
Contact: Sam Paglioni: 770.420.6363 or Tom Foglia: 215.643.6490

Unemployment after Economic Turmoil

Executive Summary: This report examines some reasons why the unemployment rate in the U.S. may likely stay above the Non-Accelerating Inflation Rate of Unemployment (NAIRU) of 6% the traditional level that has defined full employmentⁱ. (Full employment means that everyone who wants a job has oneⁱⁱ.)

Historical employment patterns suggest that increases in employment returns slowly after periods of economic turmoil (when unemployment has reached high levels). Our research suggests that the unemployment rate in the United States may likely stay elevated for the next several years, despite the best attempts by the Government to stimulate hiring by the private sector, staying above the NAIRU of 6% through 2014.

The source of the research presented is available through the Bureau of Labor Statistics and the Federal Reserve of the United States. The conclusions are solely those of Integer Wealth Advisors Group, LLC.

Some perspectives which have evolved as a result of the research include:

- a. “Surviving employees” desire to work more hours to rebuild savings. Employers will give the opportunity to work more hours to those employees that have been furloughed or had hours trimmed back versus hiring new workers. Only after the “survivors” have been pushed to the limits of productivity will employers look to hire new workers as they expand.
- b. Employers are investingⁱⁱⁱ in more technology that pushes productivity gains while reducing the demand to expand hiring.
- c. Technology is enabling more competition among workers looking for work. Employees who are laid-off can start up a business with relative ease, however, so can other laid off individuals in the same situation, making the ability to survive a start-up enterprise even more difficult.

- d. Employers are unsure of the impact of new healthcare legislation and the impact on the existing work force as well as the potential cost to expand. The new legislation is complicated and does not provide clear guidance for companies who are looking to expand their business operations.
- e. The government continues to provide unemployment benefits which encourage those out of work from seeking to look for work. This well-intentioned legislation increases costs for employers who must also continue to pick-up part of the cost of the extension for those employees previously laid-off.
- f. The “California Freeway Pile-Up” theory. As the leading edge of the Baby Boomers (the “50-something’s”) get laid off, they are cast into a pool of other “50-something’s” who are all competing for a new job against a younger, better educated workforce. At the back of the pile-up are the 16-year olds, new college graduates and new immigrants all looking for work. As the unemployment rate moves higher (i.e. the “pile-up” grows), employers take this as a signal that the economy may be getting worse and may remain cautious about hiring new workers....preferring to utilize their current workforce instead.
- g. Part-time work is becoming more prevalent. This may be caused by workers re-tooling their skills while temporarily stepping out of the full-time work stream.
- h. The housing bust has reduced the mobility of workers to take new jobs as they are created in different parts of the country. Prior to the housing bust, workers could sell and buy homes with ease. Today, with many homes “upside-down” in value, workers are restricted in their mobility as they cannot afford to sell their home and take a loss.
- i. It has been accepted economic theory that the U.S. economy’s rate of “full employment” is approximately 6%^{iv}. During the first decade of the new millennium, unemployment fell to a low of 3-4%^v, causing shortages of laborers in a variety of fields. Today, as we start the second decade of the 21st century, the increase in productivity through the use of technology, as well as the recent economic turmoil, has dramatically altered the employment landscape. What used to take five or six people can now take one person as

companies continue to invest to squeeze more productivity out of each unit of labor^{vi}.

The graphs presented attempt to provide a logical progression of facts that support our views that the economy will be challenged to produce jobs at a rate fast enough to appreciably lower the unemployment rate and, therefore, the rate may well stay elevated for the next several years.

GRAPHS PRESENTED

Graph A: Total Labor Force Population 16 & Over Available for Work

Graph B: Population of the Labor Force Currently Employed

Graph C: Population Not Working

Graph D: Number of Part-Time Workers (less than 35 hours per week)

Graph E: Aggregate Weekly Hours Index & total Nonfarm Payroll Employees

Graph F: Historical Full-Time vs. Part-Time Unemployment Rates

Graph G: Difference of the Full-Time Unemployment Rate from Part-Time

Graph H: Productivity Index

Graph I: Average Hours Worked per Week by Employed Persons

Graph J: Aggregate Yearly Hours Needed for GDP Growth

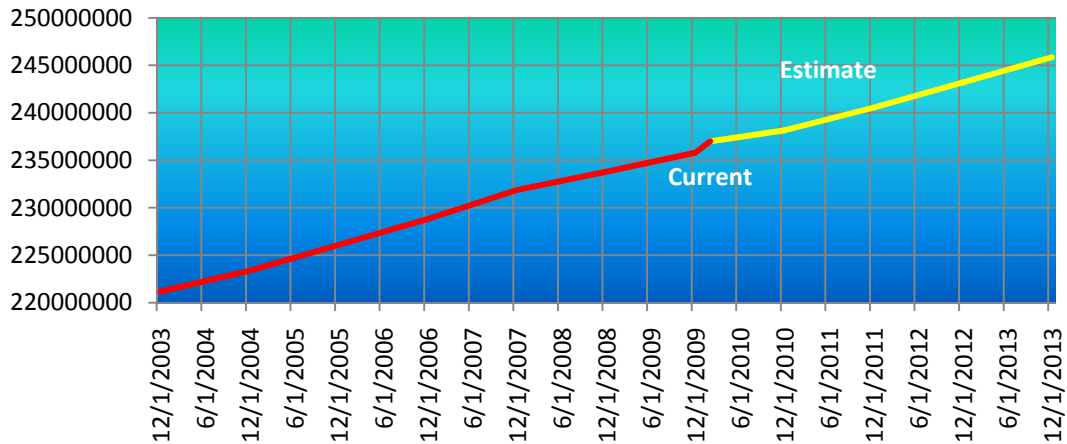
Graph K: Gross Number of Unemployed

Graph L: Gross Number of Jobs Needed to Start Moving Unemployment Down

Graph M: Hypothetical View on Unemployment Rates

Graph N: Likely Unemployment Rate Given Variables

Graph A: Total Labor Force Population 16 & Over Available for Work

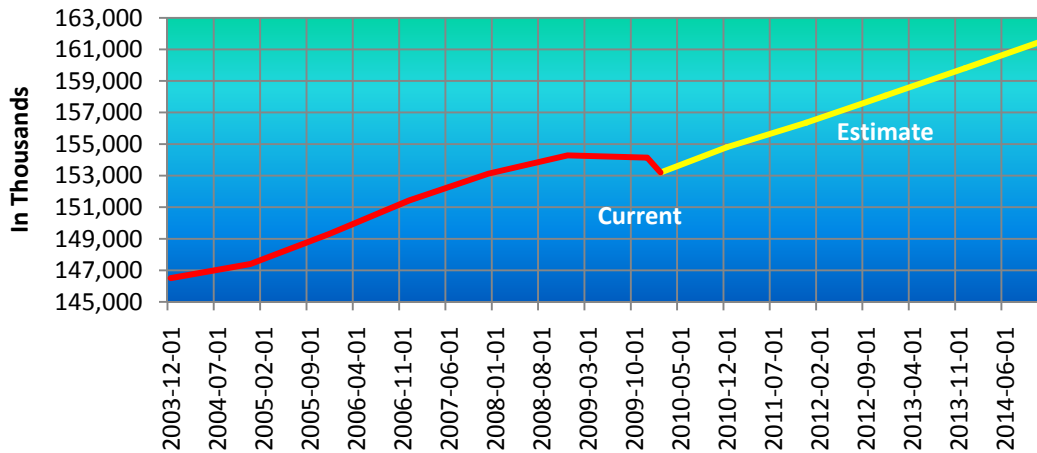


Source: Federal Reserve Economic Data
estimate by Integer Wealth Advisors

Estimating the size of our labor force is never easy. Each year we have new entrants into the marketplace, (i.e. teenagers turning 16 and new college graduates), new immigrants coming to the country, and we have the ever present risk of some workers prematurely dying. We have new businesses being formed (birthed) and others going out of business (death) (the Bureau of Labor Statistics has a technique to capture this information they call it the “birth/death” model).

(Estimate: 16 years and older entering the workforce, adjusted by 8.27 deaths per thousand persons per year.)

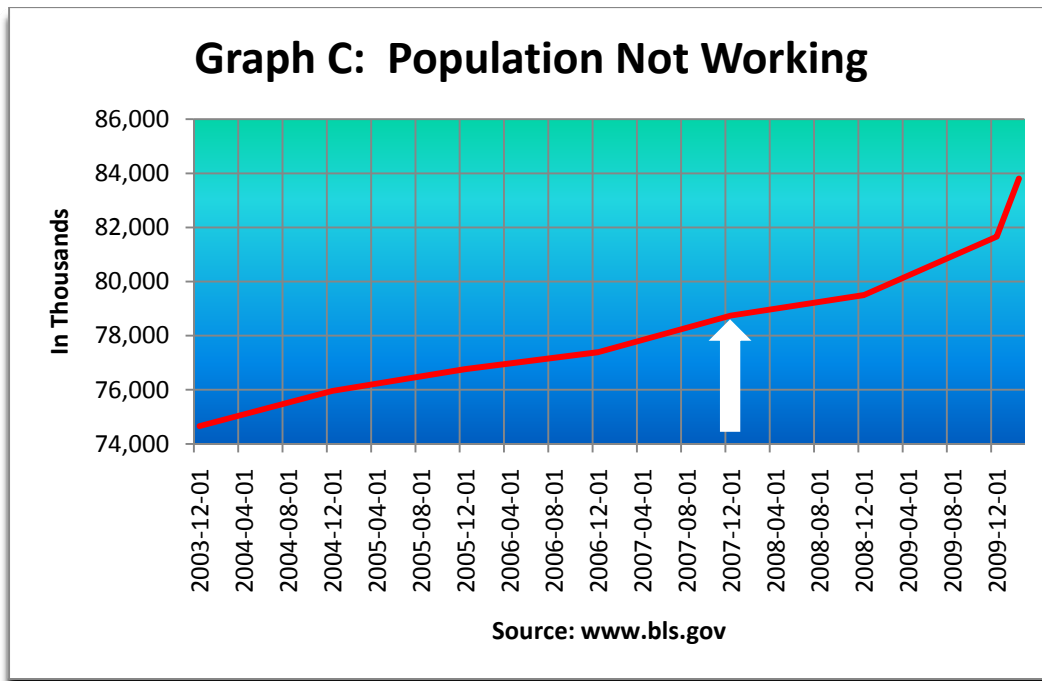
Graph B: Population of the Labor Force Currently Employed



Source: Federal Reserve Economic Data estimate by Integer Wealth Advisors

Graph B represents the number of Americans in the labor force, those actually working full or part-time. Our estimate (in yellow) assumes a GDP growth rate for years 2010-2012 of 4%, then lowering that rate of growth to 3% for 2013 and 2014.

The size of the labor force is the denominator in the U.S. government's calculation of unemployment. Therefore, it is important to arrive at the total number of people in the labor force in order to get an accurate gauge of unemployment. The Government calculates the unemployment rate by dividing the number of people that are unemployed by the total number of people in the workforce.



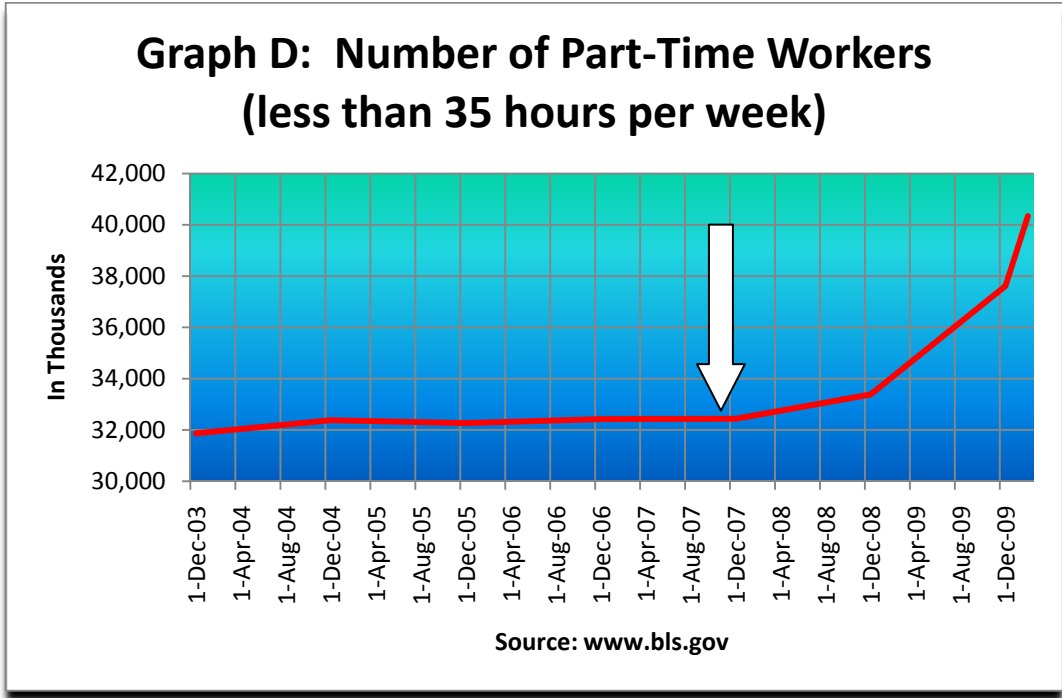
Graph C represents those in the total population who either cannot work or choose not to work, (i.e. “stay at homes”). The recent economic crisis has caused approximately five to six million people to leave the workforce. That level is derived as the difference between Graph A (Total Population) less Graph B (Population Working). The white arrow in Graph C marks the start of the 2007 recession.

Why is the unemployment rate possibly under-reported? The number may be under-reported because the number of people **not working** is not accounted for as people who are unemployed. Recall from the previous page that the number of people unemployed is the numerator of the unemployment equation. Therefore, a smaller number in the numerator, divided by a large denominator will result in a smaller percentage.

As we will see in our next graph, we also have people that have lost their full-time jobs and have chosen to take part-time jobs because they need to pay their bills and put food on the table.

We call this the “California Highway Pile-Up” theory. The theory starts with those “leading edge” baby boomers, those who are highest up the working ladder in terms of age: The “50-something” baby boomers are the first car in the pile-up. The “50-something’s” that

gets laid-off from his/her job are cast into a pool of other” 50-something’s” who are competing with job-seekers that are younger, more technologically advanced and willing to work for less. Therefore, the “50-something’s” have to temporarily retrain (hence the increase in community college enrollments, increases in non-traditional students and increases in online colleges)^{vii}, take on a part-time job or drop out of the workforce entirely as he/she retools their career. This scenario repeats itself right down the line: the factory worker who is laid-off and must update his or her skills (think of the auto industry, for example), the new entrants to the labor force who are pushing from behind to get up the ladder (16 year olds), and new immigrants to the United States. As the unemployment rate moves higher (i.e. the “pile-up” grows), employers interpret this as a signal that the economy may be getting worse and remain cautious about hiring new workers....preferring to utilize their current workforce and keeping unemployment elevated.



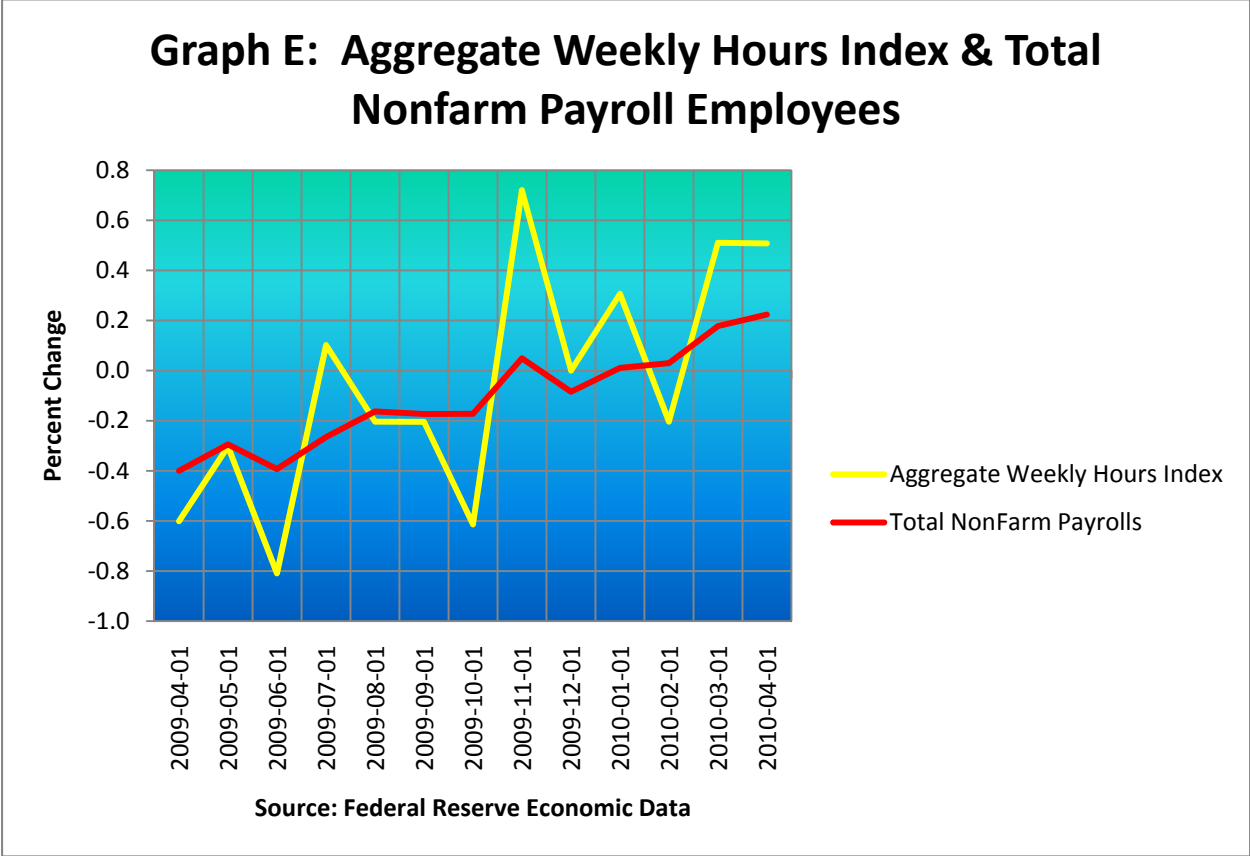
The recent economic recession started in December of 2007 (white arrow) as determined by the National Bureau of Economic Research (www.nber.org). Graph D perfectly aligns the increase in part-time jobs with that date.

Graph D could be interpreted in a couple of ways: 1. Individuals previously not working entered the workforce in a part-time capacity to help out with household expenses (stay-at-homes entering the workforce), 2. Fewer full-time jobs were available to absorb the large number of layoffs, so full-time job seekers took part-time jobs to make ends meet, 3. Employers cutting back on full-time work as the economic crisis ground on through 2008 and 2009 and are sitting on the sidelines and not hiring as they try to make sure the worst is over.

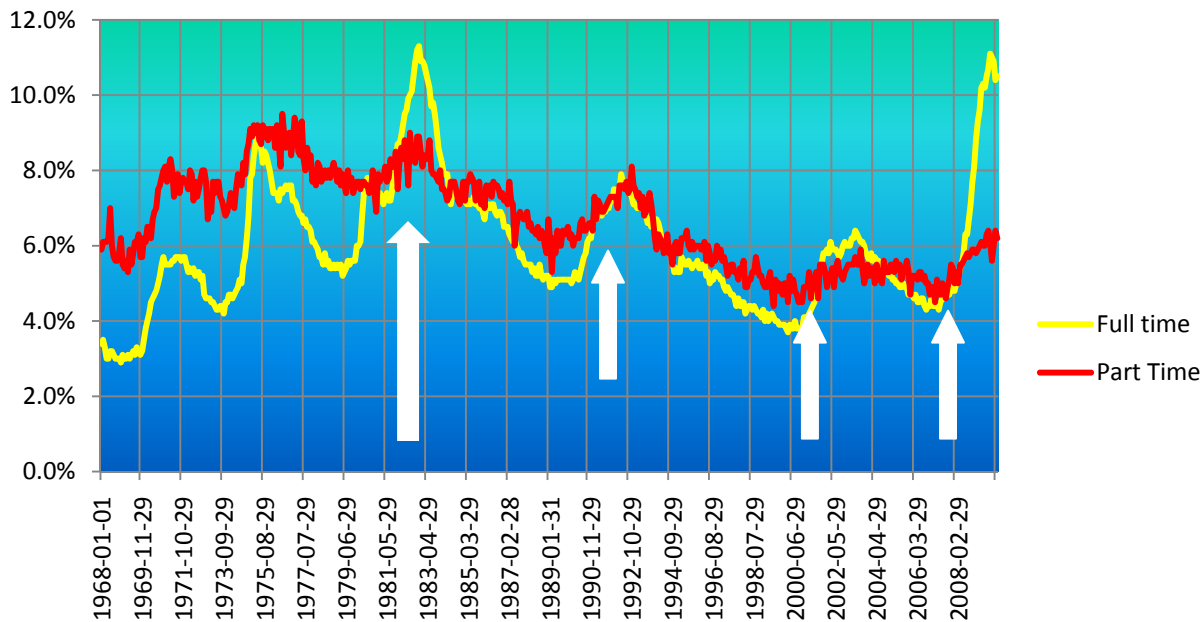
Our “California Highway Pile-up” thesis suggests that employers will add hours to existing workers before hiring new workers, as the economy improves. If one thinks like one of the “survivors”, the survivors want more work to help make-up for lost wages or to help rebuild their retirement plans as a result of prior temporary layoffs or reduced hours. Further, they cannot move to take new employment elsewhere that might offer higher wages because of the depressed housing market. Employers want to avoid the cost of hiring new employees because they don’t want to have to lay them off if the economy turns sour again. What employer wants to hire a new employee, only to lay them off and pick-up their unemployment benefits which the Government has extended for upwards of a year or more in some states?

Only after the current workforce has been fully utilized, or perhaps utilized beyond 100%, and employers see that the economic recovery is taking hold, will employers begin adding new workers to their ranks.

Graph E below may lend some support to this theory. The graph highlights the number of aggregate hours worked versus total nonfarm payrolls. The rate of change in the hours worked has exceeded the rate of change of the total nonfarm payrolls, suggesting that existing employees are getting more work instead of new hiring occurring.

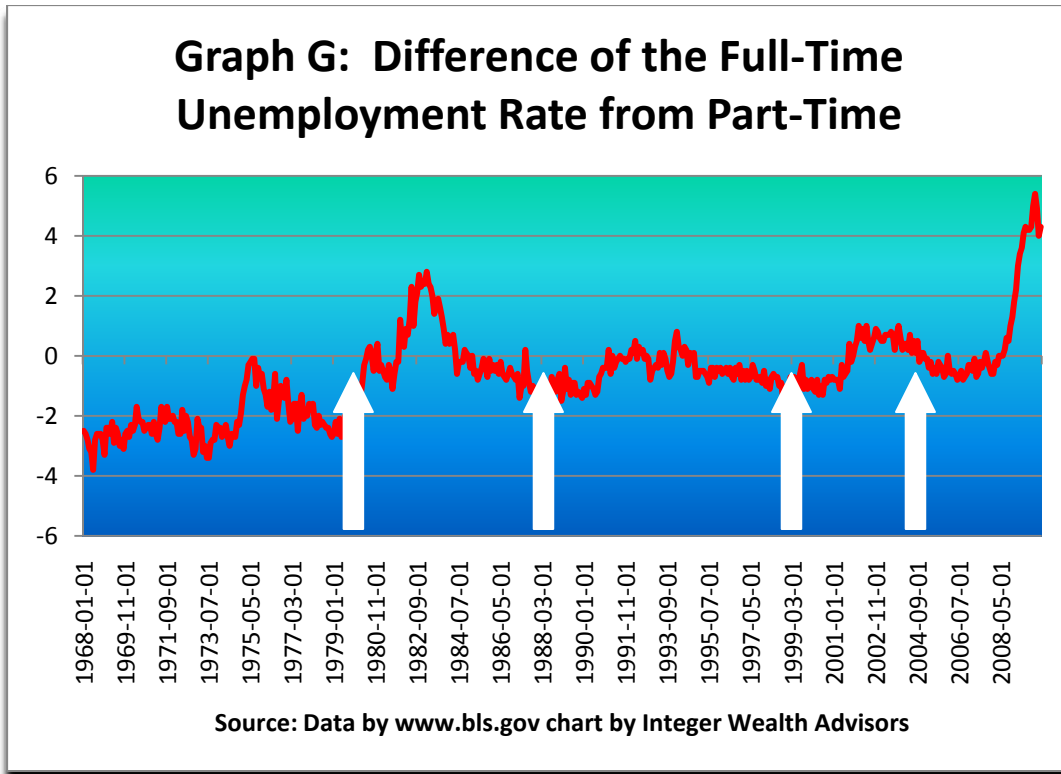


Graph F: Historical Full-Time vs. Part-Time Unemployment Rates



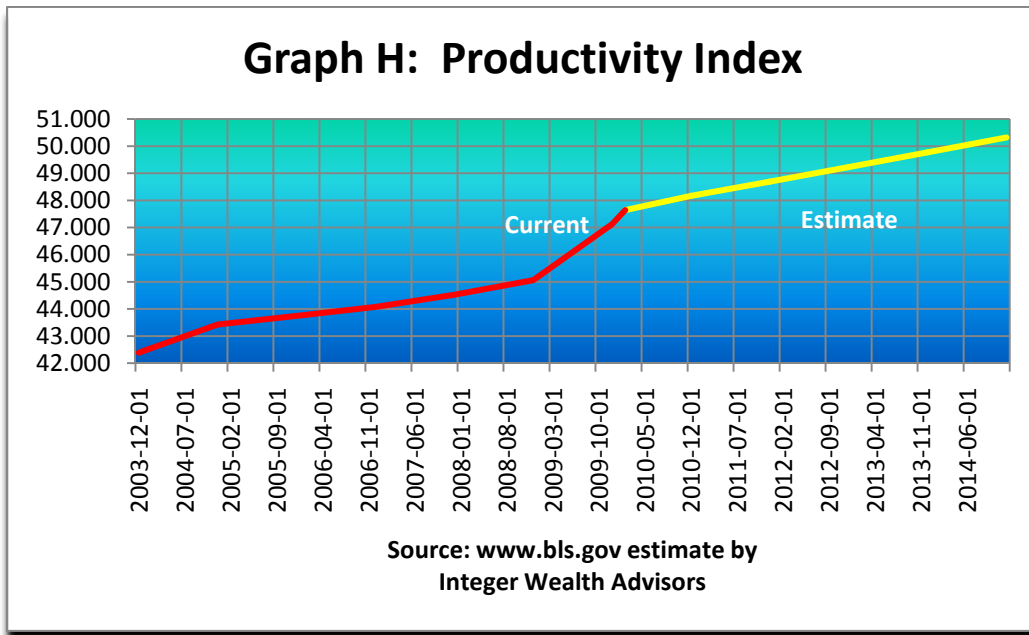
Source: www.bls.gov graph by Integer Wealth Advisors

Graph F represents the relationship of part-time workers to full-time workers (recessions are the white arrows). The rise in unemployment of full-time workers in the most recent recession is as severe as the recession of 1981-1983. The graph also suggests how difficult it is to bring unemployment levels down to the previous lows in the business cycle. For example, in 1979 the unemployment rate was approximately 5.5%, a level not reached again until 1989, six years after the end of that recession in 1983. As we would expect, the unemployment rates in the part-time ranks fell as full-time employment picked-back up, something we would expect to see in this next recovery.



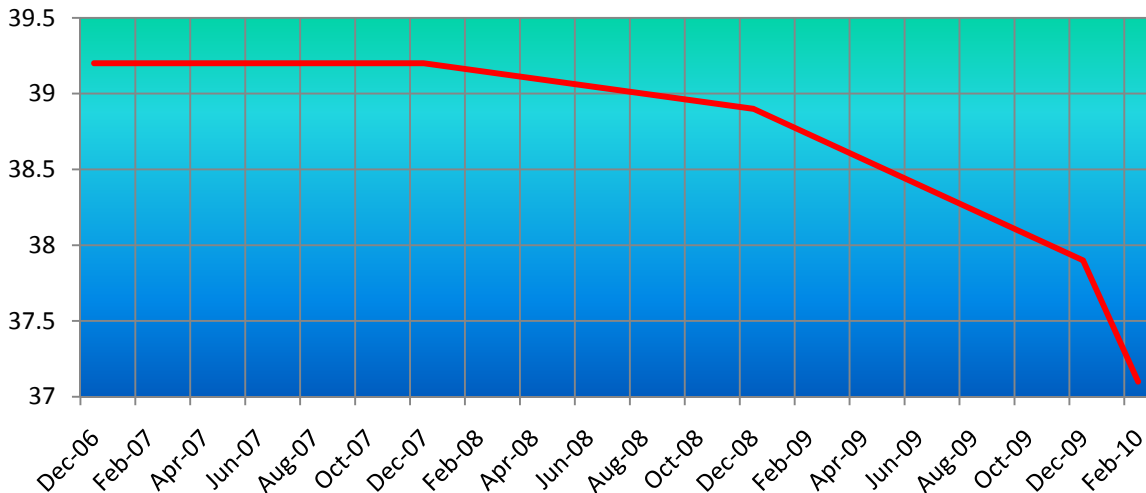
Graph G features the “Difference” between the full-time and part-time unemployment rate (vertical axis is percentage difference). This is just another way to look at unemployment for full-time and part-time workers. Starting after the 1982-83 recession, the unemployment rate of full-time workers recovered at a faster rate than part-time, suggesting a robust employment picture (everyone that wanted to work could find work, either in part-time or full-time areas). We see a slight bump up in the 2001-2002 equity bubble burst and subsequent layoffs in the “dot.com” industries. The recent rate of change is the most dramatic in that it is virtually straight up with no break in the rate of change.

Since full-time workers are settling for part-time work, those who were previously out of the workforce (i.e. “stay-at-homes”) are coming back in at a part-time level, good quality full-time jobs are not being added quickly enough, and with the addition of new workers entering the labor pool, employers have the luxury of waiting to hire full-time employees until current capacity is utilized. Or, conversely, they are opting for more part-time workers who cost the employers less per unit of labor.



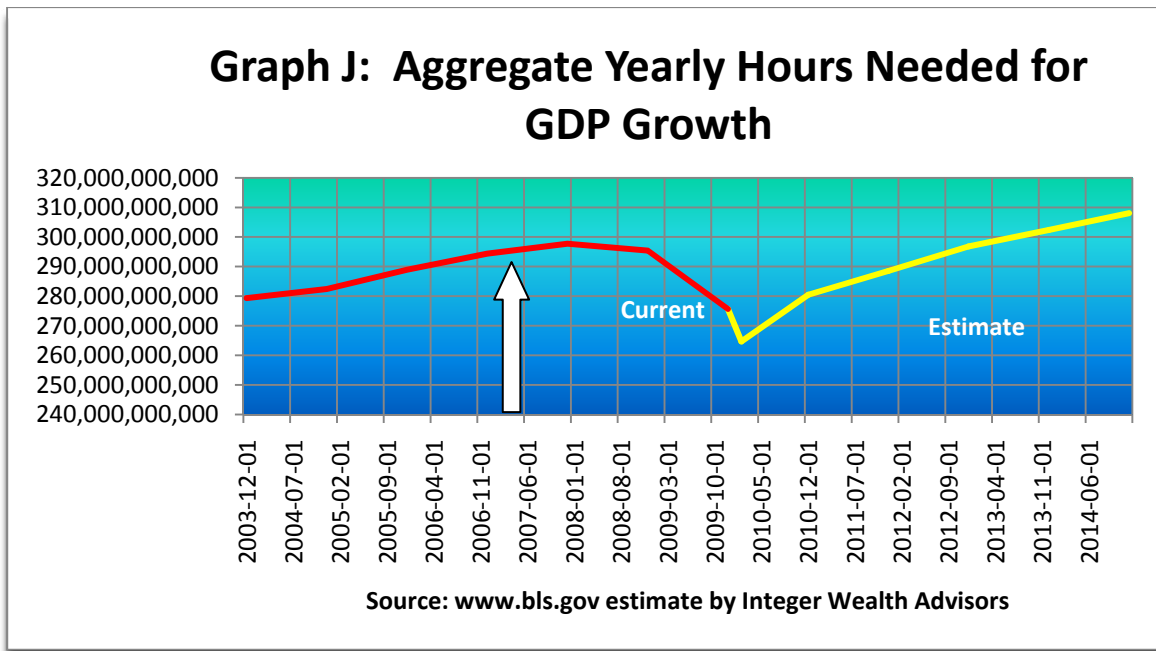
Graph H represents the annual Real GDP divided by the total annual hours worked by the workforce in the United States. This graph indicates that productivity rose slightly during the start of the recession in 2007 and then picked by up in March of 2009, exactly when the stock market hit the bottom and companies began to restock inventories increasing hours worked. Productivity will continue to increase with the investment in new plant and equipment which may be a driving factor behind the phenomenon of a “jobless recovery”. Technological advances will put stress on the hiring of labor which will have to continually retrain itself for the 21st century workplace.

Graph I: Average Hours Worked per Week by Employed Persons



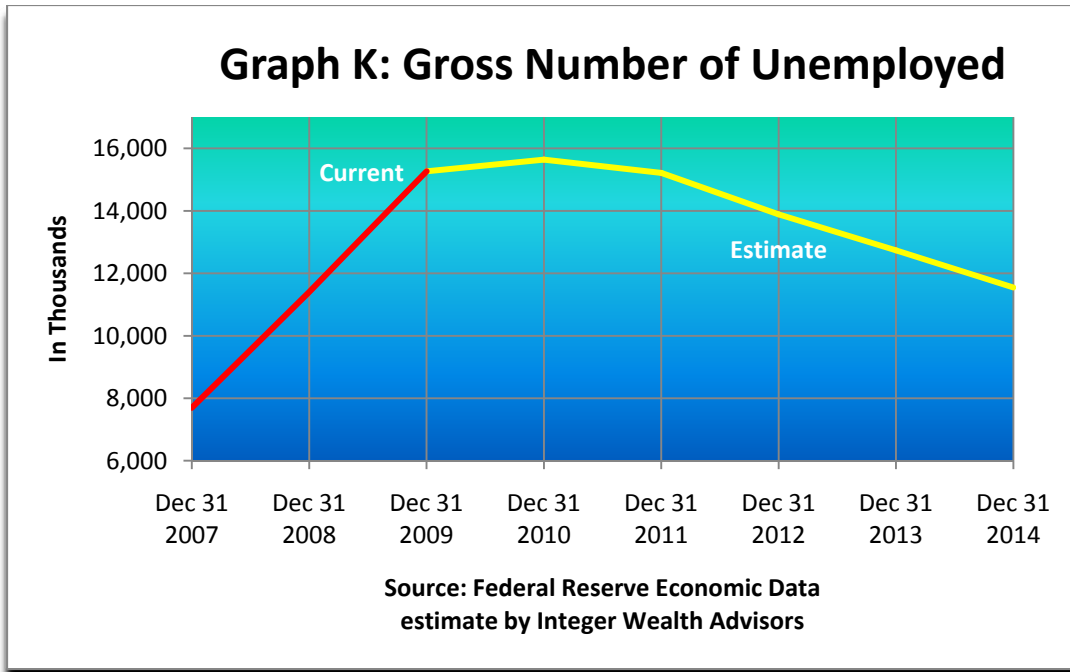
Source: Current Population Survey www.BLS.gov

Graph I represents the average number of hours worked per week by the remaining people employed. The average hours per week worked is being pulled down by people who experienced a cut in their hours as well as the part-time labor force growing. We will most likely see our GDP begin moving higher before this number turns back up. In our unemployment rate prediction, we assume that in the first year of recovery (2010) the extra hours will be awarded to current employees. Once the current population gets back up to 39 hours per week, the labor force will be fully utilized (39 hours/week=labor market equilibrium) and employers may then start looking to hire new workers. Of course, the challenge for unemployed persons will be that of competing with the current hires and the ability of technology to replace or reduce the need for additional laborers.

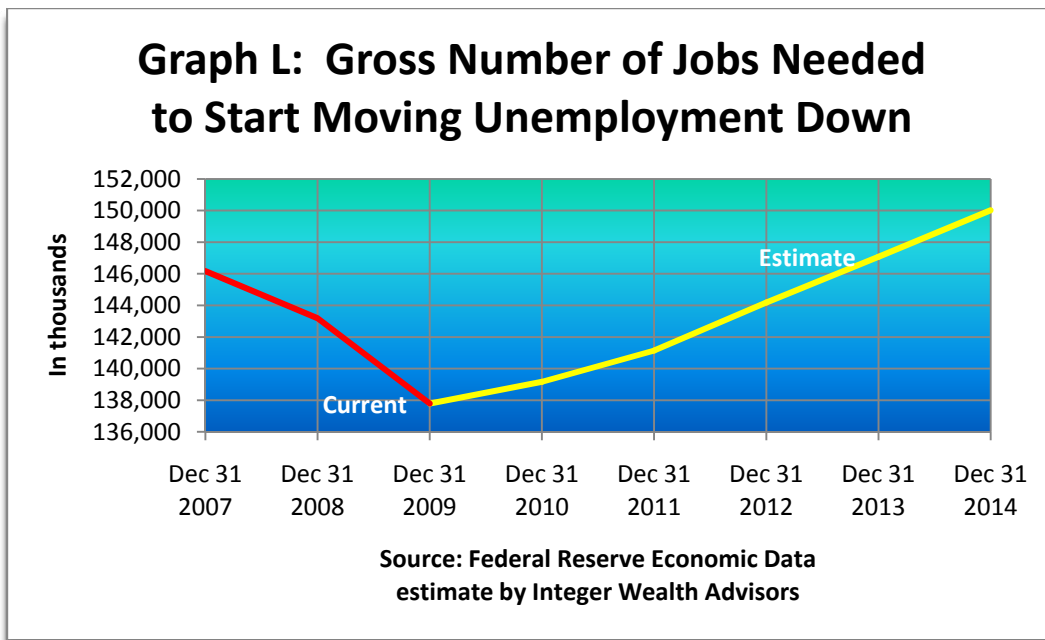


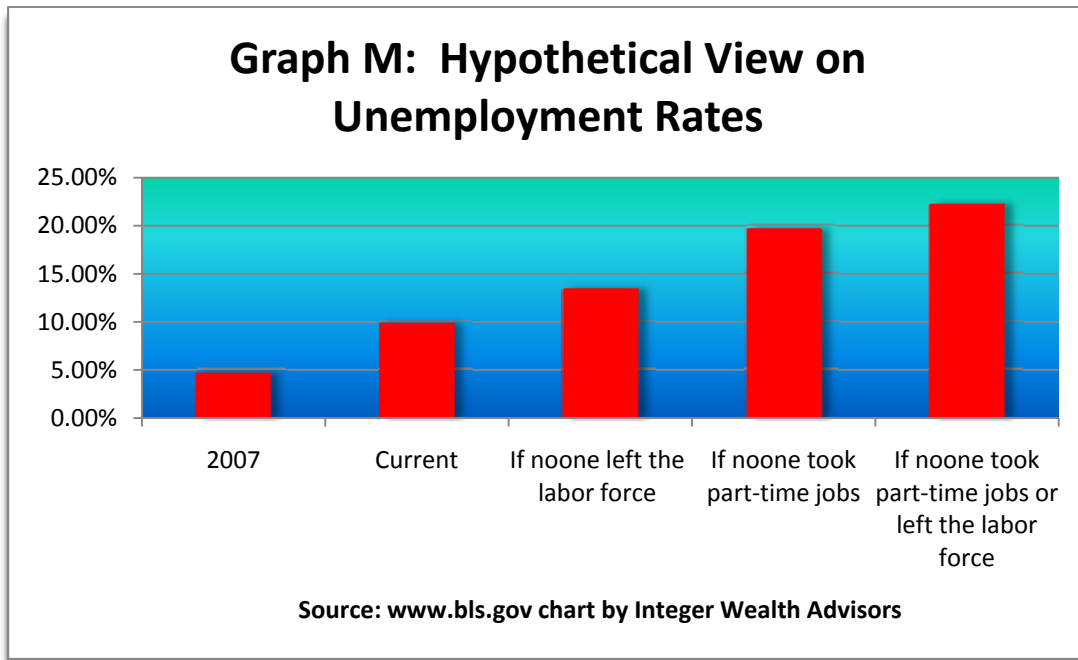
Graph J converts the productivity of Graph G into hours needed to support the GDP growth estimates which ties into job creation. Assuming a reasonable growth in productivity of 1.1% per year^{viii}, we do not need to add as many 2010 jobs as we had in 2007 to obtain a reasonable growth in GDP. In other words, each job added is worth more relative to our GDP because it is more efficient by virtue of higher productivity.

The productivity index (Graph H) stayed flat for the first part of the recession and credit crisis (white arrow), then accelerated as the recession accelerated into 2009. This could be explained by the fact that people not getting laid off were working longer hours to make up for those workers being laid off, or that productivity was increased from the use of technology.



Graph K reflects the number of unemployed workers. The Graph L (below) is the number of jobs needed to move unemployment. So, if 138 million are currently employed then we need to add just under 2 million jobs by year end to start pushing the rate down. Graphs K and L are related and illustrate just how long it will take to bend unemployment down (Graph L), and the number of jobs (full and part-time) that will be needed in the bending of the unemployment curve downward.





Graph M presents hypothetical views on the unemployment rate which speaks to the issue of under-reported unemployment. Hypothetically speaking, if no one left the labor force, the rate of unemployment would be closer to 13% (third bar on Graph M). If workers took part-time jobs instead of filing for unemployment, the unemployment rate would be closer to 20%. Finally, if everyone that got laid off from their regular job did not leave the labor force or take on a full time job, we would have a 22% unemployment rate. The applicability of these scenarios occurring is virtually nil; however, it does give us a good idea that unemployment may be worse than reported by the Government.

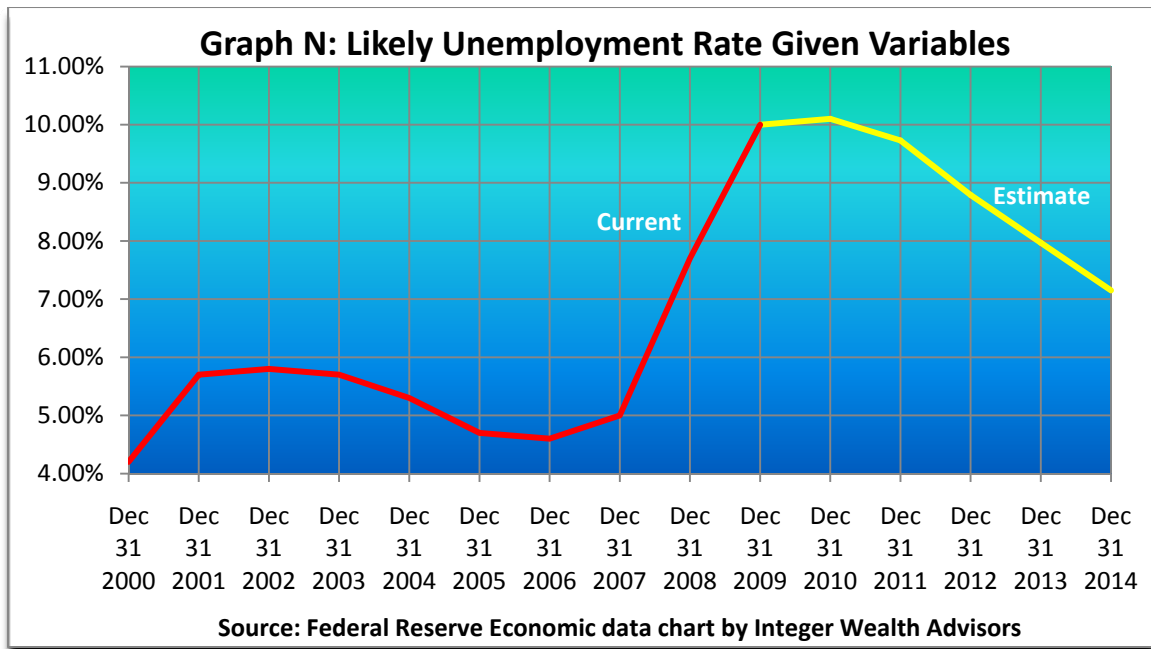
The best way of estimating the future outlook for unemployment rate is to calculate the number of hours we are adding to output and track whether or not the hours are going to people that are already employed or going to new hires on the payroll. The government only measures a job gain as a new person being hired and only measures a job loss as someone being fired. However, the government does not factor in a person that was working 40 hours per week and is now working 30 hours per week; it's all the same to them. By looking at unemployment from this perspective, it becomes clear that the unemployment rate may stay stubbornly high for years to come.

Going back to our business owner example, an employer would rather give the extra work to someone they already have working than bring in someone new along with the associated costs. It is likely that we may not see any serious hiring until the work given to current employees is fully utilized.

This, then, focuses our view on the phenomena of the jobless recovery we have seen in the past. How could the economy gain 4% in GDP growth and the economy not be adding jobs? This is because the GDP is not coming from new jobs, but existing jobs. The following example is presented to illustrate the point.

In order to estimate employee utilization, we start out by awarding a larger percentage of hours yielded by the GDP growth to current employees and sliding down until we see full utilization. Currently, we do not see our labor market coming into equilibrium until around 2013. We define equilibrium as over 75% of new hours available yielded by GDP goes to hiring new employees instead of making current employees work longer hours. We estimate a 4% real GDP growth rate while the labor market finds equilibrium. After equilibrium, we will most likely see the GDP slow down to a modest rate of around 3% annually^{ix}.

Putting a healthy assumption on job growth given all of our variables we described earlier the unemployment rates might look as follows (Graph N):



We are estimating that 25% of output goes to new hires in 2010; 50% in 2011; and 75% in 2012. This puts our market equilibrium around 2013. Therefore, unemployment may well stay above the 6% Non-Accelerating Inflation Rate of Unemployment (NAIRU) through 2014, nearly 5 years after the end of the recession, a pattern that the economy followed after the 1982-83 recession ended (see Graph F).

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ⁱ See: Dean Baker, Jared Bernstein – Full Employment: Don't Give Up Without A Fight, August 2, 2005

And also, Chasing Full Employment, by Louis Uchitelle, Feb, 12, 2006 NYT. Also, see: <http://www.huppi.com/kangaroo/L-chinairu.htm>, and the NAIRU or Non-Accelerating Rate of Unemployment, generally accepted as 6%.

ⁱⁱ Jay Kaplan, University of Colorado, 1995.

ⁱⁱⁱ <http://www.slideshare.net/rsink/gartner-report-it-spending-2010>

^{iv} Ibid, <http://www.huppi.com/kangaroo/L-chinairu.htm>,

^v Ibid, Chasing Full Employment, by Louis Uchitelle

^{vi} See: Martin Neal Bailey, Senior Fellow, Institute for International Economics, Senior Advisor to McKinsey & Company, "Information Technology and Productivity: Recent Findings, <http://www.iie.com/publications/papers/baily0103.pdf>

^{vii} <http://www.universitybusiness.com/viewarticle.aspx?articleid=1524>

^{viii} <http://www.bls.gov/news.release/prod2.nr0.htm>. Integer has used past annual changes in productivity as presented by the BLS to arrive at a conservative 1.1% estimate.

^{ix} Since 1970 average GDP rate in the U.S. has been 2.94%. File Format: Microsoft Excel

1, Real **Historical** Gross Domestic Product (**GDP**) and **Growth** Rates of **GDP**. 2, for Baseline Countries/Regions (in billions of 2005 dollars) 1969-2009 ...www.ers.usda.gov/Data/.../Data/Historical Real GDP Values

Research Assistant: Chad NeSmith