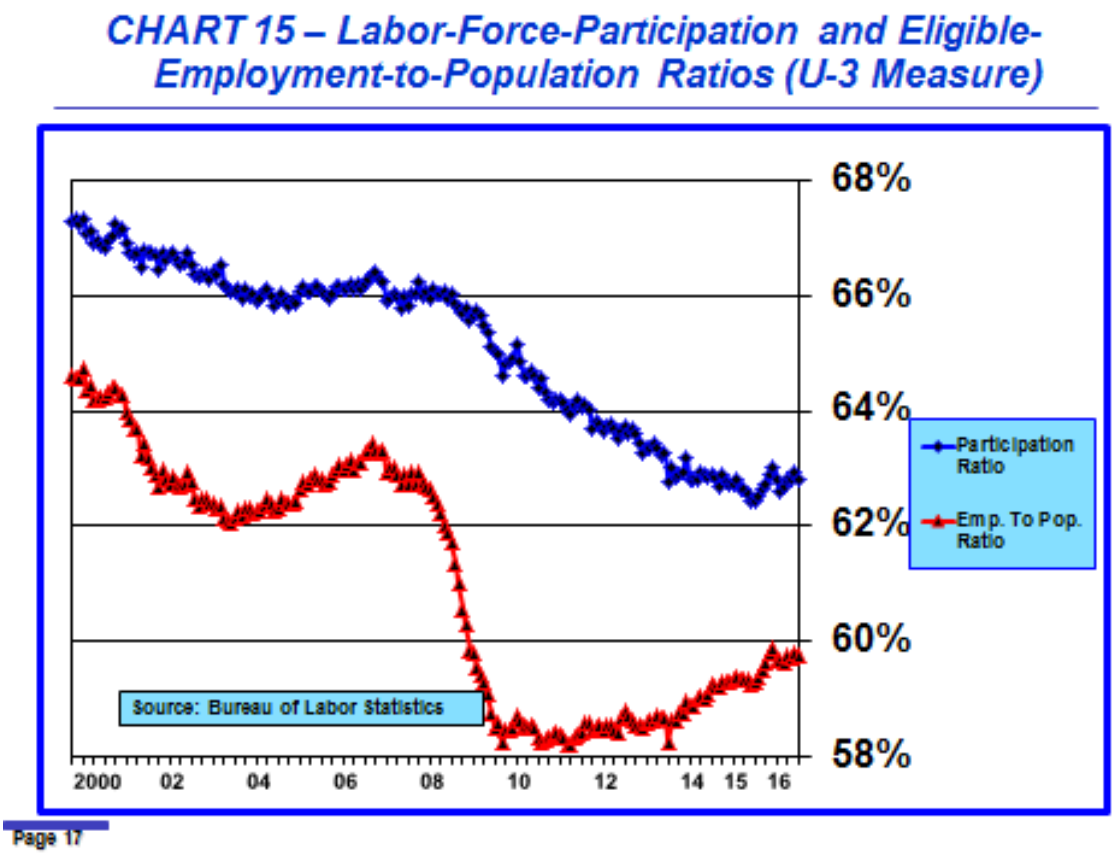


firing workers. Because monthly employment data are subject to large sampling error, the recent deceleration in total hours worked is only suggestive of the advent of a weakening employment market. Data over the remainder of the year will help establish whether this apparent developing trend is an artifact of data estimation methodology or is signaling the advent of weaker economic activity. The rebound in total hours worked in September underscores the importance of viewing several months' data.

2. Employment Participation

Chart 15 shows the labor force participation rate and the eligible-employment-to-population ratio. The denominators of both measures are the total number of people eligible to work (the employment population). The numerator of the eligible-employment-to-population ratio is the total number of people employed and unemployed who wish to be in the labor force. The numerator of the participation ratio only counts those who are employed.

The eligible-employment-to-population ratio plunged during the Great Recession and then stabilized for several years before beginning to rise in 2014. However, the participation rate continued a steady decline until about a year ago. The downward trend in the participation ratio in recent years has been driven by changing demographics which should continue to reduce participation by about 0.2 percent annually over the next ten years. However, the decline in the participation ratio during and immediately following the Great Recession was exacerbated by the exit of discouraged workers from the labor force. Because discouraged workers are not counted in the labor force there has been considerable debate about their



numbers and whether they would reenter the labor force once the labor market tightened. The increase in the participation rate from 62.42 percent in September 2015 to 62.80 percent in October 2016 is suggestive evidence that some discouraged workers have reentered the labor market in the last few months.

3. Measures of Unemployment Reflect a Labor Market With a Modest Amount of Slack

As can be seen in **Chart 16**, the U-3 unemployment rate has fallen to 4.88 percent and nearly matches the level attained prior to the Great Recession. The October U-3 unemployment rate was slightly above **CBO**'s full employment (NAIRU) estimate of 4.74 percent.

The U-6 measure of unemployment, which adds those working part time who would prefer full-time employment and those marginally attached to the labor force to the U-3 measure, has fallen to 9.53 percent but, as can be seen in **Chart 17**, is 0.6 percentage points above the 2005 pre-Great Recession difference between the U-3 and U-6 unemployment measures when the labor market was at full employment. The U-6 measure of unemployment has fallen 0.27 percent over the last 12 months compared to a 0.05 percent decline in the U-3 measure, which underscores an improving labor market. Both unemployment measures reflect a tightening labor market with a modest amount of remaining slack.

Long-term and short-term unemployment rates are also indicators of labor market tightness and are shown in **Chart 18**. The short-term unemployment has returned to the low level that prevailed prior to the Great Recession. The long-term unemployment rate has declined from over 4 percent in the aftermath

CHART 16 – U-3 and U-6 Unemployment Rates

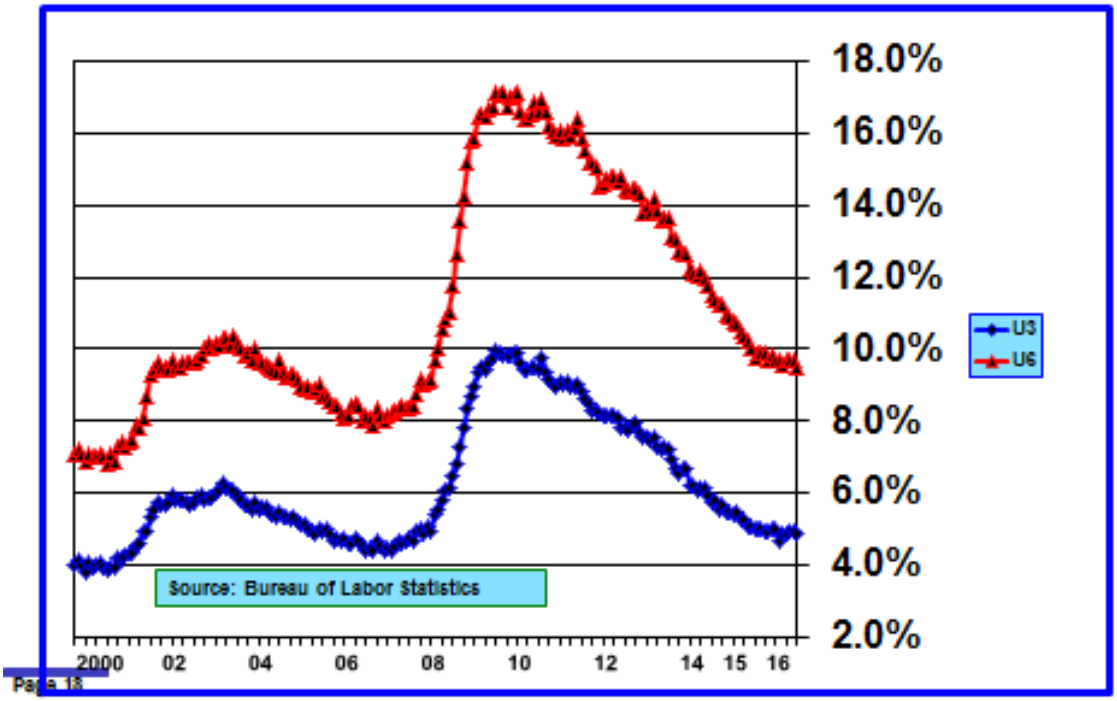
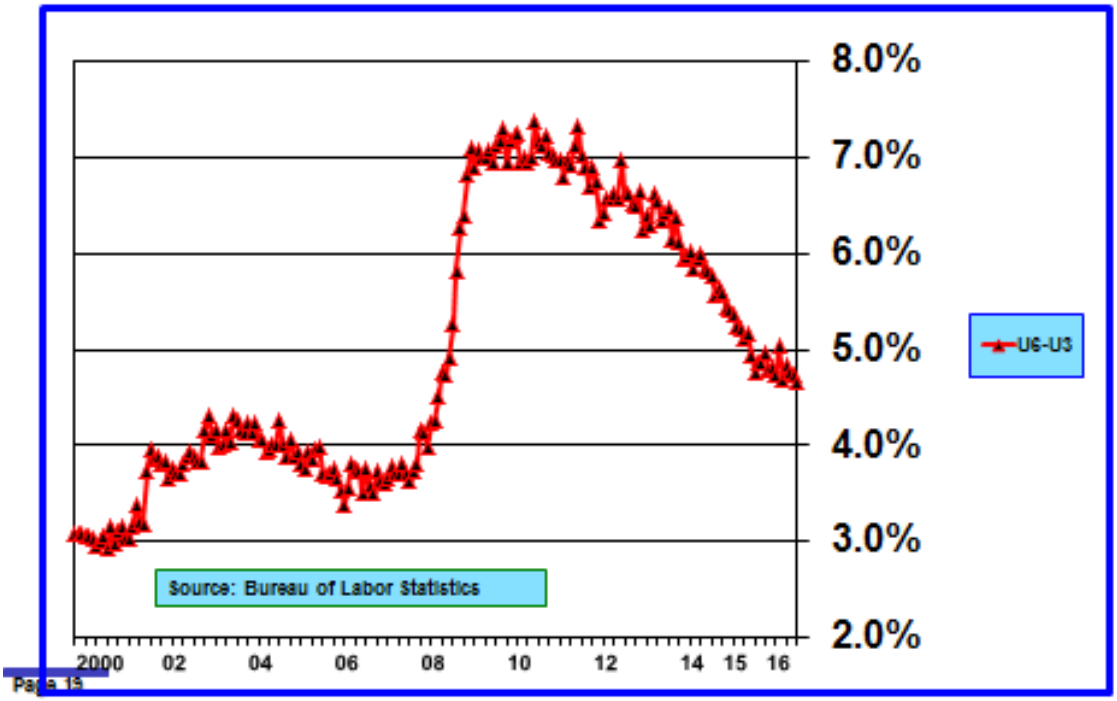
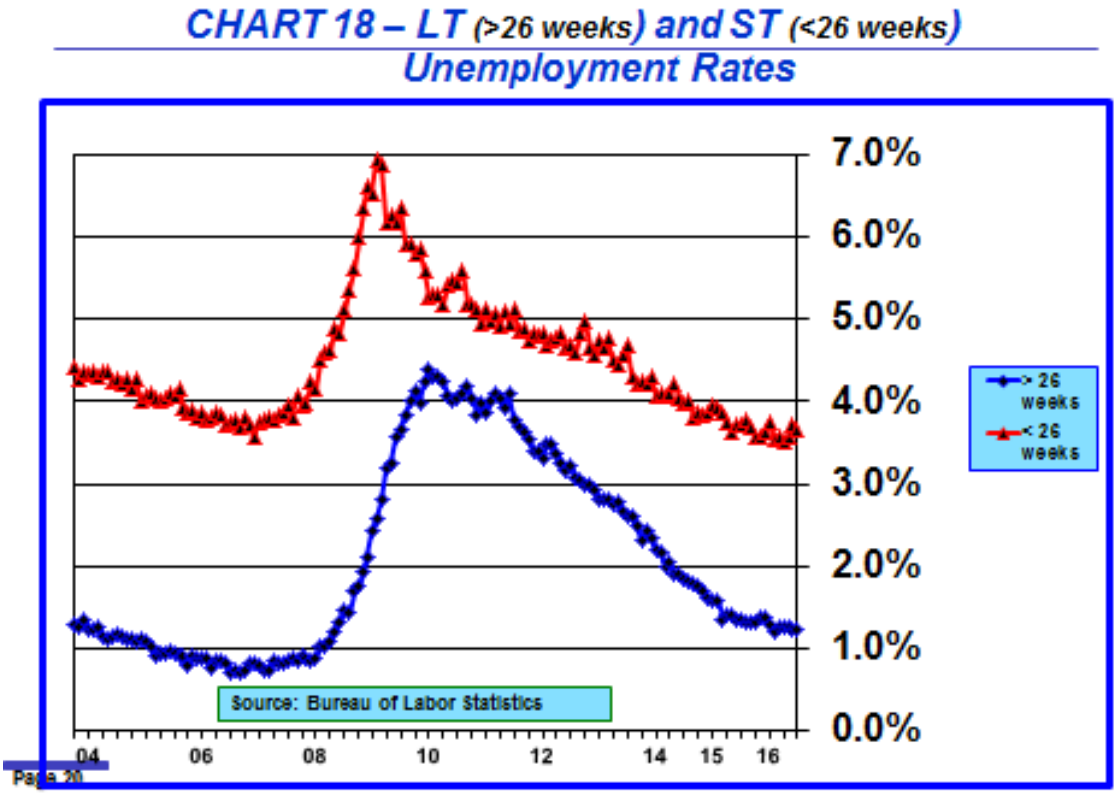


CHART 17 – U-6 Minus U-3 Unemployment Rates



of the Great Recession to 1.24 percent in October. It is still about 0.4 percent above the low level reached in 2006 just prior to the onset of the Great Recession.

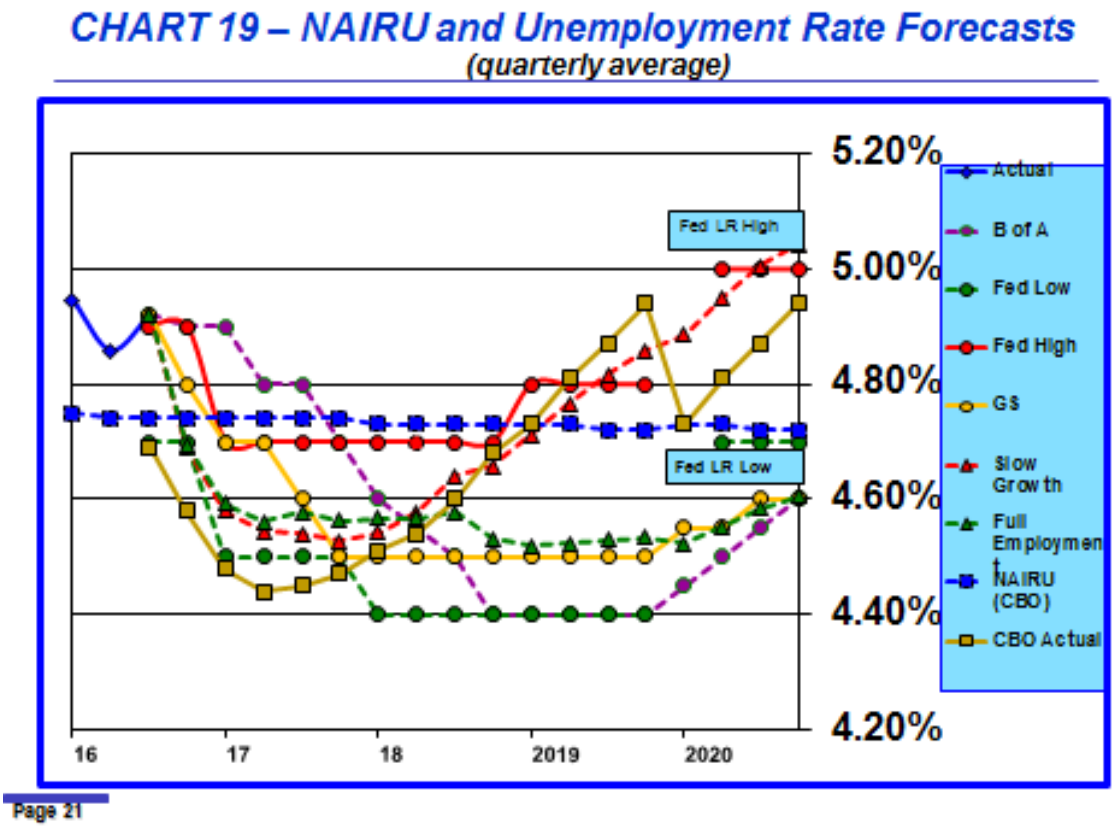


4. Forecasts of the U-3 Unemployment Rate

Forecasters expect the labor market to continue to tighten. The U-3 unemployment rate is only slightly above **CBO**'s full-employment estimate of the non-accelerating inflation rate of unemployment (NAIRU). While this is certainly welcome news after seven years of high unemployment, further declines in unemployment will result in a tight labor market. Scarcity of workers will drive wages higher. This is also a favorable development because it will increase worker spending power. But, as the term NAIRU implies, when unemployment falls below this level for any length of time not only do wages increase but inflation increases as well. For that reason, the FOMC will worry about tweaking monetary policy to maintain full employment but limit the potential for tight labor markets to foster inflation. The traditional monetary policy tool involves raising interest rates. While this worry is a prominent topic for FOMC members, offsetting worries about tepid growth in real GDP and fragility of international financial markets have resulted in the FOMC adopting a cautious, go slow approach to increasing interest rates.

Chart 19 shows U-3 unemployment rate forecasts for **B of A**, **GS**, and **FOMC** high and low range, and my "**Slow Growth**" and "**Full Employment**" scenarios. **CBO**'s estimate of NAIRU is also shown in **Chart 19**.

Most forecasts project that the unemployment rate will fall below NAIRU over the next three years.



GS and **B of A** are the most optimistic and anticipate that the unemployment rate will fall to 4.4 percent by 2018. My **"Slow Growth"** scenario tracks 10 to 20 basis points above **CBO**'s NAIRU estimate and the upper end of the **FOMC**'s projection range.

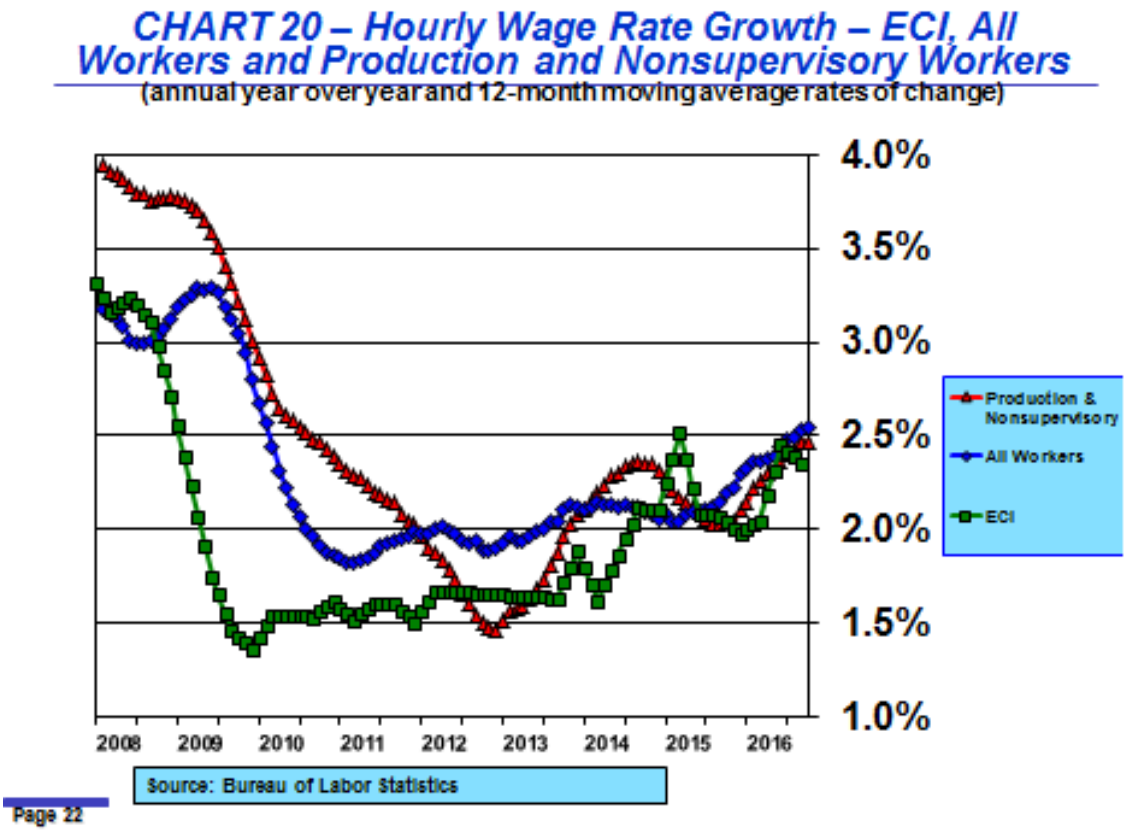
Notice that **CBO**'s estimate of the actual unemployment rate falls faster than **B of A** and **GS** forecasts over the next few quarters, but then reverses course in about a year's time and converges with my **"Slow Growth"** scenario estimate by late 2019.

5. Accelerating Wage Growth Is Finally Discernible

As the labor market approaches full employment, theory and past experience indicate that growth in wages should be accelerating. That is what is supposed to happen when excess supply disappears and demand is increasing. Although slow to develop, evidence is finally emerging that wage growth is accelerating.

Chart 20 shows the rate of growth in hourly wages for all workers, production and nonsupervisory workers, as well as the ECI (total wages and salaries). All three sets of measures in **Chart 20** track each other closely over time. Since 2014 all three have moved in a tight band between 2.0 and 2.5 percent.

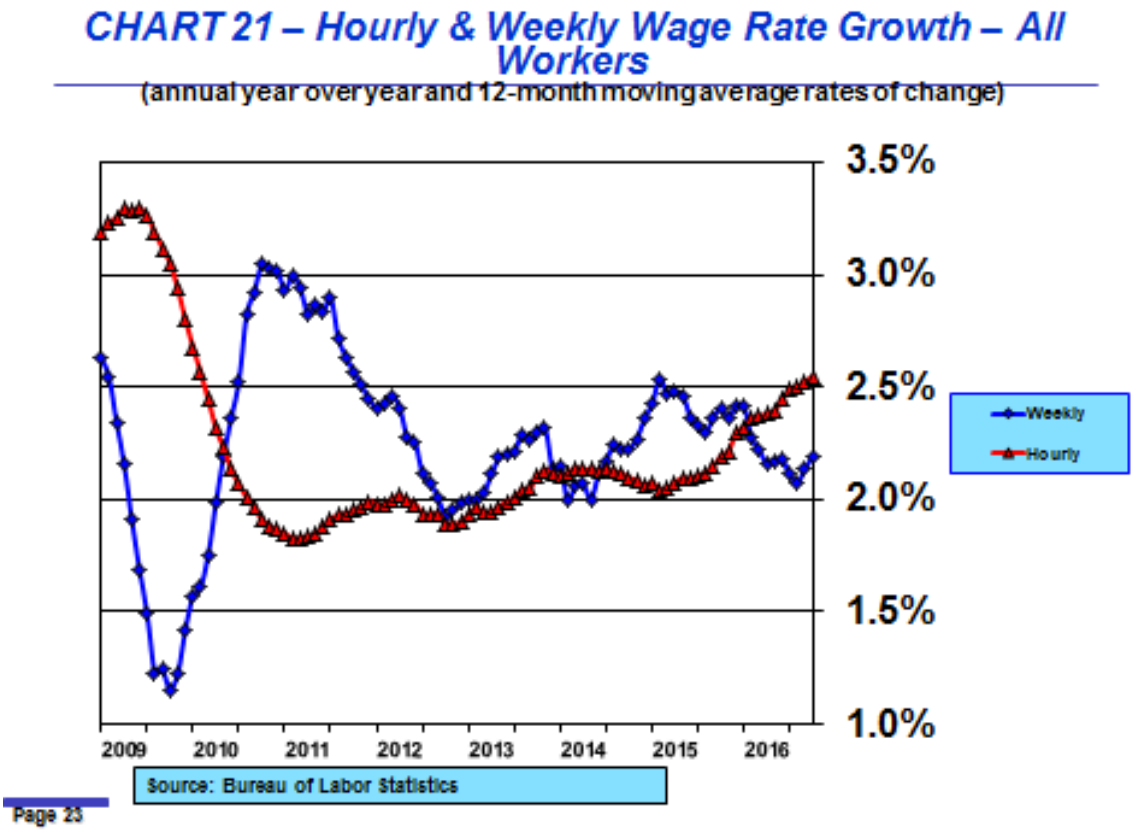
Although these measures are highly correlated over time, because compilation methodologies differ for each set of measures percentage changes over fixed time periods will not necessarily be in sync. This was the case in October. Average hourly wages (12-month moving average) of all employees are rising



2.55 percent annually currently compared to 2.19 percent a year ago. Average hourly wages (12-month moving average) of production and nonsupervisory workers are rising 2.47 percent annually compared to 2.04 percent a year ago. However, growth in ECI is little changed over the past two years and was 2.36 percent in September.

a. Weekly Versus Hourly Wage-Rate Growth

But perhaps focusing only on hourly wages is a bit misleading. If one looks at growth in average weekly earnings, which factors in the length of the workweek and thus incorporates changes in the mix of full and part-time employees, rather than the hourly wage rate, growth in weekly wages for all employees has fallen from 2.40 percent a year ago to 2.19 percent in October 2016 (see **Chart 21**). This outcome reflects a modestly shorter average number of hours worked per week, which could be due to a greater proportion of part-time workers as well as fewer hours for other employees. Disposable income depends upon growth in total weekly earnings rather than growth in the hourly wage rate. This means that deceleration in the growth rate in average weekly wages will translate into slower growth in disposable income and correspondingly slower growth in consumer spending.



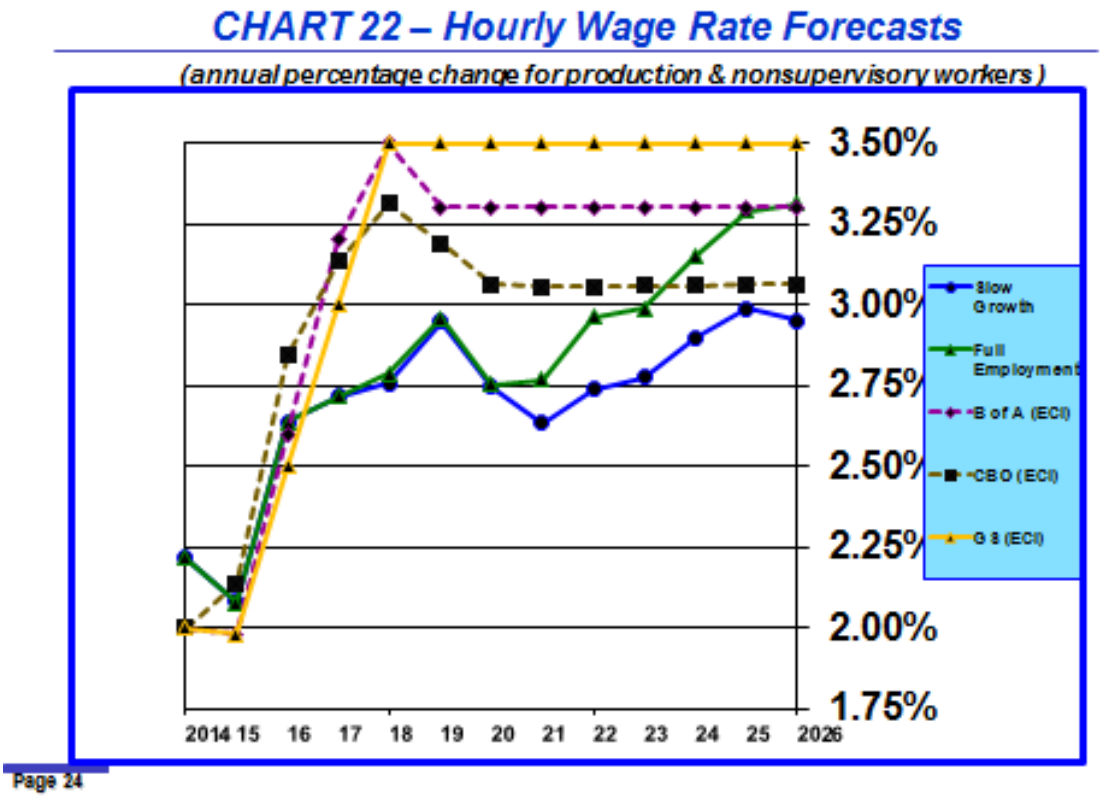
b. Hourly Wage Forecasts

Chart 22 shows my projections for wage growth for production and nonsupervisory workers over the next ten years and **CBO**'s, **GS**'s and **B of A**'s projections for growth in the wage and salary component of ECI for all workers over the same time period. A couple of explanations of details shown in **Chart 22** are in order.

First, the data series for all employees only began in 2006 while the data series for production and nonsupervisory workers goes back to 1964. Thus, the data series for production and nonsupervisory workers contains a lot more historical information which is useful for constructing robust forecasts. In the long run growth rates in wages for all employees and for production and nonsupervisory workers are highly correlated (see **Chart 20**).

Second, **CBO, GS** and **B of A** forecast wage rate growth only for ECI. Although the methodologies for constructing these different wage data series differ, the directionality of all is highly correlated over time, even if the levels aren't precisely the same. With the exception of **GS**'s forecast, wage growth in all other forecasts, including mine, declines about 25 basis points between 2018 and 2020. Mine then edge up after 2021, while the others remained unchanged.

Looking at **Chart 22**, the major takeaway is that my "**Slow Growth**" forecast increases slightly more slowly over the next two years to approximately 3.0 percent, dips to 2.6 percent in 2021 and then rises gradually to 3.0 percent by 2025. My "**Full Employment**" scenario diverges from my "**Slow Growth**"



scenario in 2020 and eventually rises to 3.3 percent by 2026. Other forecasts range between 3.25 percent and 3.50 percent in over the entire time period from 2018 to 2026.

6. Labor Market Conditions

Labor market conditions, according to the Federal Reserve's index, improved to 0.7 in October from a revised -0.1 in September and a revised -1.3 in August.

7. Concluding Observations

U.S. employment is nearing full employment. The U-3 unemployment rate of 4.88 percent is about 0.1 percent above **CBO**'s estimate of full employment and the U-6 rate is about 0.5 percent away from full employment.

But, can the labor market remain as strong as it has been in recent months when the pool of skilled eligible workers is shrinking? And, what if erosion of profit margins as wages rise puts pressure on employers to curtail hiring? Is the recent shortening in the length of the workweek a warning signal? And, what if consumer spending continues to slow? Won't that lead to unwanted inventories and production cutbacks? And, will political uncertainty spawned by the presidential election campaign prompt employers to become more cautious? What if stock prices decline sharply and financial conditions tighten, perhaps because of

an international shock or tighter U.S. monetary policy? That outcome would likely feed employer caution.

There are many risks. The labor market may well continue its forward march, but the balance of risks appears to me to weigh in the direction of slower employment growth in coming months. Also, longer run, the demographics simply do not support the rate of growth in employment that we have experienced in recent times. We may look back at the summer of 2016 and conclude that it marked the apex of good times in the employment market.

VII. U.S. Monetary Policy

Markets have now assigned a 85 percent probability that the FOMC will increase the federal funds rate range at its December meeting by 25 basis points to 0.50 – 0.75 percent. With the recent return of market exuberance and rising inflation expectations following Donald Trump's election, monetary policy debate will focus on how fast the FOMC will raise rates during 2017. The median FOMC expectation is two increases in 2017. **B of A** expects only one increase, while **GS** expects three.

In formulating monetary policy, the FOMC primarily examines recent and prospective developments in economic activity, employment, and inflation. It also considers development in global economic activity and financial markets.

1. Economic Activity

In its November statement, the FOMC upgraded its assessment of overall economic activity, noting that the "labor market has continued to strengthen . . . job gains have been solid," "household spending has been rising moderately but business fixed investment has remained soft."

Employment markets continue to experience above trend growth. The October employment report, which was released two days after the November FOMC meeting, was solid. Economic activity, as measured by the "**Advance Estimate**" of third quarter real GDP, appears to have improved, although the topline number greatly overstates the underlying strength of the economy. The fly in the ointment is that household spending softened considerably during the third quarter, which the FOMC acknowledged in its summary of economic activity.

2. Employment

Little slack remains in the labor market and compensation has begun to rise, albeit very slowly. If employment were the only policy goal, the FOMC's task to proceed in normalizing interest rates would be clear. In previous monetary policy tightening cycles, the FOMC has always moved more quickly to raise rates when the labor market tightened than it has so far in this cycle.

By pursuing a gradual tightening approach, the FOMC risks inflation overshooting the target of 2.0 percent. Of course, the target is intended to be an average over the cycle, not a ceiling. The fact is that inflation has been below the 2.0 percent target for an extended period of time.

Nonetheless, some policymakers worry that if policy response is delayed too long the market consequence might be that inflation expectations become unanchored. This is an obvious concern of the three dissenting FOMC members.

Employment gains in October continued to exceed the noninflationary potential level, which means that what little labor slack remains in the economy continues to shrink.

3. Inflation

There was an important change in the FOMC's assessment of inflation in the November statement. Language was added recognizing that "Inflation has increased somewhat since earlier this year ... ." The FOMC also noted that "market-based measures of inflation compensation have moved up but remain low ... ." Since the election market-based measures of inflation expectations have moved up much more. In addition, consumer inflation expectations rose slightly in the most recent survey.

In the PCE inflation report for September, core inflation remained unchanged at 1.7 percent. Most forecasters expect core PCE inflation to fluctuate in a narrow range of 1.6 to 1.8 percent for the next several months. However, downside risks appear to have ebbed and upside risks to have increased because of stabilization in commodity prices and increasing upward price pressures on shelter and medical care expenditures. The prospect of fiscal stimulus in a Trump Administration reinforces emerging upside risks.

VIII. Interest Rates

The FOMC remains confident that both core and total PCE inflation will return to the 2.0 percent target level by 2018. Note that the FOMC has repeatedly extended the time frame for achievement of the 2.0 percent target, but has not wavered from its conviction that the target will eventually be achieved.

1. Core Inflation

Core PCE inflation has been edging up very slowly, rising from 1.38 percent in September 2015 to 1.70 percent in September 2016. Core inflation is likely to rise to 1.78 percent in October, based on estimates derived from CPI inflation, which has already been reported for October.

Generally, there is no anxiety about the small upward trend in core PCE inflation. It is still below the FOMC's 2.0 percent target. Market-based inflation expectations have moved up recently but remain well anchored and below the FOMC's 2.0 percent target. Inflation forecasts remain benign and consistent with stability around 2.0 percent. My own model continues to project inflation to be stable for several years at a level slightly below 2.0 percent.

Both **B of A** and **GS** expect core PCE inflation to be relatively stable over the next year, moving from 1.8 percent to 1.9 percent. Upside risks to inflation include a larger than expected decline in unemployment, further increases in inflation expectations stoked by talk of tax cuts and infrastructure spending, and higher import prices, which would require the value of the trade-weighted dollar to decline. Downside risks stem

primarily from higher import prices, which at the moment seem more likely given the recent strengthening in the trade-weighted value of the dollar. Of course, if recession were to occur, unemployment would rise and downward pressures on inflation would escalate.

2. Inflation Expectations

Market-based inflation expectations edged up after becoming severely depressed during the summer in the wake of the Brexit vote. Immediately following Trump's election the five year forward inflation expectation embedded in Treasury Inflation Protected Securities (TIPS) rose sharply to 2.5 percent, after spending much of the year in a range of 1.5 to 1.7 percent. Remember that this measure of inflation is based on CPI, which runs 30 to 50 basis points higher than PCE. Thus, this measure of inflation expectations is now close to the FOMC's target.

At the beginning of the year the 10-year U.S. Treasury note yield was 2.27 percent. On November 21, 2016 it was 2.33 percent (low for the year was 1.37 percent on both July 5 and 8). The recent rise in this rate is being driven by expectations of significant fiscal stimulus in the coming year and is also linked to expectations that the Federal Reserve will raise interest rates in December, the European Central Bank might begin to taper quantitative easing after next March, and the Bank of Japan has revised its policy to target a positive long-term yield. Some would also argue that global growth is picking up.

U.S. stock prices after many months of sideways movement broke out to all-time highs after the June Brexit vote (S and P 500 index hit a new all-time peak of 2190.15 on August 15, 2016, compared to the 2015 high of 2130.82 reached on May 21, 2015). Since then stock prices have fluctuated in a relatively narrow band. Stock prices rallied after Trump's election and the S&P average finally eclipsed its August high on November 21, 2016, reaching 2198.18. Given the spirit of euphoric optimism, stock prices could continue to rise in the near term. However, rising interest rates will limit how far prices can rise. And, eventually, the market will sober up and probably conclude that profit growth will not be sufficient to justify high P/E multiples.

Survey-based measures of inflation expectations, such as the University of Michigan's 5-10 year expected inflation rate, have weakened a little in recent months, although the most recent reading was higher. This survey measure of long-term inflation expectations fell from an average of 2.9 percent over the past several years to 2.4 percent in October, but rose to 2.6 percent in November. The survey average has come down largely because the percentage of respondents expecting high inflation has decreased. About 70 percent now expect future inflation to range between1 and 3 percent compared to approximately 60 percent over the last several years.

Both market and survey measures of inflation expectations reflect a high degree of confidence that the FOMC will be able to achieve its 2.0 percent target. In other words, inflation expectations remain well anchored.

3. Financial Conditions

Maintaining financial stability is a responsibility of the Federal Reserve. In this regard the Federal Reserve was tested repeatedly during the global financial crisis of 2008 and by most accounts responded effectively.

However, prior to the time of the financial crisis, the Federal Reserve regarded its lender of last resort role as just that. It was to respond and stabilize the financial system during times of crisis. Monitoring the fragility of the financial system and formulating monetary policy in an anticipatory manner to assure ongoing financial stability was not regarded as a primary function of monetary policy. That approach has changed in the aftermath of the global financial crisis but it still appears that the macroeconomic goal of maintaining financial system stability remains more one of reaction to developments.

That is not to say that there has been a lack of attention, but the focus has been primarily at the micro level — individual financial institutions — rather than at the macro level. The Dodd Frank Act mandated a comprehensive regulatory regime intended to assure financial strength and prudent management of individual financial institutions. Thus, financial institutions are now subject to more stringent capital and liquidity requirements. Notwithstanding these safeguards, should an individual institution get into serious trouble, the requirement for systemically important financial institutions (SIFIs) to have living wills, is intended to enable regulatory authorities to quickly and surgically resolve failures and contain the potential for systemic contagion.

To my way of thinking, as helpful as establishing rigorous prudential standards might be and preparing for prompt intervention when trouble arises, this micro approach ignores the possibility that macroeconomic policy will drive systemic financial instability rather than the acts of one or more wayward SIFIs. The Federal Reserve needs to monitor macroeconomic developments and the consequences of policy responses not just in terms of their impacts on employment and inflation but also in terms of financial system stability. There is building awareness, I believe, in the importance of this tri-part focus, but considerations of systemic financial stability are not yet robustly built into the monetary policy decision making process.

It is clear from reviewing fluctuations in economic activity over the past several years that changes in financial conditions matter. Of course that has been well known and a tenet of monetary policy is that the FOMC's job is to tighten or loosen financial conditions to maximize economic activity subject to maintaining low and relatively stable inflation. But the FOMC is not the only player in the market place that can impact financial conditions. Unexpected events, such as the collapse in commodity prices, political developments, such as the election of Donald Trump, foreign policy developments, such as Brexit, and oscillations in market sentiment and expectations all can impact financial conditions.

Recognizing the importance of financial conditions over and beyond the policy activity of the FOMC, analysts have begun to construct quantitative measures of financial conditions and study their impact on economic outcomes both in terms of quantity and timing. These measures usually consist of weighted indices incorporating money market rate spreads, bond credit spreads, volatility, term risk premia, equity market volatility and price deviations from trend, and foreign exchange rates and volatility measures. As with all good research, the construction of financial conditions indices and how changes in these indices interact with and affect economic outcomes is a work in progress.

As the role financial conditions play in influencing economic activity becomes better understood it has

become clearer that the FOMC's monetary policy needs to be formulated in the context of current financial conditions and with an understanding of how changes in monetary policy will affect financial conditions.

GS has constructed and published a financial conditions index and has conducted extensive empirical research which demonstrates that tighter financial conditions slow economic growth over the next few quarters. Specifically, **GS**'s research indicated that the tightening in financial conditions that began in mid-2014 and continued to early 2016, reduced real GDP growth by 1.0 percent over the past year. That intuitively makes sense because tighter financial conditions reflect elevated perceptions of risks and cause market participants to act with a greater degree of caution. Riskier loans are not made and more speculative investments are deferred or avoided altogether. The good news, according to **GS**, is that the easing of financial conditions that has occurred during 2016 should add 0.5 percent to real GDP growth over the next 12 months and put upward pressure on inflation.

GS now includes a financial conditions variable in its version of the traditional Taylor Rule, which provides guidance for calibrating monetary policy to attain full employment and price stability. **GS** posits that the effects of financial conditions on the policy interest rate are not independent of the employment and inflation components of the Taylor Rule. In fact, increases in the federal funds rate will tighten financial conditions. **GS** simulated three scenarios.

Because of the interactive effects, **GS** believes that a gradual rate of monetary policy tightening in the U.S. is prudent. In this regard, **GS** has ratified through a model a policy that the FOMC has already embraced. In the first scenario the federal funds rate increases over the next few months by 40 basis points, which is what is already discounted in the market's forward yield curve. Real GDP growth improves by approximately 0.5 percent over the next 12 months but the benefit fades toward the end of 2017. In the second scenario, the federal funds rate rises by 100 basis points by the end of 2017 and there is no net impact on real GDP growth. Note that the FOMC's median projection from its September Summary of Economic Projections is for the federal funds rate to increase 75 basis points by the end of 2017. In the third scenario, financial conditions worsen by more than what can be attributed to a 100 basis point increase in the federal funds rate. In this case, real GDP growth is depressed by about 0.5 percent over the next 12 months.

Scenario two is embedded in **GS**'s forecast of GDP growth and inflation in 2017 — the FOMC should raise the federal funds rate 25 basis points in December and another 75 basis points during 2017. A slower pace of monetary tightening during 2017 in **GS**'s opinion would risk inflation moving higher and a faster pace would lead to slower GDP growth in 2017 — scenario three. But, this policy prescription and forecast depends on changes in financial conditions that occur for reasons other than monetary policy actions. Thus, the current market recalibration of market conditions that is underway in the aftermath of Trump's election, will need to sort itself out and monetary policy will need to be adjusted accordingly to avoid the possibility of a monetary policy overshoot or undershoot. This is the real meaning behind the FOMC's message that monetary policy is "data dependent." The FOMC appears to be doing a relatively good job of getting to balanced policy decisions. But the FOMC's deliberative process is relatively opaque. As private modeling and analysis matures and as the interaction of financial conditions and monetary policy and their collective influence on economic outcomes is better understood, policy making should become less opaque and better understood. The FOMC will probably benefit as well from better measures of financial conditions and their explanatory capability in predicting economic outcomes and usefulness in testing alternative policy regimes.

But, notwithstanding the progress that is being made in understanding the impact of financial conditions, a major concern remains. Market sentiment can be a very powerful determiner of financial conditions and market sentiment can be totally out of alignment with underlying fundamentals. When the misalignment is great, as it was prior to the Great Recession, then when clear vision strips away myopia, a firestorm of potentially immense proportions will erupt violently and eliminate the misalignment. Thus, it will always be important to examine whether measured financial conditions accurately reflect risks that are embedded in the economy but which might not be understood fully nor priced correctly.

For example, prior to the election volatility fell to cyclically extremely low levels. This was true for both interest rates and exchange rates. One is reminded that the last time interest-rate volatility was low was in 2006 and 2007 in the waning days of the Great Moderation just prior to the financial crisis and onset of the Great Recession. And, the last time currency exchange rate volatility was low was in 1986 and 1987, just prior to the stock market's decline of 22 percent in a single day. Markets can be lulled into complacency by soothing words and friendly policy intervention. Low volatility actually encourages risk taking and the deployment of leverage to arbitrage narrow spreads. But, the mispricing of risk sets the stage for a potentially violent correction when the market loses confidence in policymakers' ability to deliver stability. This is not to say that such a correction is inevitable or even imminent. It is merely an historical observation that low volatility is an artifact of aggressive policy management. And, if that policy management prevents markets from managing risk or, worse, encourages excessive risk taking, then history tells us that a Minsky Moment will occur, often without much warning.

As I have said before, policymakers can postpone the day of reckoning, perhaps for a very long time. But, if underlying global systemic imbalances are not addressed effectively, the day of reckoning will inevitably eventually occur. And, history tells us that the longer imbalances are allowed to build, the greater will be the pain when pretend and extend policies no longer work.

My point is that aggressive global monetary policies, which have been based on an abundance of quantitative easing and extremely low interest rates, have artificially reduced risks and spawned financial market activity based on underpricing of risk. The economic imbalances that the mispricing of risk fosters have been building. And this mispricing of risk is linked to other imbalances such as the decline in productivity and potential growth, the increase in income inequality, and the growing populist backlash against international trade and immigration.

4. Interest Rates — Federal Funds Rate

Market participants expect the FOMC to raise the federal funds rate 25 basis points at its December meeting. Market-based expectations for a rate increase in December are about 85 percent. In its September Summary of Economic Projections, the median FOMC member expected two additional 25 basis point increases in the federal funds rate in 2017 (1.00-1.25 percent), three more in 2018 (1.75-2.00 percent), three more in 2019 (2.50-2.75 percent), and a long-term equilibrium level of 2.75-3.00 percent.

GS expects a slightly faster pace of upward adjustments in the federal funds rate — three 25 basis points increases during 2017 and two more in 2018, which would bring the target federal funds rate range to 1.25 percent to 1.50 percent by the end of 2017 and 1.75 percent to 2.00 percent by the end of 2018. **B of A**, following Donald Trump's election as president, lowered its forecast to just one increase prior to the

end of 2017, which would bring the target federal funds rate range to 0.50 percent to 0.75 percent. This forecast is very much at odds with those who expect Trump and an all-Republican Congress to engage in significant infrastructure spending and tax cuts, which would boost inflation expectations and interest rates.

Market expectations for increases in the federal funds rate, which are embedded in futures and the forward yield curve, are for a slower pace of adjustment and a lower equilibrium value than the FOMC median projections and most professional forecasters. The market expects only one interest rate increase in each of the next two years and an eventual equilibrium federal funds rate of 2.5 percent. The low equilibrium rate is consistent with my own analysis shown in **Table 4** below.

Table 4

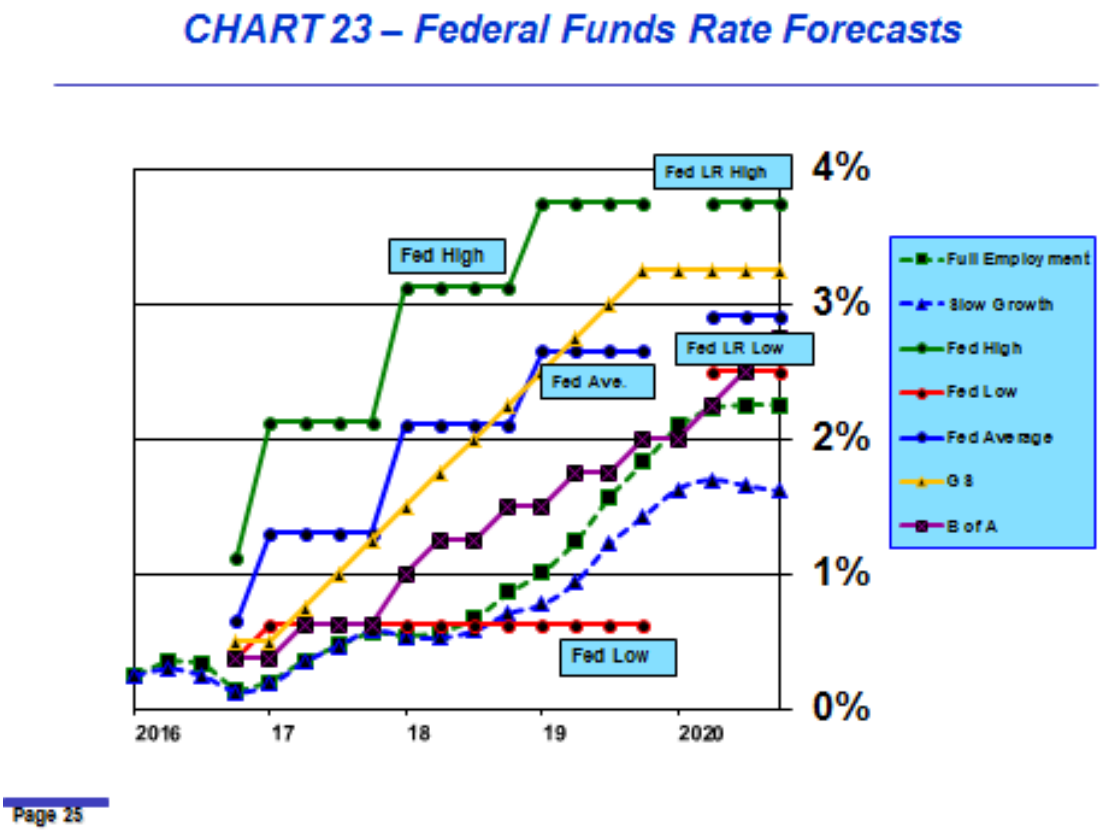
Long-Term Potential Real Rate of GDP Growth for Various Assumed Values of Growth in Total Hours Worked and Productivity and Corresponding Nominal Long-Term Natural (Neutral) Interest Rates for Federal Funds and 10-Year Treasury Rates

(assumes nominal rate of inflation = 2.0% and economy is at full employment)

	Assumptions		
Potential Real GDP	1.40%	1.82%	1.99%
Productivity	.9%	1.4%	1.6%
Labor Force	.6%	.6%	.6%
	Neutral Rate		
Federal Funds			
Full Employment	1.34%	1.74%	1.90%
Infrastructure Stimulus	1.87%	2.27%	2.43%
Small Tax Cut	1.48%	1.88%	2.04%
Infrastructure Stimulus & Big Tax Cut	2.09%	2.50%	2.66%
10-Year Treasury			
Full Employment	2.60%	3.00%	3.16%
Infrastructure Stimulus	2.66%	3.06%	3.22%
Small Tax Cut	2.62%	3.02%	3.18%
Infrastructure Stimulus & Big Tax Cut	2.70%	3.09%	3.25%

Chart 23 shows the quarterly progression in the federal funds rate from the present through 2020 implied by the FOMC's projections. It also shows forecasts for **B of A, GS**, and my "**Slow Growth**" and "**Full Employment**" scenarios.

My forecasts continue to be low relative to other forecasters but track market-based expectations relatively closely. My forecasts are driven by my expectation that inflation will remain lower for longer than others expect and also by an even smaller expected value for the long-run real rate of interest than the 1.0 percent level now embraced by a majority of FOMC members. My scenarios predict only one to two increases in the federal funds rate during 2017 and 2018.



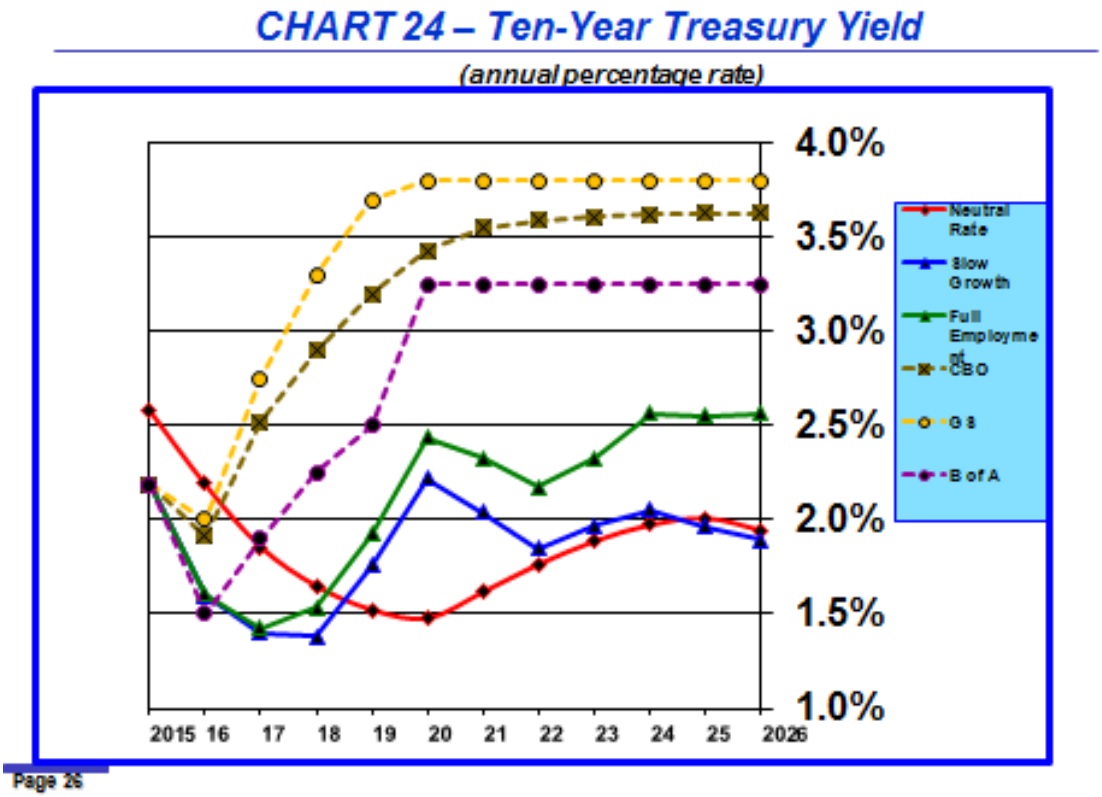
5. Interest Rates — 10-Year Treasury Note Yield

Chart 24 shows forecasts for the 10-year Treasury note yield over the next ten years. Over time analysts have reduced their forecasts for the ten-year yield. Partly this is a mark-to-market exercise driven by the persistent decline in this yield contrary to expected increases. But the adjustments also reflect a growing consensus that the long-run equilibrium real rate of interest has declined. Analysts still expect long-term rates to rise from the current level, but not to as high a level.

6. Long-Term Neutral Rates of Interest

My estimates of values of the long-term neutral federal funds rate and the long-term equilibrium 10-year Treasury rate are shown in **Table 4** for various assumed values of the growth rate in total hours worked and productivity, along with the long-term potential real GDP growth rate implied by these assumed values.

The top panel of **Table 4** holds growth in total hours worked constant at 0.6 percent annually and shows the impact on neutral federal funds and the equilibrium 10-year Treasury rates for assumed productivity values of 0.9, 1.4, and 1.6 percent. Four economic scenarios are shown — "**Full Employment**" base case, "**Infrastructure Stimulus**," "**Small Tax Cut**," and "**Infrastructure & Big Tax Cut**." The three additional scenarios are based upon possible outcomes of tax and spending changes that Congress might enact in 2017.



Estimates of long-term neutral rates in the bottom panel of **Table 4** show the impact of changing the assumed annual growth rate in total hours worked in the base case "**Full Employment**" scenario from 0.6 percent to 0.8 percent.

Collectively, FOMC members have steadily reduced the median estimate of the long-term nominal value of the federal funds rate from 4.25 percent to 3.00 percent. Based upon my model, as shown in **Table 4**, my sense is that the FOMC's median projection for the federal funds rate is still higher than is consistent with its estimate of long-term real GDP growth of 1.7 to 2.0 percent. My model indicates that a long-term nominal federal funds rate of 1.5 to 2.0 percent is a more likely level for the long-term neutral federal funds rate and it could be as low as 1.25 percent, if productivity remains at the dismal level of 0.9 percent that it has averaged over the last ten years. The neutral federal funds rate moves up with fiscal stimulus, particularly if stimulus involves infrastructure spending, which has a much bigger multiplier effect on employment, dollar for dollar, than is the case for stimulus simply involving tax cuts.

My model indicates that the 10-year neutral rate, which incorporates a term premium of about 120 basis points in the base case "**Full Employment**" scenario (the 40-year average term premium from 1975 to 2016 is 155 basis points, but reflects higher average inflation of 3.36 percent over this period), should be in a range of 2.60 to 3.15 percent. This range is only slightly lower than **GS**'s **and B of A**'s expected 3.25 percent long-term equilibrium value for the 10-year yield (see **Chart 24**).

Unlike the neutral federal funds rate, fiscal stimulus, regardless of what form it takes, has limited impact on the long-term 10-year neutral rate. This difference stems primarily from the much larger impact

of the size of the employment gap on the short-term neutral rate relative to its impact on the long-term neutral rate.

My estimate of the long-term neutral rate for the 10-year yield in my "**Full Employment**" scenario is about 2.2 percent and reflects long-term inflation of 1.8 percent rather than 2.0 percent that other forecasters assume and the 2.0 percent assumption that is embedded in the estimated values of the neutral rate shown in **Table 4**.

GS's and **B of A**'s long-run forecasts of the long-term federal funds rate and the 10-year Treasury yield do not reflect the historical level of the term premium. Both expect the long-term 10-year Treasury yield to settle at 3.25 percent. **B of A** expects the long-term federal funds rate to be 2.75 percent, which would mean the term premium is 50 basis points, considerably less than the historical average of 155 basis points and my own estimate of about 100 basis points. The inconsistency is even greater for **GS** which expects the long-term federal funds rate to be 3.25 percent which would mean no term premium would exist. This is not plausible. My own analysis suggests that **GS**'s expectations for the long-term federal funds rate is too high by at least 50 basis points and both **B of A**'s and **GS**'s forecasts of the long-term 10-year Treasury yield are too high by about 50 basis points. If these adjustments were made to their forecasts, the term premium would be about 100 basis points.

APPENDIX

Outlook — 2016 and Beyond — Forecast Summary for the U.S. and the Rest of the World, Highlights of Key Issues, and Identification of Risks

Observations about the 2016 U.S. and global economic outlook and risks to the outlook are listed below.

Financial markets started the year off in ugly fashion with stock prices plunging in all global stock markets, prices of commodities in free fall, and long-term bond yields heading toward zero or below in many global markets. Concerns about slowing global growth and potential recession in the U.S. were amplified by unexpectedly weak data reports during the opening weeks of 2016. Consequently, many forecasters lowered their estimates of economic activity during 2016, but virtually none expected recession.

Market sentiment reversed rather abruptly in late February as it became evident that markets had overreacted and as central banks moved to stabilize markets. Data reports since then have generally been more upbeat, particularly in the U.S. Thus, it was not at all surprising that recession fears faded into the background.

In late June the British vote to leave the European Union reverberated through global financial markets. Although Brexit is likely to result in significant consequences, particularly for the U.K. and E.U. economies, over time, the market quickly determined that interest rates would remain much lower for longer and reverted to "risk-on" dynamics, driving U.S. stock prices to an all-time high and U.S. interest rates to the lowest level in the 240-year history of the nation.

In recent months global growth has ground higher but has been uninspiring. Markets have been stable and volatility has declined. There has been no further significant shock to stir up market anxieties.

Donald J. Trump's election to be America's next president has had a substantial impact on global financial markets. In the U.S. stock prices and the dollar rebounded to match the year's highs. Interest rates rose sharply. There is a saying, "When the U.S. sneezes, the rest of the world catches a cold." It remains to be seen how the U.S. political and financial markets shocks will impact politics and economic activity in other nations. What is relatively certain is that the risks of adverse consequences have risen.

Overall, the 2016 U.S. and global growth outlooks are shaping up to be less favorable than when forecasts were prepared in December 2015. In addition, uncertainty about the future courses of the U.S. and global economies has risen.

1. **U.S.** — **November Assessment:** relatively steady growth, but at a low level; consumer spending growth has weakened slightly; presidential election has fostered uncertainty

   - ✓ ***Employment report was solid***
   - ✓ ***Labor conditions were revised higher from -2.2 to -0.1 in September and improved to 0.7 in October***

✓ ***Consumer spending has slowed from an above trend pace in the second quarter***

✓ ***Manufacturing and services PMIs and small business sentiment have been relatively stable***

- ***2016 real GDP Y/Y*** growth projections range from 2.3% to 2.5%. The FOMC's central tendency Q4/Q4 projections range from 2.3% to 2.5%. (Q4/Q4 projections are highly dependent upon potential anomalies in Q4 data; therefore, Y/Y estimates, which average all four quarters, usually are more stable estimates.) Risks are tilted to the upside because of the substantial federal tax reductions and spending increases Congress enacted at the end of 2015.

  - Based upon GDP revisions, Q2 "Final Estimate," Q3 "Advance Estimate," and Q4 forecasts, B of A and GS have reduced their estimates of 2016 year-over-year growth to 1.53% and 1.56%, respectively; my estimate is 1.56%; IMF forecast is 1.6%; the FOMC reduced it's 2016 Q4/Q4 projection range from 2.3% – 2.5% at the beginning of the year to 1.7% – 1.9% in September

  - The final real GDP estimate for Q2 was revised up to 1.4%, but would have been considerably higher without a rare decrease in inventories; Q3 was initially reported as 2.9%, but would have been much lower except for a rebound in inventories and an unusual jump in exports

- ***Real GDP output gap*** will remain high, but will close rapidly during 2016 from about 2.6% to 2.0%. (***CBO revised potential GDP assumptions in January and again in August; these revisions along with BEA's revisions to GDP data in July reduced the beginning of the year output gap from 2.6% to 1.65%; CBO's revised forecast is for the output gap to close to 1.35% during 2016. Other analysts believe the current output gap is smaller than CBO's estimate***.)

  ? OECD's U.S. output gap estimate for the end of 2016 is 1.8% and 1.2% at the end of 2017

  + My current estimate of the output gap at the end of 2016 is 1.38%, CBO's estimate is 1.34%

- ***Potential structural rate of real GDP growth*** has declined significantly in recent years. I expect potential growth to be about 1.4% in 2016. Long-term potential real GDP growth will edge up in coming years to between 1.8% and 2.1%.

  + My current estimate of potential growth in 2016 is 1.5%

  - B of A reduced its estimate of long-term potential growth to 1.7%; GS's estimate is 1.75%; JPMorgan's 1.5% long-run estimate is more pessimistic

  + CBO's updated long-term potential estimate is 1.9%; and the FOMC's central tendency range is 1.7% – 2.0%

  + My long-term potential estimate is between 1.8% and 2.1%, depending upon employment and productivity growth

- ***Productivity*** should rise during 2016 as growth improves and investment increases, but should still fall well short of the historical 2.1% average.

  - Nonfarm productivity was 0.45% in 2015; the five-year average was 0.45%; my current productivity projection for 2016 is between 0.0% and 0.1%; B of A's is 0.1%

- ***Employment*** growth should slow considerably during 2016 as full employment is reached and slow growth in the labor force becomes binding; payroll growth should average 130,000 to 165,000 per month.

- Payroll employment increased an average of 181,000 per month over the first ten months of 2016

- ***Employment participation*** will be relatively stable during 2016 as labor market conditions tighten and discouraged workers find jobs, offsetting the demographically-embedded decline stemming from retirements of baby boomers.

  + Participation was 62.80% in October compared to 62.65% last December and up from the recent low of 62.42% in September 2015

  ? GS estimates that the remaining full employment gap is about 0.4% or approximately 600,000 workers, consisting of unemployment (U3 measure of unemployment), underemployment (U6 measure of unemployment), and nonparticipation

- ***Unemployment rate*** should edge down to between 4.6% and 4.8%.

  ? Unemployment rate was 4.88% in October slightly above the long-term structural rate of 4.74%, according to CBO

  ? Based on the U-3 measure, the economy is very close to full employment

  ? U-6 unemployment rate, which adds marginally attached workers and those working part-time for economic reasons to the number unemployed but looking for work, was 9.53% in October, which is about 0.5% above the historic full-employment level

- ***Nominal consumer disposable income***, measured on a Y/Y basis should slow as employment growth slows; this will be offset partially by an increase in average hourly wage rates; growth should be in a range of 2.2% to 2.5%.

  - Disposable income growth in September was 3.6% ahead of the year earlier level due to strong employment gains during the last year; growth is projected to fall to 3.35% by the end of 2016 provided that employment growth and total hours worked slow

- ***Nominal consumer spending growth*** on the Y/Y basis will be relatively stable in a range of 3.3% to 3.5%.

  + Nominal spending growth over the past year as of September was rising at a 3.4% annual pace; I project nominal spending growth in 2016 to be approximately 3.55%

  ? Consumer sentiment measures have been relatively soft in recent months, oscillating in a narrow range: University of Michigan's index was 91.6 in November compared to 87.2 in October, 91.2 in September, 89.8 in August, 90.0 in July and 93.5 in June; it was 90.0 a year ago; the Conference Board's measure was 98.6 in October compared to 103.5 in September, 101.8 in August, 96.7 in July, 97.4 in June, 92.4 in May, 94.7 in April, and 96.2 in March; Evercore ISI's weekly company surveys index has been edging down and has fallen from 52.4 to 49.6 since March 2015, but it is up from an interim low of 47.7 in late April

- ***Household personal saving rate*** will decline slightly as growth in spending exceeds growth in disposable income.

  ? In July the Bureau of Economic Analysis revised the saving rate sharply higher for the last several years

  - The revised saving rate was 5.83% over the first nine months of 2016 compared to the revised 2015 average rate of 5.80% (prior to revision the 2015 saving rate was 5.12%) (nominal income growth has exceeded spending growth so far in 2016)

- ***Stock prices***, as measured by the S&P 500 average, should be between 5% higher or lower, reflecting the slowing growth in profits and rising short-term interest rates.

  - Stock prices are up 7.5% since the beginning of the year

- ***Manufacturing*** will continue to be weak with the PMI index just slightly above or below 50.

  + The PMI manufacturing index rose slightly in October to 51.9 compared to 51.5 in September, 49.4 in August, 52.6 in July, 53.2 in June, 51.3 in May, 50.8 in April, 51.8 in March, 49.5 in February, 48.2 in January and 48.0 in December

  + The operating rate declined to 75.3% in October, well below the 80% level that historically is indicative of tightness, and implies that capital investment spending will remain weak

  + The PMI non-manufacturing index rebounded to 57.1 in September after plunging to 51.4 in August from 55.5 in July; it was 56.5 in June, 52.9 in May, 55.7 in April, 54.5 in March 53.4 in February, 53.5 in January, and 55.8 in December; the August reading was the lowest level since February 2010, early in the recovery from the Great Recession; this decline is corroborated by the Markit service PMI, which declined to post-Great Recession low of 50.9 in August

  + The NFIB optimism index for small businesses rose slightly to 94.7 in October compared to 94.1 in September, 94.4 in August, 94.6 in July, 94.5 in June, 93.8 in May, 93.6 in April, 92.6 in March, 92.9 in February, 93.9 in January, and 95.2 in December, reflecting stable but moderate growth; however, this index remains below its recent cyclical peak of 100.3 reached in December 2014

  + GS's business conditions index fell back into contraction territory of 48.0 in October compared to 56.5 in September, 49.2 in August and 47.1 in July, 55.5 in June, 48.6 in May, 44.9 in April, 46.5 in March, 40.4 in February, 39.9 in January, and 48.6 in December; this indicator has been above 50 only twice in the last 19 months (a value of 50 indicates trend growth; thus, business conditions were below trend for 14 months until June)

- ***Business investment*** spending growth should edge down slightly and be in a range of 2.0% to 3.5% as employment and consumer spending growth slows.

  - Business investment fell at an annual rate of -0.5% over the first three quarters of 2016, reflecting in part energy investment cutbacks; however, investment in non-energy areas has fallen short of expectations

  - GS expects business investment to fall -0.3% on a year-over-year basis during 2016; B of A expects business investment to decline -0.3% in 2016

  ? An Evercore ISI's Q3 2016 survey indicated that U.S. capital spending plans have reached the lowest level since the survey began in 2010; global capital spending plans turned negative for the first time since the survey began in 2010 in Q2 but rebound to a positive, but weak, level in Q3

  ? Evercore ISI's Q3 2016 survey indicated that inventories have decreased but remain slightly above optimal levels, particularly for industrial companies

  ? Average age of U.S. government infrastructure has declined from about 18 years in the 1950s to 27 years in 2014

- ***Residential housing investment*** should remain relatively strong in a range of 6% to 8%, but should edge down a bit from 2015's level; housing starts should rise 10% to 15%.

  - Residential housing investment has fallen at an annual rate of -2.3% over the first three quarters of 2016; growth is currently expected to be 4.0% to 4.5% on a year-over-year basis in 2016

- Over the first ten months of 2016 housing starts are 5.5% above 2015's average, but 6.8% above the first ten months of 2015, which is well below the expected growth rate

- ***Residential housing prices*** should rise more slowly in 2016 in a range of 2% to 4% in 2016.

  ? B of A is forecasting housing prices to increase 3.6% in 2016 instead of 1.8% it expected at the beginning of the year, but commented that risks are in the direction of an even greater rate of increase; GS expects prices to increase 3.9%

  ? The Federal Housing Finance Agency's purchase only price index rose 5.6% over the 12-month period through June 2016

  ? The Case-Shiller national home price index was up 5.3% over the previous 12 months in August, but B of A expects this measure to decelerate to 3.8% by the end of 2016

  - CoreLogic reported that home prices were up 6.3% year over year in September; prices of sales of nondistressed homes were up 5.8%

- ***Trade deficit*** should rise in 2016 as the increase in the value of the dollar continues to depress exports and increase imports. The ***dollar's value*** on a trade-weighted basis should rise slightly. ***(Trade data were revised for the last several years in April 2016, which reduced the size of the deficit, with reductions being greater in more recent months)***

  - The trade deficit has fallen slightly over the last 12 months from 2.76% to 2.63% in September

  - Through October the trade-weighted (major currencies) value of the dollar has fallen -2.4% since December

- ***Monetary policy*** — the Federal Reserve will raise the federal funds rate two to three times during 2016 in 25 basis point increments.

  - The FOMC has yet to raise rates in 2016; at the September FOMC meeting 3 of 10 members voted to raise rates and at the November meeting there were two dissents; the FOMC signaled in its monetary policy statement that risks to the economic outlook are "roughly balanced," which markets interpreted to mean that rates will be raised 25 basis points in December; the FOMC's "dot plot" substantiates this expectation; the market's probability of a rate increase in December is 85%, but the market continues to expect a slower pace of increases than implied by the FOMC's dot plot

- ***Total inflation*** measures (CPI and CPE) will rebound sharply in 2016 as the depressing effects of 2015's collapse in oil prices passes out of the indices.

  + B of A expects CPI to rise from 0.7% in 2015 to 2.45% in 2016 and PCE to rise from 0.6% to 1.5%

- ***Core PCE inflation*** will be relatively stable in a range of 1.2% to 1.6%, reflecting global disinflationary trends offset somewhat by the closing U.S. employment and output gaps. Core PCE inflation will remain well below the FOMC's 2% objective at least through 2018 and perhaps much longer.

  - Core PCE inflation forecasts have been raised to 1.8%; FOMC's September projection range for 2016 was 1.6% – 1.8%; my 2016 forecast for core PCE inflation is 1.7%

- The ***10-year Treasury rate*** is likely to fluctuate in a range between 2.25% and 2.75% in 2016. Faster than expected real GDP and employment growth would push the rate toward the top end of the range; greater than expected declines in inflation and/or heightened financial instability would push the rate toward the bottom end of the range.

+ The 10-year rate was 2.33% on November 21, up from a low of 1.37% following the Brexit vote and reflecting the market's expectation that President Trump's policies will boost inflation and interest rates

- ***Fiscal policy*** will have a positive impact on real GDP growth during both fiscal year and calendar year 2016, raising real GDP growth by 0.4 to 0.6%. The deficit as a percentage of nominal GDP will increase substantially from fiscal year 2015's level of 2.46% to a range of 3.25% to 3.50%. Stronger than expected growth would push the deficit toward the lower end of the range.

  - With GDP revisions, the 2015 calendar year fiscal deficit was 2.62%; both growth and the deficit are rising less rapidly than forecast; the fiscal year 2016 deficit-to-GDP ratio was an estimated 3.15%, slightly better than forecast (the final ratio will change, depending on Q3 nominal GDP)

- ***State and Local investment*** spending growth should range between 1.5% and 2.0%.

  ? The Bureau of Economic Analysis revised state and local investment growth much higher in 2015 from 1.36% to 2.92%

  - State and local investment spending grew at an annual rate of 0.1% over the first three quarters of 2016, but is expected to increase 0.9% for all of 2016 on a year-over-year basis

  - Tax revenues, especially sales taxes, have been weakening for several months

2. **Rest of the World: November Assessment:** current activity, on balance, has improved slightly over the last few months from early in the year

   ✓ ***B of A/Merrill Lynch's GLOBAL cycle indicator declined in August and September but is higher than at the beginning of the year***

   ✓ ***There was deep unease at the recent IMF meetings about the longer-term effects of ultra-low/negative interest rates and weak growth in advanced economies — short-term risks are down but medium-term risks are up***

   ✓ ***The IMF has concluded that political risk in advanced economies has emerged as the biggest threat to the health of the global economy***

   ✓ ***At the October meetings of the IMF in Washington, DC there was "deep unease" about the long-term effects of lackluster growth and ultra-low interest rates***

   ✓ ***WTO reduced its forecast growth in global trade in 2016 to 1.7% from 2.8%***

   - ***Global growth*** is likely to improve to 3.4% in 2016 from 3.1% in 2015. Risks are tilted to the downside.

     - Global 2016 growth forecast has declined to 3.0% (IMF forecast is 3.1%); growth is expected to rise to 3.5% (IMF 3.4%) in 2017

     ? The global manufacturing index has stabilized at a moderate growth level of 51.7 in October compared to 51.1 in September and 51.6 in August; a level of 51.7, if this level is maintained for several months, implies global growth of 3.7%

     ? The global services index was 52.9 in October compared to 52.8 in September

     - The OECD leading indicator declined to its lowest level since the Great Recession early in 2016 but improved slightly since June

- ***European growth*** will be positive but will likely fall short of the consensus 1.7% as the benefits of 2015's fall in the value of the euro wane and social and political disruptions occur.

  - European growth forecast has declined to 1.5% in 2016, (IMF forecast is 1.6%); growth is expected to decline to 1.1% in 2017

- ***European inflation*** will rise from 2015's 0.1% but will probably fall short of the expected 0.9%.

  - Final 2015 European inflation was 0.0%; 2016 forecast is 0.2% and 2017 forecast is 1.1%; currently, core inflation is 0.9%

  - The ECB is slowly losing its battle to push inflation to 2.0% as reflected in market long-term inflation expectations, which have declined below 1.5%

- ***European financial markets*** should be relatively stable with periodic episodes of volatility prompted by specific events.

  - European stock markets declined broadly in early 2016; bank stocks plunged 45% during the first half of 2016 to a level not experienced in 30 years; however, stock prices rallied vigorously in March as panic subsided and the ECB ramped up monetary easing; nonetheless, bank stocks continue to underperform and underperformance worsened after the Brexit vote, a worrying development

- ***European political dysfunction, populism and nationalism*** will continue to worsen gradually. Countries to watch closely include Greece, Spain, Italy and Portugal.

  + Political fragmentation is worsening slowly; the immigration crisis is hollowing out centrist political parties

  + Spain's new election was inconclusive but since no party wishes to endure a third election, a weak minority government is likely, but it may have a short tenure

  + Italy's banking crisis is simmering and has the potential to spin out of control; Italy's constitutional referendum is scheduled for December 4 and appears headed for defeat, which could destabilize Italy's government

  + Greece's third bailout is increasingly in jeopardy of failing; however, Greece's parliament has enacted spending cuts and tax increases necessary to meet the requirements for disbursal of funds under the current bailout agreement; eventually debt relief will be necessary according to the IMF — creditors have promised to consider that possibility in 2018 after the French and German elections

- ***U.K. growth*** is expected to remain a solid 2.5% in 2016 compared to 2.4% in 2015; some risk to this outlook could evolve from the proposed referendum for the U.K. to leave the European Union.

  - In the aftermath of the Brexit "Leave" vote, U.K. growth forecast has been reduced to 2.0% in 2016 and 0.9% in 2017 (IMF forecast is 1.8% in 2016 and 1.1% in 2017)

  - U.K. consumer confidence plunged following the Brexit "Leave" vote but has recovered; the negative consequences of Brexit will unfold gradually over the next several years

- ***China's GDP growth*** will slow below 6.5% and could be as low as 6.0% by the end of 2016 as economic reforms are implemented and the shift to a consumer-focused economy gathers momentum.

- China reported year-over-year real GDP growth of 6.7% through the third quarter of 2016 and is unlikely to slow below 6.5% in 2016

? China's 2017 GDP growth is forecast to be 6.6% (IMF forecast is 6.6% in 2016 and 6.2% in 2017)

? The difference between reported results and forecasts is that policy makers have deliberately taken actions to boost housing construction and public investment, which has resulted in a short-term boost to the economy; however, this force-feeding of economic growth could worsen future economic performance as debt leverage continues to grow faster than economic output

- ***China's leadership*** will continue to be slow in implementing ***economic reforms*** but financial and political stability will be maintained.

  + President Xi's anticorruption campaign and centralization of power is smothering the consensus governance approach in place for the last 30 years and may be creating latent political instability

  ? China's mid-term plenum was held in late October; President Xi was declared "the core of the party," a title that previously has been given only to Mao Zedong, Deng Xiaoping, and Jiang Zemin

- ***Japan***'s economic policies will continue to fall short of achieving the 2.0% inflation target; inflation is expected to rise from 0.5% in 2015 to 1.0% in 2016. GDP growth will also continue to fall short of the policy target, but should rise from 0.7% in 2015 to 1.2% in 2016. Population decline and slow implementation of market reforms will continue to weigh heavily on both growth and inflation.

  - Japan's economy grew 0.6% in 2015; the 2016 growth forecast has been revised down to 0.6% (IMF July forecast is 0.3%); growth is expected to be 0.9% in 2017

  - Japanese markets responded very negatively to the Bank of Japan's imposition of negative interest rates early in 2016; the yen has strengthened against the dollar by 14% since the beginning of the year

  - Inflation is now expected to be -0.2% in 2016 and 1.0% in 2017, well below the Bank of Japan's 2.0% target

  - Evidence is increasing that Abenomics is failing: only 36% of businesses surveyed by Evercore ISI in the second quarter expect conditions to improve compared to 83% in the first quarter; the yen continues to strengthen, which will depress profits, thus only 36% expect to increase prices compared to 58% in the first quarter

  - There is increasing skepticism that the Bank of Japan can do much more to boost inflation and economic growth

  - Abe's political position was strengthened by the outcome of the elections in the Upper House

  - A substantial fiscal stimulus program has been announced, which includes significant infrastructure spending and Kyushu earthquake recovery spending; though there was talk about helicopter money, the Bank of Japan is legally prohibited from outright "printing" of money and has taken few additional monetary policy easing steps

- ***India*** should continue to experience relatively strong real GDP growth in a range of to 6.0% to 7.0% in 2016.

  + GDP growth is expected to be 7.7% in 2016 and 8.3% in 2017; IMF is forecasting 7.6%

- ***Emerging market countries*** should experience better growth in 2016 than in 2015 when falling prices for commodities depressed economic activity in many countries.

  - Declines in the prices of commodities and capital outflows depressed growth in most emerging market economies in 2016; however, easier U.S. monetary policy and rebounding prices of commodities averted a potential meltdown

  - 2016 GDP forecast has been revised downward from 4.3% to 4.0% and is 2.7% if China is omitted

- ***Brazil, Russia, and Venezuela*** will continue to struggle the consequences of the steep decline in the prices of commodities and particularly in the price of oil.

  + Economic and political conditions continue to deteriorate in all three countries; escalation of political tensions and the potential for social disruption is greatest in Venezuela; political stability may be re-emerging in Brazil with the impeachment and removal of President Dilma Rousseff

  + Russia's 2016 GDP forecast has been revised from -1.0% to -0.5%

  + Brazil's 2016 GDP forecast is -3.5%

3. **Risks** — stated in the negative relative to the forecast (+ risk realized; - risk not realized).

- ***U.S. potential real GDP growth*** falls short or exceeds expectations; falling short is the more serious risk

  + Forecasts of actual 2016 growth have been reduced; lower than expected productivity, if sustained, will depress potential growth

- ***U.S. employment growth*** is slower or faster than expected; slower growth is the more serious risk

  - Employment growth over the first ten months of 2016 has been slightly above the upper end of the expected range

- ***Employment participation rate*** rises rather than remaining stable or falling modestly

  + The participation rate has edged up slightly

- ***U.S. hourly wage rate growth*** falls from its 2015 level of 2.2% or rises much more rapidly than expected; falling wage growth is the more serious risk

  - Risk not realized — growth in average hourly wages of all employees has risen from 2.30% in December to 2.55% in October (12-month moving average); however, the rate of increase in weekly average wages has fallen from 2.42% in December to 2.19% in October as the length of the workweek has decreased; other measures of wages indicate a slight acceleration in the growth rate

- ***U.S. Unemployment rate*** falls less than expected

  - Risk not realized, unemployment rate is slightly above the year-end expected range

- ***U.S. productivity*** remains below 1%

  + Productivity rose at a rate of 0.75% in the first three quarters of 2016 but has fallen -0.05% over the last four quarters; little improvement over the remainder of 2016 seems likely

- ***Real U.S. consumer income and spending*** increase less or more than expected; less than expected increases are the more serious risks

+ Income is rising faster than forecast and spending is rising about as expected

- ***U.S. stock prices*** fall more than or rise more than the expected range of -5% to +5%

  + Risk realized; stock prices are up 7.5% year to date

- ***Growth in U.S. residential housing investment and housing starts*** are less than or more than expected; below expectations is the more serious risk

  + Housing investment growth is slightly below the expected range

  + Housing starts are rising much more slowly than expected

- ***U.S. residential housing price increases*** are less than expected

  - Risk not realized; prices are rising faster than expected, although the rate of increase is expected to slow during the remainder of the year

- ***U.S. private business investment*** does not improve as much as or more than expected; falling short of expectations is the more serious risk

  + Business investment declined during the first three quarters of 2016 and is expected to be negative for the entire year

- ***Oil price declines*** that occurred in 2015 trigger bankruptcies and cause tighter financial conditions with negative implications for economic activity and growth

  - Early in the year it appeared that this risk might be realized; however, the rebound in the price of oil has prevented realization of serious problems

- ***U.S. manufacturing growth*** contracts or expands more than expected; contraction is the more serious risk

  - Risk not realized

- ***U.S. trade deficit*** does not widen as expected

  + Deficit has declined slightly

- ***Value of the dollar*** rises substantially

  - Risk not realized; value of the dollar is about the same as it was in December, but has been rising since Trump's election

- ***U.S. monetary policy*** spawns financial market uncertainty and contributes to financial instability

  - Risk was realized briefly at the beginning of the year but has abated due to easy monetary policy; financial conditions tightened only modestly and temporarily following Brexit and have eased considerably since early in the year; however, financial conditions have tightened a little in the aftermath of Donald Trump's election

- ***U.S. inflation*** decelerates, rather than remaining stable or rising as expected

  - Risk not realized; inflation is rising a bit more rapidly than expected

- ***U.S. interest rates*** fall *or* rise more than expected

  - Risk not realized; rates after falling sharply earlier in the year have returned to about the same level they were at the beginning of the year

- ***U.S. fiscal policy*** is more expansionary than expected

  - Risk not realized — increase in spending about as expected

- ***Federal budget deficit*** increases more than expected

  - Risk not realizeddeficit was slightly below the expected range

- ***U.S. state and local spending*** does not rise as fast as expected

  + Spending expected to increase below the bottom end of the forecast range

- ***Global GDP growth*** does not rise as fast as expected

  + Risk realized

- ***European growth*** is considerably less than expected

  + Risk realized — modest reduction in forecast growth

- ***ECB***'s quantitative easing program is not successful in raising inflation and stimulating the European economy

  + Risk realized — inflation forecast is 0.2% for 2016; IMF estimates a 35% probability that Europe is headed to deflation over the longer run

- ***Europe*** — financial market turmoil reemerges

  - Risk realized temporarily early in the year; ECB's monetary policy has been successful in maintaining financial market stability; bank stocks have performed poorly relative to other industries, reflecting continuing investor concerns about profitability and problem loans; however, bank stock prices have rallied more recently based on speculation that the ECB will moderate its quantitative easing policy in 2017; markets appear to have taken the Brexit "Leave" vote in stride

- ***Europe*** — political instability and social unrest rises more than expected threatening survival of the Eurozone and the European Union

  + Risk realized — euro skeptic parties continue to gain ground and are forcing centrist parties to take policy positions that feed centrifugal forces eating away at the cohesion of the European Union; Donald Trump's election has increased this risk

- ***Chinese*** leaders have difficulty implementing ***economic reforms***

  + Risk realized — reforms have been delayed in favor of economic stimulus implemented primarily through debt leverage via state-owned banks and the municipal bond market

- ***China's growth*** slows more than expected

  - Risk not realized — policy makers are pulling out all the stops to hit the target growth rate; this will eventually backfire, but not during 2016

- ***Japan*** — Abenomics and monetary policy are unsuccessful in raising inflation to the 2 percent target and economic growth continues to be below expectations

  + Risk realized — yen has strengthened, profits are eroding, wage increases are being scaled back; a new major fiscal stimulus initiative has been announced

- ***New Risk*** — ***Political risk is building in Russia as Putin's mandate frays***

- Severe and, of course, unexpected ***natural disasters*** occur, which negatively impact global growth

  ? Consequences of Japan's Kyushu earthquake appears to have been confined to Japan

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