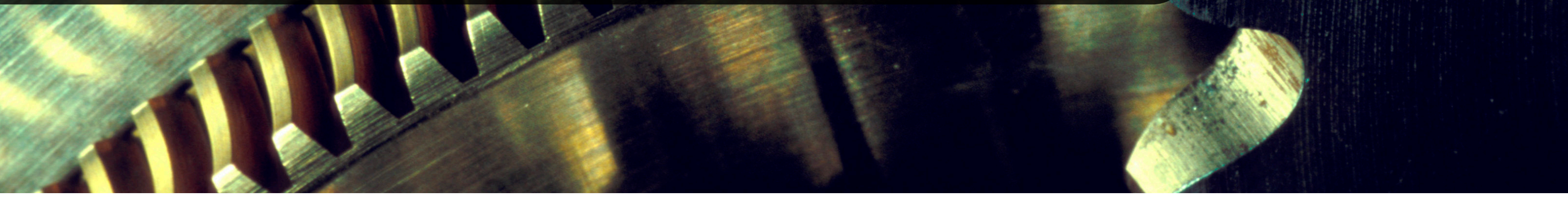
Private Bank

OUTLOOK 2015: MID-YEAR UPDATE

Slow Growth: What It Means for Returns



Steven Wieting

Slowing world population growth and sluggish trade trends point to sustained low interest rates and modest equity returns over the long run. Such conditions call for greater selectivity in investments.

A debate is raging among economists over what's been termed "secular stagnation." Just why is growth so slow when so much has been done to revive it or has enough actually been done? As a case study in policy impact, continental Europe was far slower to ease monetary policy than the U.S. or the U.K., and there's been a notable difference in immediate growth outcomes (we are referring to growth that can be explained by cyclical rather than structural factors – **figures 1-2.**)

But even in the U.S. and U.K., the pace of economic recovery has still trailed behind recoveries of the past, particularly when factoring in the scope of the economic contraction in 2008-09.

In emerging market (EM) economies, far less scathed by the financial crisis, growth has fared better, but has still disappointed expectations as anyone who can recall the impressive expansion of Brazil, Russia, India and China in the five years to 2007 would attest.

EM growth measures are dominated by China, which is slowing down its rate of capital investment, a key ingredient of future growth. Away from China, a slower pace of global integration – as measured by cross-border trade flows – seems to be holding back the pace of economic growth. Dependence on slower-growing developed markets is part of this.

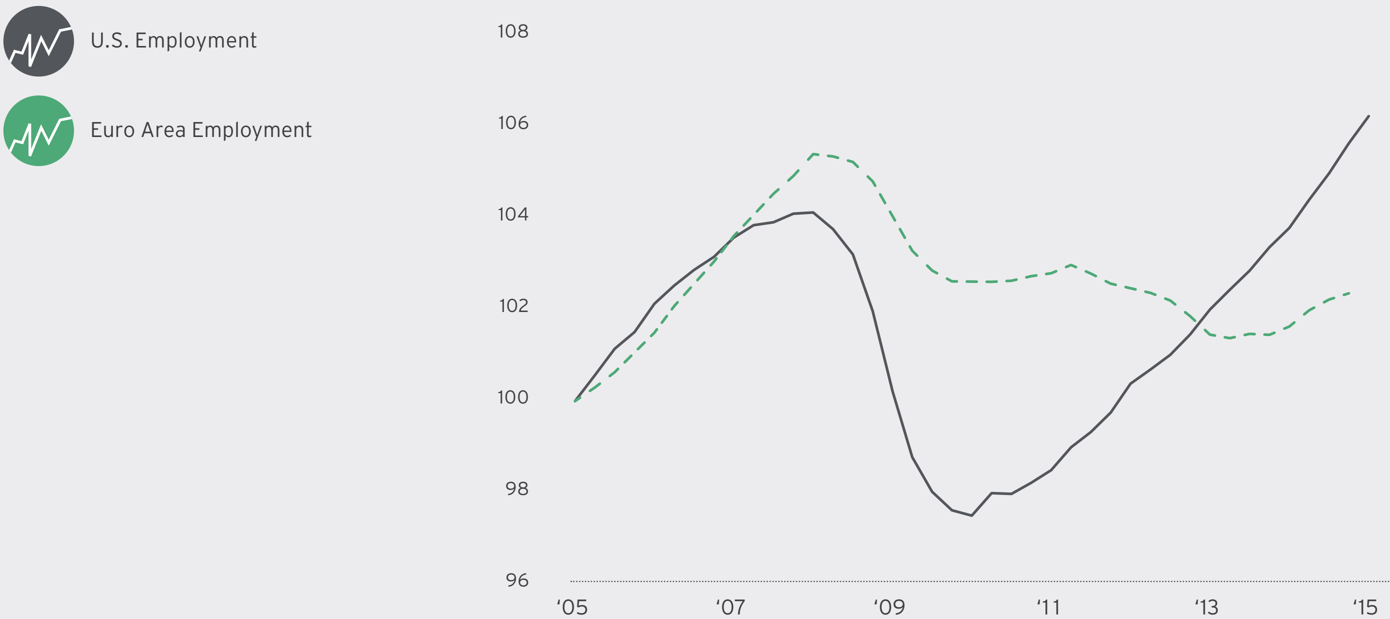
Through extensive historical research, Economists Carmen Reinhart and Kenneth Rogoff showed that financial crises cause severe and longer-lasting periods of economic weakness. Yet the full brunt of the financial crisis was felt more than six years ago, and the world is still suffering from slow growth. The banking crisis doesn't explain it all.

U.S. Cyclical vs Structural Recovery

In the past, we've studied so-called "hysteresis" effects on labor markets. The notion is that long spells of unemployment make it more difficult for some workers ever to regain full employment as their skills become obsolete and they lose critical contacts in their industry. This would suggest a higher period of trend unemployment, and a higher inflation rate at any given level of unemployment.

It seems this hysteresis effect is having some impact upon growth but it is far from the whole explanation for the slow recovery. To the extent that it is impacting labor markets in the U.S., this is by way of reduced participation rather than weak hiring. It is therefore lowering the unemployment rate rather than keeping it high. Meanwhile, the U.S. Federal Reserve, through its

Figure 1. Labor Demand Diverges

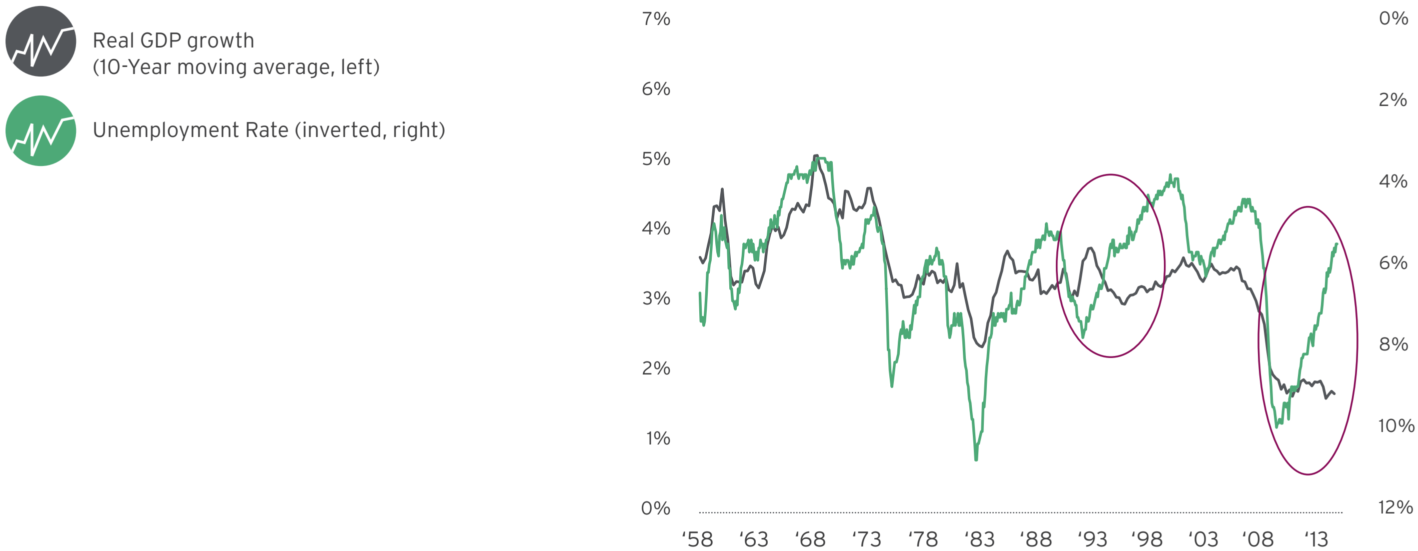


Sources: BLS, ECB, and Citi Private Bank as of 1Q 2015. Note: Data are indexed (1Q 2005=100). Note: Data indexing is a way to make comparisons of different time series by setting them equal at a common starting point and then examining their divergence over time. Indexed data allows an observer to quickly compare rates of growth for variables with different starting levels.

Figure 2. Labor Supply Doesn’t

Sources: BLS, ECB, and Citi Private Bank as of 1Q 2015. Note: Data are indexed (1Q 2005=100). Note: Data indexing is a way to make comparisons of different time series by setting them equal at a common starting point and then examining their divergence over time. Indexed data allows an observer to quickly compare rates of growth for variables with different starting levels.

Figure 3. Rebounding Employment, Crawling Growth



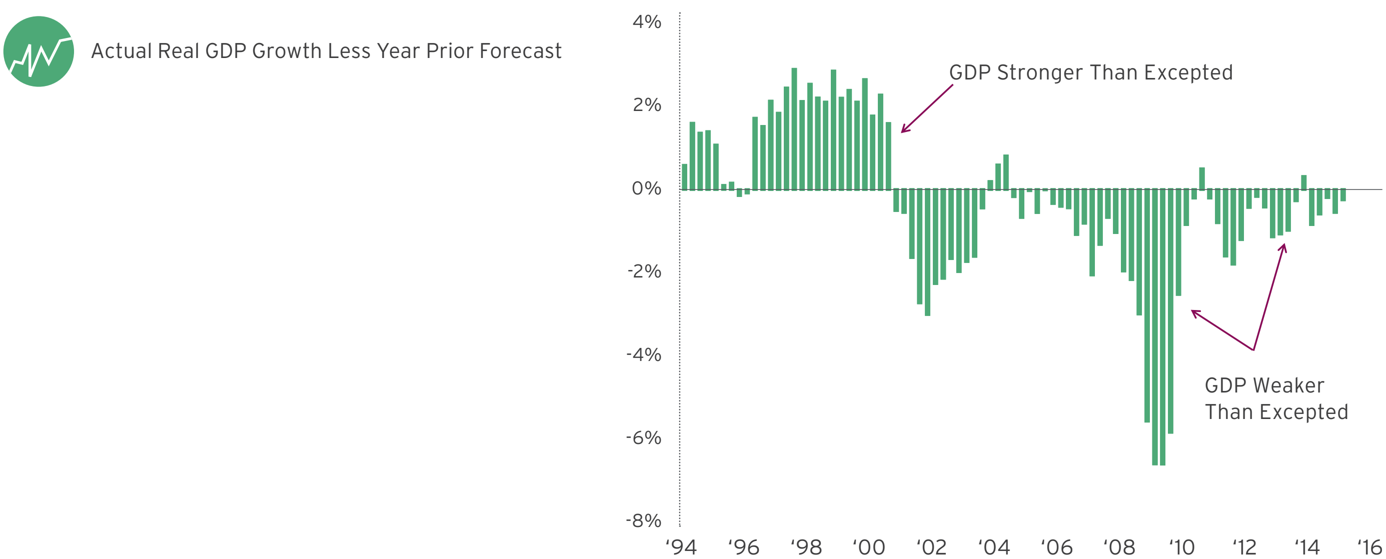
Source: Bureau of Economic Analysis, Bureau of Labor Statistics, Citi Private Bank through 1Q 2015

actions, appears to be actively betting on a labor-supply recovery once labor markets tighten sharply.

This is where our concerns lie. Unlike the pace of GDP growth, there has been nothing slow about the tightening of U.S. labor markets. Unemployment has fallen from 10% to 5.4% with the rate of improvement just as fast as during recovery periods in which economic growth was rapid – **figure 3**.

Whether temporary or more permanent, the message is clear: the trend pace of U.S. economic growth - the rate that balances growth in labor demand and supply - has been effectively very slow. In a complete reversal of the pattern of the 1990s expansion, U.S. economic forecasts in recent years have been routinely revised down rather than up - **figure 4**.

Figure 4. The Age of Disappointment



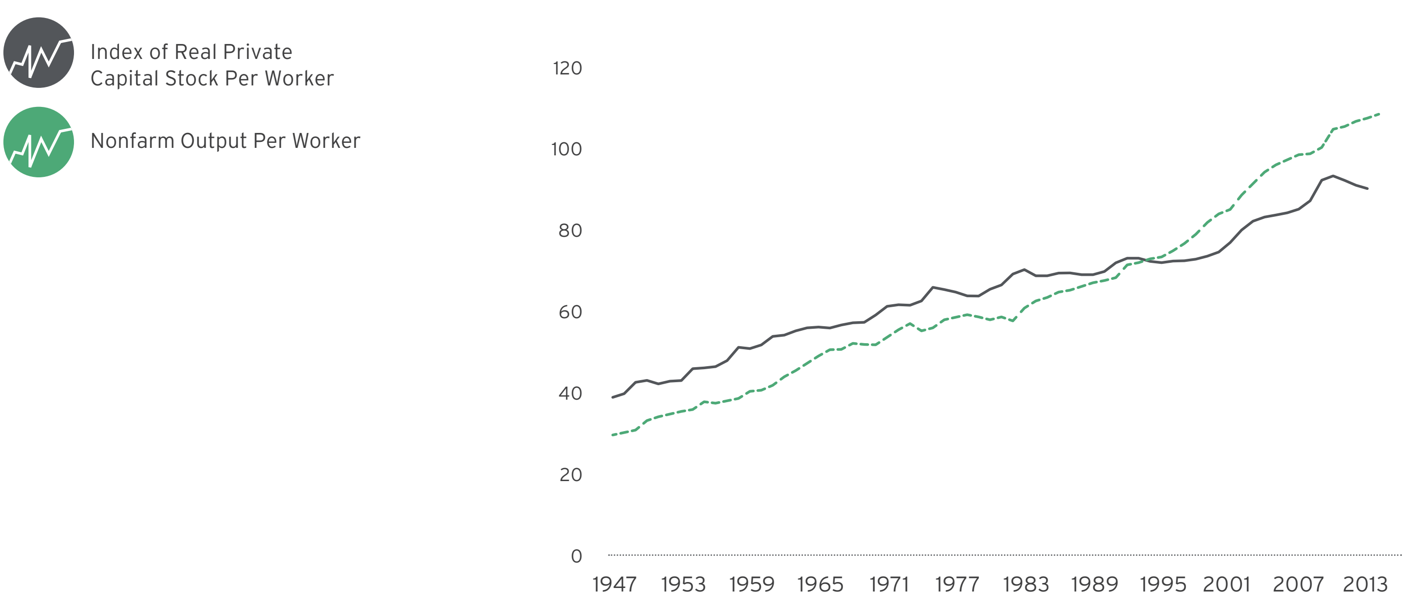
Source: Bureau of Economic Analysis, Federal Reserve Bank of Philadelphia, Citi Private Bank through 1Q 2015

Figure 5. Job Vacancies Jump, Workforce Creeps Up

Source: Bureau of Labor Statistics, as of Apr 2015

The surprisingly slow growth rate of the U.S. labor force has been driven by prime-aged workers. It pre-dates a demographic-led slowdown that is still expected. It has also so far responded little to a record high level of unfilled job openings – **figure 5**. Combined with a moderate rate of investment in business capital – **figure 6** - the sources of potential economic growth in the U.S. have been slow and not clearly due to any lack of demand. In fact, while previous worker productivity gains were strong and these gains accrued to corporate profits, the current modest pace of wage growth seems to largely match what would be expected from an economy with a slow growth trend.

Figure 6. Slow Pace of Investment in Human Capital



Source: Bureau of Economic Analysis, annual data as of 2014.

Is it "Financial Repression" When Growth is So Slow?

As noted, a demographic slowdown in labor-force growth in the U.S. is on the way. But in fact, this trend is highly global – **figure 7**. Among other things, this means that the interest rate one would expect to balance global demand and supply will be lower than in periods of more rapid potential economic growth.

In a report we once titled *Learn to Love Work*[i] we anticipated that this slowdown in populations historically deemed "working age" - coupled with heightened longevity - would produce a feedback effect on financial market returns. The impact would induce later retirement ages, perhaps as a result of both policy measures and individual choice. Reduced interest income would likely be a part of that financial feedback effect. In addition, what is sometimes called "financial repression" by central banks - keeping cash interest rates at historically low levels - may persist for reasons that are justified and long-lasting.

Notably, interest rates in markets including the U.S., Germany, and a few other countries, appear unusually low even accounting for slower potential economic growth rates. This provides an ongoing incentive for investors to reallocate to higher-risk, income-producing assets like equities.

So what are the risks to such a portfolio shift? Savers and investors currently accept a negative return after inflation on most low-risk bank deposits. In many markets, they accept yields near that level for high duration government bonds. Amid such high fixed-income valuations, why would valuations not be high in equity markets, with future returns correspondingly low?

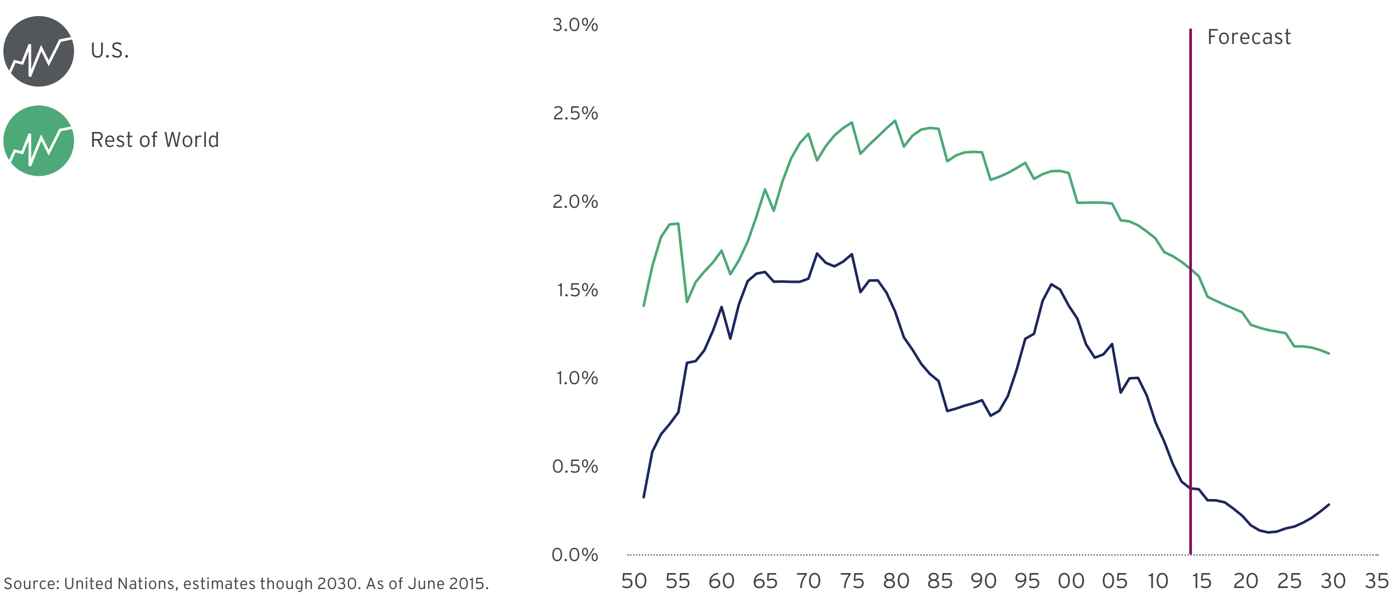
Blessed With Low Expectations

The expectation of low returns does indeed appear to be embedded in stock and bond prices. As **figure 8** shows, the real yield on long-term U.S. Treasuries is a meagre 0.4% annually for 10 years. This is directly observable in the inflation-linked bond market (TIPS) yield. Despite having no calculations in common, our arithmetic estimate of the long-term real corporate earnings growth rate implied in the S&P 500's price closely matches this level, both currently and throughout history.

What does this mean? Growth expectations in the U.S. and global stock market are not high at all if one accepts that nominal long-term returns are going to be around 6% per annum in U.S. dollar returns, consistent with low bond yields.

If, however, markets are confused about the message of low bond yields, and assume that all of the historic return in equities can be achieved and that bond yields are simply a complete mispricing of a growth rate that will be as strong as in the past, then valuation issues would abound. Discarding the notion that bond markets are completely wrong, capitalizing equity cash flows at an interest rate that is one percentage point higher in yield without commensurately faster economic growth, the negative impact on equity values is 25%. As noted, we believe low return expectations abound, and investors are not simply

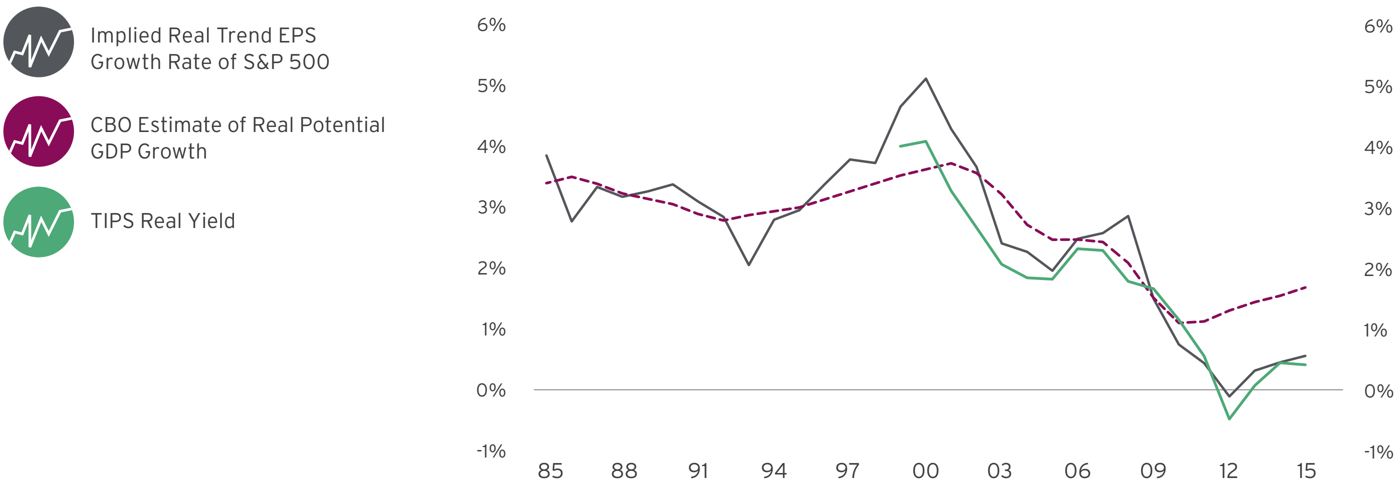
Figure 7. Working Age Population Growth



Source: United Nations, estimates though 2030. As of June 2015.

All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Figure 8. Bonds and equities both pricing in slow economic growth



Source; Citi Private Bank, Federal Reserve Board, Congressional Budget Office, Standard & Poor's, Moody's through May 2015.
The Standard & Poor's 500 Index is a capitalization-weighted index that includes a representative sample of 500 leading companies in leading industries of the U.S. economy. Although the S&P 500 focuses on the large cap segment of the market, with over 80% coverage of U.S. equities, it is also an ideal proxy for the total market.

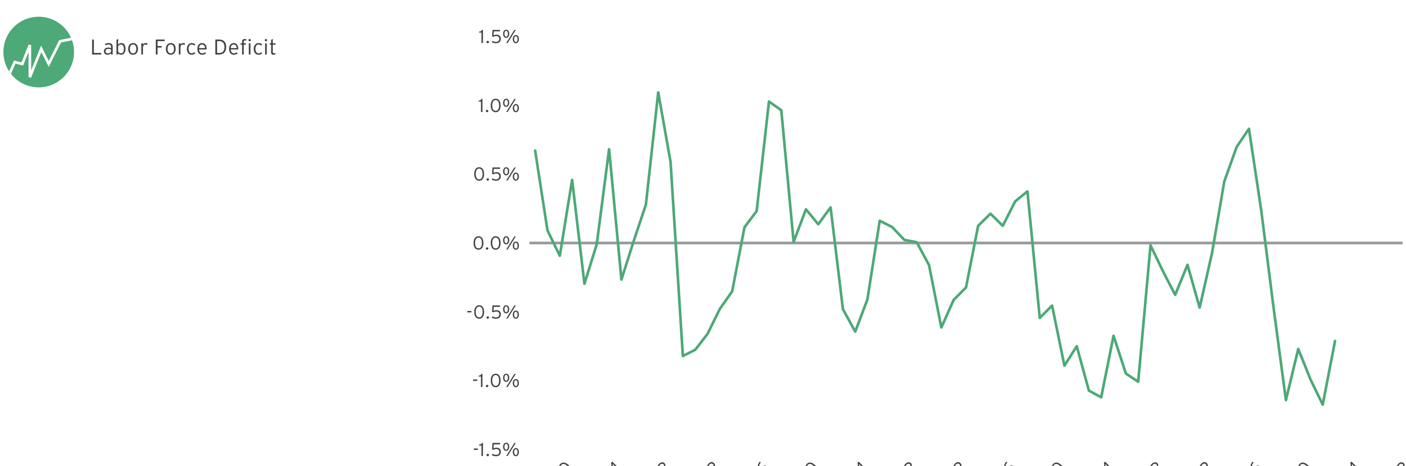
confused in their return outlook. Further study of this issue, however, seems worthwhile.

Finally, the case for longer-term growth is far from shut. Emerging markets are not homogenous or entirely dependent on growth in developed economies. In the U.S. and other developed markets, policies that can incentivize economic growth potential can be devised[ii]. Giving up hope is particularly un-American. And as **figure 9** shows, the U.S. has recovered before from surprisingly weak growth, even when the sources aren't merely cyclical.

At the same time, the somber evidence hinting at persistent slow growth suggests greater discrimination in investments will be needed ahead. As interest rates and other return opportunities have fallen, there's reason to fear that investors will extrapolate a mere business cycle recovery too far when structural growth limitations will eventually limit it. We believe sorting out the truly enduring growth opportunities will be particularly important in the years ahead (please see *Seek Alpha with Secular Growth.*)

i Authors: Steven Wieting, Shawn Snyder, August 30, 2010, Citi Global Markets.
ii See for example, Citi GPS, *Women in the Economy: Global Growth Generators*, April 30, 2015.

Figure 9. Weaker-Than-Expected Growth Is Not Impossible to Reverse



Source: Congressional Budget Office, as of 9 Jun 2015

In any instance where distribution of this communication ("Communication") is subject to the rules of the US Commodity Futures Trading Commission ("CFTC"), this communication constitutes an invitation to consider entering into a derivatives transaction under US CFTC Regulations §§ 1.71 and 23.605, where applicable, but is not a binding offer to buy/sell any financial instrument.

This Communication is prepared by Citi Private Bank ("CPB"), a business of Citigroup Inc. ("Citigroup"), which provides its clients access to a broad array of products and services available through Citigroup, its bank and non-bank affiliates worldwide (collectively, "Citi"). Not all products and services are provided by all affiliates, or are available at all locations.

CPB personnel are not research analysts, and the information in this Communication is not intended to constitute "research", as that term is defined by applicable regulations. Unless otherwise indicated, any reference to a research report or research recommendation is not intended to represent the whole report and is not in itself considered a recommendation or research report.

This Communication is provided for information and discussion purposes only, at the recipient's request. The recipient should notify CPB immediately should it at any time wish to cease being provided with such information. Unless otherwise indicated, (i) it does not constitute an offer or recommendation to purchase or sell any security, financial instrument or other product or service, or to attract any funding or deposits, and (ii) it does not constitute a solicitation if it is not subject to the rules of the CFTC (but see discussion above regarding communication subject to CFTC rules) and (iii) it is not intended as an official confirmation of any transaction.

Unless otherwise expressly indicated, this Communication does not take into account the investment objectives, risk profile or financial situation of any particular person and as such, investments mentioned in this document may not be suitable for all investors. Citi is not acting as an investment or other advisor, fiduciary or agent. The information contained herein is not intended to be an exhaustive discussion of the strategies or concepts mentioned herein or tax or legal advice. Recipients of this Communication should obtain advice based on their own individual circumstances from their own tax, financial, legal and other advisors about the risks and merits of any transaction before making an investment decision, and only make such decisions on the basis of their own objectives, experience, risk profile and resources.

The information contained in this Communication is based on generally available information and, although obtained from sources believed by Citi to be reliable, its accuracy and completeness cannot be assured, and such information may be incomplete or condensed. Any assumptions or information contained in this Communication constitute a judgment only as of the date of this document or on any specified dates and is subject to change without notice. Insofar as this Communication may contain historical and forward looking information, **past performance is neither a guarantee nor an indication of future results**, and future results may not meet expectations due to a variety of economic, market and other factors. Further, any projections of potential risk or return are illustrative and should not be taken as limitations of the maximum possible loss or gain. Any prices, values or estimates provided in this Communication (other than those that are identified as being historical) are indicative only, may change without notice and do not represent firm quotes as to either price or size, nor reflect the value Citi may assign a security in its inventory. Forward looking information does not indicate a level at which Citi is prepared to do a trade and may not account for all relevant assumptions and future conditions. Actual conditions may vary substantially from estimates which could have a negative impact on the value of an instrument.

Views, opinions and estimates expressed herein may differ from the opinions expressed by other Citi businesses or affiliates, and are not intended to be a forecast of future events, a guarantee of future results, or investment advice, and are subject to change without notice based on market and other conditions. Citi is under no duty to update this document and accepts no liability for any loss (whether direct, indirect or consequential) that may arise from any use of the information contained in or derived from this Communication.

Investments in financial instruments or other products carry significant risk, including the possible loss of the principal amount invested. Financial instruments or other products denominated in a foreign currency are subject to exchange rate fluctuations, which may have an adverse effect on the price or value of an investment in such products. This Communication does not purport to identify all risks or material considerations which may be associated with entering into any transaction.

Structured products can be highly illiquid and are not suitable for all investors. Additional information can be found in the disclosure documents of the issuer for each respective structured product described herein. Investing in structured products is intended only for experienced and sophisticated investors who are willing and able to bear the high economic risks of such an investment. Investors should carefully review and consider potential risks before investing.

OTC derivative transactions involve risk and are not suitable for all investors. Investment products are not insured, carry no bank or government guarantee and may lose value. Before entering into these transactions, you should: (i) ensure that you have obtained and considered relevant information from independent reliable sources concerning the financial, economic and political conditions of the relevant markets; (ii) determine that you have the necessary knowledge, sophistication and experience in financial, business and investment matters to be able to evaluate the risks involved, and that you are financially able to bear such risks; and (iii) determine, having considered the foregoing points, that capital markets transactions are suitable and appropriate for your financial, tax, business and investment objectives.This material may mention options regulated by the US Securities and Exchange Commission. Before buying or selling options you should obtain and review the current version of the Options Clearing Corporation booklet, Characteristics and Risks of Standardized Options. A copy of the booklet can be obtained upon request from Citigroup Global Markets Inc., 390 Greenwich Street, 3rd Floor, New York, NY 10013 or by clicking the following links,

http://www.theocc.com/components/docs/riskstoc.pdf

http://www.theocc.com/components/docs/about/publications/november_2012_supplement.pdf

If you buy options, the maximum loss is the premium. If you sell put options, the risk is the entire notional below the strike. If you sell call options, the risk is unlimited. The actual profit or loss from any trade will depend on the price at which the trades are executed. The prices used herein are historical and may not be available when you order is entered. Commissions and other transaction costs are not considered in these examples. Option trades in general and these trades in particular may not be appropriate for every investor. Unless noted otherwise, the source of all graphs and tables in this report is Citi. Because of the importance of tax considerations to all option transactions, the investor considering options should consult with his/her tax advisor as to how their tax situation is affected by the outcome of contemplated options transactions.

None of the financial instruments or other products mentioned in this Communication (unless expressly stated otherwise) is (i) insured by the Federal Deposit Insurance Corporation or any other governmental authority, or (ii) deposits or other obligations of, or guaranteed by, Citi or any other insured depository institution.

Citi often acts as an issuer of financial instruments and other products, acts as a market maker and trades as principal in many different financial instruments and other products, and can be expected to perform or seek to perform investment banking and other services for the issuer of such financial instruments or other products. The author of this Communication may have discussed the information contained therein with others within or outside Citi, and the author and/or such other Citi personnel may have already acted on the basis of this information (including by trading for Citi's proprietary accounts or communicating the information contained herein to other customers of Citi). Citi, Citi's personnel (including those with whom the author may have consulted in the preparation of this communication), and other customers of Citi may be long or short the financial instruments or other products referred to in this Communication, may have acquired such positions at prices and market conditions that are no longer available, and may have interests different from or adverse to your interests.

IRS Circular 230 Disclosure: Citi and its employees are not in the business of providing, and do not provide, tax or legal advice to any taxpayer outside Citi. Any statement in this Communication regarding tax matters is not intended or written to be used, and cannot be used or relied upon, by any taxpayer for the purpose of avoiding tax penalties. Any such taxpayer should seek advice based on the taxpayer's particular circumstances from an independent tax advisor.

Neither Citi nor any of its affiliates can accept responsibility for the tax treatment of any investment product, whether or not the investment is purchased by a trust or company administered by an affiliate of Citi. Citi assumes that, before making any commitment to invest, the investor and (where applicable, its beneficial owners) have taken whatever tax, legal or other advice the investor/beneficial owners consider necessary and have arranged to account for any tax lawfully due on the income or gains arising from any investment product provided by Citi.

This Communication is for the sole and exclusive use of the intended recipients, and may contain information proprietary to Citi which may not be reproduced or circulated in whole or in part without Citi's prior consent. The manner of circulation and distribution may be restricted by law or regulation in certain countries. Persons who come into possession of this document are required to inform themselves of, and to observe such restrictions. Citi accepts no liability whatsoever for the actions of third parties in this respect. Any unauthorized use, duplication, or disclosure of this document is prohibited by law and may result in prosecution.

In Hong Kong, this document is issued by CPB operating through Citibank, N.A., Hong Kong branch, which is regulated by the Hong Kong Monetary Authority. Any questions in connection with the contents in this document should be directed to registered or licensed representatives of the aforementioned entity.

In Singapore, this document is issued by CPB operating through Citibank, N.A., Singapore branch, which is regulated by the Monetary Authority of Singapore. Any questions in connection with the contents in this document should be directed to registered or licensed representatives of the aforementioned entity.

Citibank N.A., London Branch (registered branch number BR001018), Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB, is authorised and regulated by the Office of the Comptroller of the Currency (USA) and authorised by the Prudential Regulation Authority. Subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request. The contact number for Citibank N.A., London Branch is +44 (0)20 7508 8000.

Citibank International Limited (registered number 1088249), Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB, is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. The contact number for Citibank International limited is +44 (0)20 7508 8000.

In Jersey, this document is communicated by Citibank N.A., Jersey Branch which has its registered address at PO Box 104, 38 Esplanade, St Helier, Jersey JE4 8QB. Citibank N.A., Jersey Branch is regulated by the Jersey Financial Services Commission. Citibank N.A. Jersey Branch is a participant in the Jersey Bank Depositors Compensation Scheme. The Scheme offers protection for eligible deposits of up to £50,000. The maximum total amount of compensation is capped at £100,000,000 in any 5 year period. Full details of the Scheme and banking groups covered are available on the States of Jersey website www.gov.je/dcs, or on request.

In the United Arab Emirates and Bahrain Citi Private Bank operates as part of Citibank, N.A.

In South Africa, Financial Service Provider, FSP 30513.

In Canada, Citi Private Bank is a division of Citibank Canada, a Schedule II Canadian chartered bank. Certain investment products are made available through Citibank Canada Investment Funds Limited ("CCIFL"), a wholly owned subsidiary of Citibank Canada. Investment Products are subject to investment risk, including possible loss of principal amount invested. Investment Products are not insured by the CDIC, FDIC or depository insurance regime of any jurisdiction and are not guaranteed by Citigroup or any affiliate thereof.

The information set out herein may be subject to updating, completion, revision, verification and amendment and such information may change materially.

Citigroup, its affiliates and any of the officers, directors, employees, representatives or agents shall not be held liable for any direct, indirect, incidental, special, or consequential damages, including loss of profits, arising out of the use of information contained herein, including through errors whether caused by negligence or otherwise.

CCIFL is not currently a member, and does not intend to become a member of the Mutual Fund Dealers Association of Canada ("MFDA"); consequently, clients of CCIFL will not have available to them investor protection benefits that would otherwise derive from membership of CCIFL in the MFDA, including coverage under any investor protection plan for clients of members of the MFDA.

Citi Private Bank is a business of Citigroup Inc. ("Citigroup"), which provides its clients access to a broad array of products and services available through bank and non-bank affiliates of Citigroup. Not all products and services are provided by all affiliates or are available at all locations. In the US, brokerage products and services are provided by Citigroup Global Markets Inc. ("CGMI") member SIPC. Accounts carried by Pershing LLC, member FINRA, NYSE, SIPC. CGMI and Citibank, N.A. are affiliated companies under the common control of Citigroup. Outside the US, brokerage products and services are provided by other Citigroup affiliates. Investment Management services (including portfolio management) are available through CGMI, Citibank, N.A. and other affiliated advisory businesses.

The views expressed in this document by the Global Investment Committee do not constitute research, investment advice or trade recommendations, and are not tailored to meet the individual investment circumstances or objectives of any investor. Recipients of this document should not rely on the views expressed or the information included in this document as the primary basis for any investment decision. Investors are urged to consult with their financial advisors before buying or selling securities.