

US Economics Digest

Research Analysts

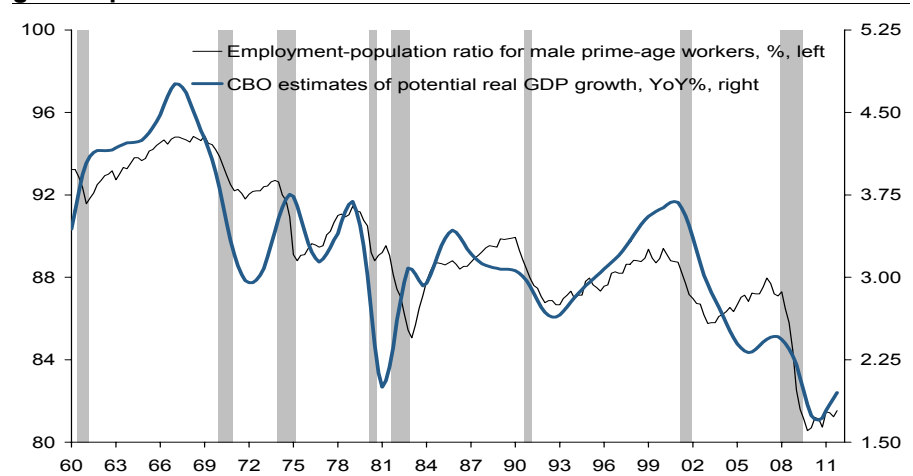
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Employment-Population Ratio – Potentially Damaging

- The employment-population ratio has been trending downward since 2000, but the decline intensified with the Great Recession. Cyclical recovery for the economy is likely to lead to a cyclical rebound in the employment-population ratio. But the decline in the employment-population ratio has a structural dimension as well.
- The demographic shift of the age structure will almost surely continue to exert downward pressure on the overall employment-population ratio in the next decade. Thus, we expect the path of the recovery for the overall employment-population ratio to remain shallow for the years ahead.
- A long stretch of low employment-population ratio suggests that the economy loses the productivity that would have come from those “idle” workers. This syndrome reduces potential GDP, the only ultimate wellspring of fiscal solvency and economic well-being.
- Our analysis suggests that demographic factors account for only a small portion of the decline in the employment-population ratio since 2000. That would still leave, say, two-thirds of the decline in the cyclical category, and therefore a suitable candidate for counter-cyclical stabilization policy.
- The FOMC's decision to push its forward guidance on exceptionally low rates from “at least through mid-2013” to “at least through late 2014” underscores members' sense of urgency in taking more counter-cyclical policy. In our view, QE3 is still likely. We expect a program to commence in the next few months with a heavy emphasis on buying mortgage-related securities.

Exhibit 1: Low employment-population ratio bodes poorly for US growth potential



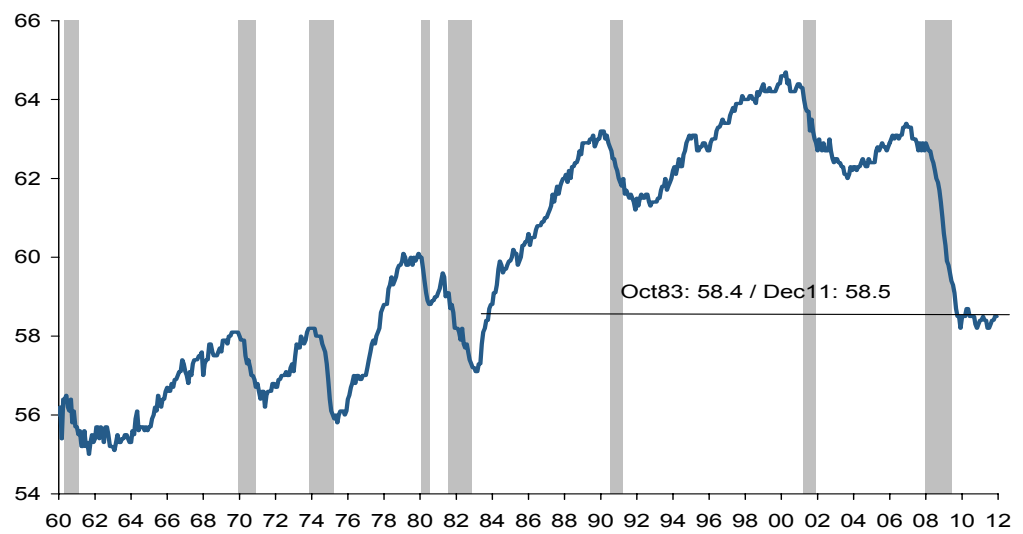
Source: BLS, CBO, Credit Suisse

Employment-population ratio – potentially damaging

The employment-population ratio measures the economy's ability to provide jobs for a growing population. This statistic is calculated as the proportion of the working-age population (16 years and over) that is employed. This ratio has been trending downward since 2000, but the decline intensified with the Great Recession.

This ratio dropped to a near multi-decade low of 58.5% in December. The ratio had been at 63.4% in December 2006 before the Great Recession. Since then, the working-age population grew by 10.5 million, but about 5.2 million jobs were lost over the same time period¹. At the current population level, we need an additional 12 million jobs to bring the employment-population ratio back to the level before the financial crisis. Of note, Household Survey employment rose 1.4 million over the last six months (234K per month). Even at this pace of gains and under the assumption of zero population growth, it would take more than four years (H1 2016) to get back to the employment-population ratio prior to the crisis.

Exhibit 2: Employment-population ratio near multi-decade lows (%)



Source: Bureau of Labor Statistics, Credit Suisse

Cyclical and structural factors behind the decline

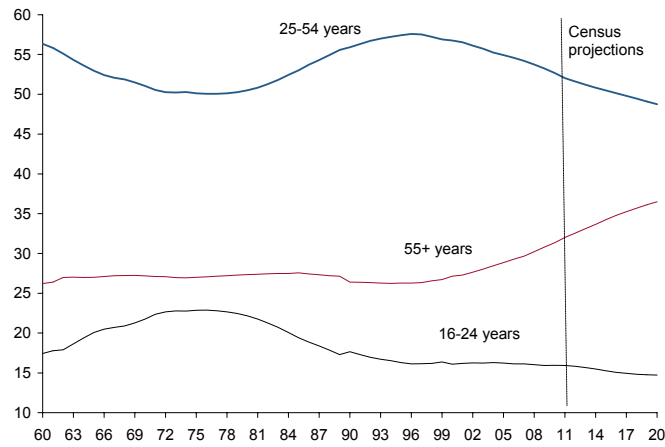
Cyclical recovery for the economy is likely to lead to a cyclical rebound in the employment-population ratio. But the decline in the employment-population ratio has a structural dimension as well. The structural decline reflects the combined result of a demographic shift of the age structure and the decline in the employment-population ratio for both young and prime-age workers (Exhibits 3 and 4). As Exhibit 2 portrays, the overall annual employment-population ratio has been trending down since it peaked at 64.4% in 2000, a dozen years ago. It declined by 6 percentage points to 58.4% in 2011.

We first focus on changes in different demographic groups' population shares. Exhibit 3 shows that the population share of the age group between 25 and 54 has declined gradually from its peak level in 1996. The share of young people (16-24 years) in the American population dropped slightly during this time period, reflecting the lower fertility behavior, known as the "birth dearth," of the 1970s. On the flip side, shares of older people (55 years and over) rose steadily to 32% of the total adult population in 2011 from 26.2% in 1994, reflecting the rising fertility that began in the mid-1930s (and, of course, accelerated into the "baby boom" of the first two post-WWII decades).

¹ Unless otherwise specified, we refer to the Household Survey for our discussion on employment.

Exhibit 3: Population shares

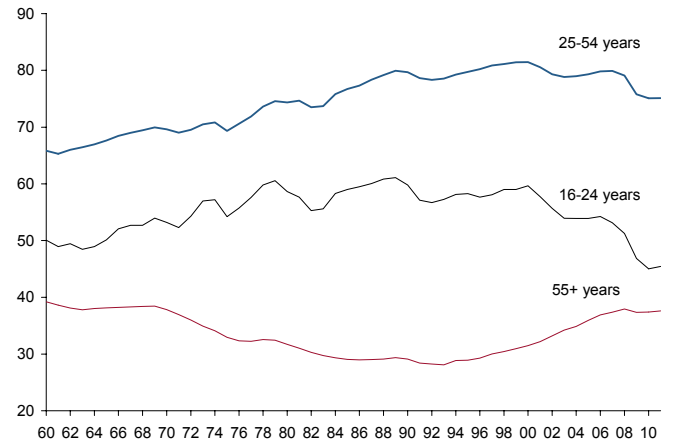
% of civilian non-institution population



Source: BLS, Census Bureau, Haver Analytics, Credit Suisse

Exhibit 4: Employment-population ratio

%

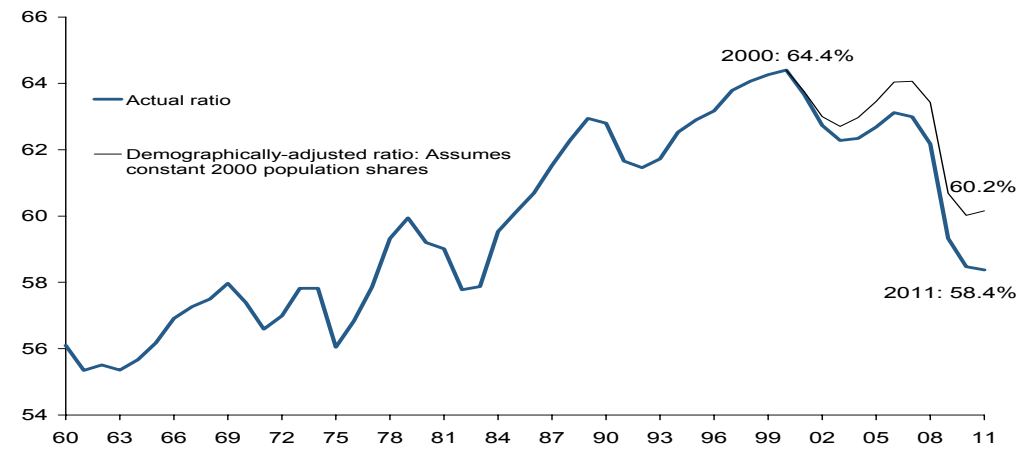


Source: BLS, Credit Suisse

One way to quantify the impact of a shifting age structure on the employment-population ratio is to compare the actual ratio with a demographically-adjusted ratio that holds constant the population share of each age cohort at 2000 levels. Exhibit 5 shows that the actual employment-population ratio in 2011 was about 1.8 percentage points lower than it would have been had the age structure remained unchanged.

Exhibit 5: Demographically-adjusted employment-population ratio

16 years and over, %



Source: BLS, Credit Suisse

We now turn our attention to changes in each age group’s employment-population ratio. Employment-population ratios for the three age groups also show different developments (Exhibit 4). Overall, the ratio for prime-age workers has declined modestly from its peak level in 2000 (81.5%). But the decline is particularly abrupt during the Great Recession. For example, it dropped to 75.8% in 2009 from 79.1% in 2008. Score that in the cyclical column. In our view, a shortfall in final demand largely explains the abrupt decline in the employment-population ratio over the past few years.

Changes in employment-population ratios are more visible for the young and the elderly (Exhibit 4). The employment-population ratio among young workers has declined gradually since the late 1980s. This probably reflects mostly the increasing educational

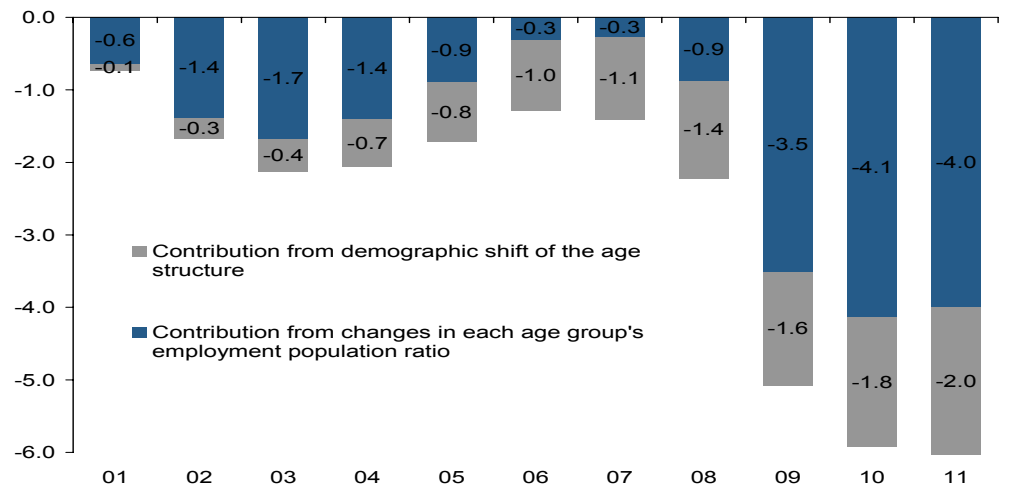
requirements for satisfactory gainful employment. Full-time in school tends to reduce labor force participation and hence the employment-population ratio. The decline in the employment-population ratio of the younger group is also partially a reflection of the high incarceration rate in the US compared to most other developed countries. Crime and imprisonment tend to be associated particularly with young males. (Being in prison means that you are not counted in the numerator or denominator of the employment-population ratio calculation, thus depressing the rates.) Score these effects in the structural column. Of note, we also observe an abrupt decline in the youth employment-population ratio in 2009 (to 46.9% from 51.3% in 2008). Score most of the 4.4 percentage points as cyclical.

Meanwhile, the over-55 employment-population ratio had been rising gradually since early 1990. This probably reflects some combination of better physical health and poorer financial (401K) health that encourages higher labor force participation. But this upward trend has been interrupted since the Great Recession. The employment-population ratio for elder workers largely remained flat after reaching 37.9% in 2008. Of note, the level of the employment-population ratio for the elderly is only half that for prime workers (37.6% vs. 75.1% in 2011).

Exhibit 6 shows the cumulative contributions to the decline of the overall employment-population ratio since 2000 from changes in age structures and each age group's employment-population ratio, respectively. Our calculation of the relative contribution is similar to the decomposition method proposed in an Atlanta Fed research paper².

Exhibit 6: Cumulative contributions to changes of the overall employment-population ratio between 2000 and 2011

Percentage points



Source: BLS, Credit Suisse

We can draw two conclusions from this chart. First, the cumulative contribution from changes in age structures has been getting more negative over time, suggesting that shifts in age distribution have consistently dragged on the overall employment-population ratio since 2000. As we will discuss below, the demographic shift of the age structure will almost surely continue to exert downward pressure on the overall employment-population ratio in the next decade. We view this drag as structural.

In contrast, the cumulative contribution from changes in each age group's employment-population ratio appears to be more cyclical. It fluctuates along with business cycles by

² Julie L. Hotchkiss, *Changes in the Aggregate Labor Force Participation Rate*, Economic Review, Federal Reserve Bank of Atlanta, Volume 94, Number 4, 2009.

turning less negative during recoveries but worsening during economic downturns. The negative contributions were particularly large in 2009, jumping from -0.9 pt to -3.5 pts. This reflects the sharp decline in the employment-population ratio for both young and prime workers and the roughly unchanged employment-population ratio for the elderly over this time period. Of note, the decline in 2009 alone accounts for 66% of the 4 percentage point cumulative contribution from changes in each age group's employment-population ratio between 2000 and 2011. As we argued in the report, [The Case of the Cyclical Unemployment](#), published on November 2, 2010, the shortfall in aggregate demand accounts for a large portion of the shortfall in employment over the past few years.

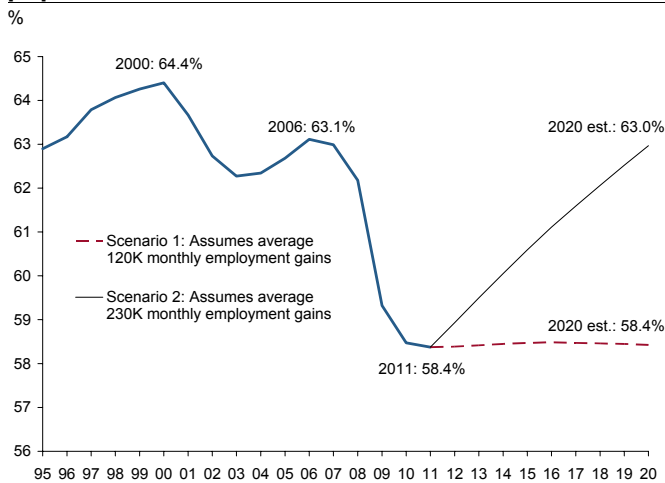
Our calculation confirms the findings from a simple demographically-adjusted ratio shown in Exhibit 5. **Overall, demographic shift of the age structure – the part we would view as structural -- accounts for one-third of the 6 percentage point decline on the employment-population ratio between 2000 and 2011. A large part of the decline is due to factors other than demographic shifts, such as changes in each age group's employment-population ratio.**³ These fractions appear more cyclical and thus more suitable for countercyclical macroeconomic policy attention.

Path to recovery is long

The demographic shift of the age structure will almost surely continue to exert downward pressure on the overall employment-population ratio in the next decade. Thus, **we expect the path of the recovery of the overall employment-population ratio to remain shallow for the years ahead**, even if the economy were to achieve a stronger cyclical rebound in employment.

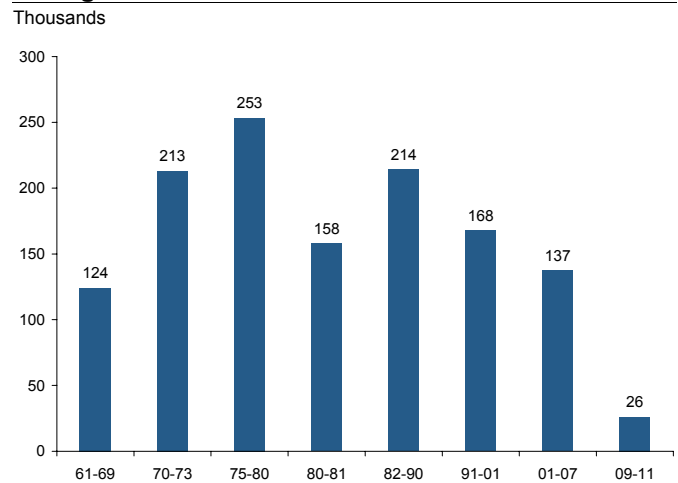
The Census Bureau projects that the population share of the age cohort between 25 and 54 years will continue to shrink in the next decade to 48.8% in 2020 from 52.0% in 2011 (Exhibit 3). The population share of the young is projected to register a modest decline. In contrast, the population share of the elderly is expected to rise further to 36.5% in 2020 from 32.0% in 2011.

Exhibit 7: Simulated paths of employment-population ratio



Source: BLS, Census Bureau, Credit Suisse

Exhibit 8: Average monthly employment gains during recoveries



Source: BLS, Credit Suisse

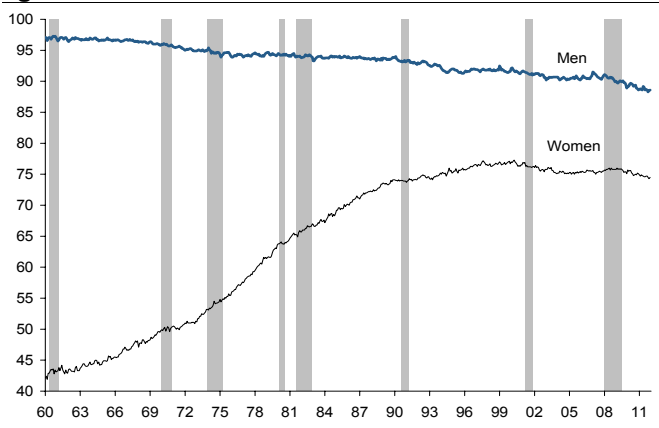
³ Of note, these findings are also consistent with those from our previous decomposition analysis of the labor force participation rate. For example, in the report, [Why the Fed Should Count Jobs, Not Unemployment](#), published on February 11, 2011, we showed that changes in aging structures consistently exerted downward pressure on the overall labor force participation rate, while contributions from changes in each age group's participation behavior fluctuated with business cycles during the last decade.

Using the Census Bureau population projection, the economy would have to create about 120K jobs each month just to keep up with population growth and stabilize the employment-population ratio at the current level (Scenario 1 in Exhibit 7). Assuming average 230K monthly gains, a pace registered over the last six months and seen more often in the recoveries during 1970s and 1980s, the employment-population ratio would get back to its pre-crisis level by 2020. This is eight years from now and requires a stream of uninterrupted 230K monthly employment gains (Scenario 2 in Exhibit 7).

More countercyclical measures are desired

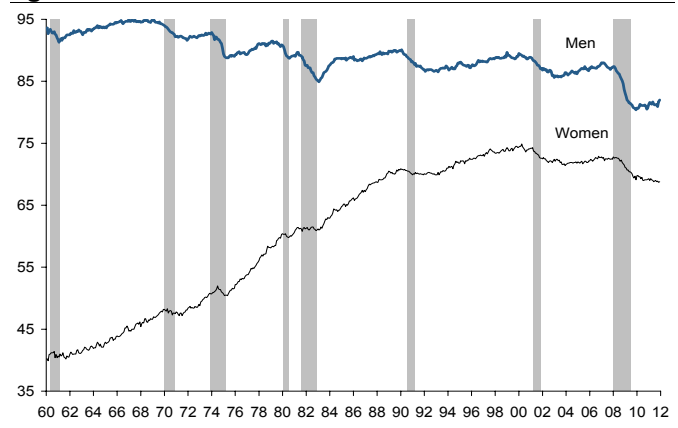
A long stretch of low employment per person in the society is not a happy outcome for the economy. On the one hand, in a democratic society where we feel obliged to provide at least a minimum of care for one another, long-term unemployed workers tend to turn to programs such as Social Security Disability (SSD) at a cost to the federal government. Ironically, various labor economics studies suggest that increased access to the SSD program has contributed to the secular decline in the labor force participation among prime-age male workers⁴ (Exhibit 9). Exhibit 10 further shows a similar trend in the employment-population ratio for prime-age male workers. It is difficult to feel sanguine about the solvency of the government when the situation is intensified by the demographic shock of a dramatic tilt in the age distribution of the citizenry toward older ages (Exhibit 11).

Exhibit 9: Labor force participation rates for prime-age workers



Source: BLS, Credit Suisse

Exhibit 10: Employment-population ratios for prime-age workers



Source: BLS, Credit Suisse

More importantly, **a low employment-population ratio suggests that the economy loses the productivity that would have come from those “idle” workers.** Worse yet, as of December last year, about 43% of unemployed workers have been out of work for over 27 weeks. We voiced the concern back in 2010 that the longer the workers remain unemployed, the deeper their skills will be eroded, which in turn may reduce their employability. As we wrote then: “Hysteresis may migrate a cyclical unemployment toward structural unemployableness the longer you’re out of work.” (See [The Case of the Cyclical Unemployment](#), November 2, 2010) . Of note, Chairman Bernanke echoed our comments in his response to a question on full employment raised in the press conference following last week’s FOMC meeting: “We’re concerned that the large amount of long-term unemployment may be causing some of our workers to lose skills or lose labor force attachment which, at least for a while, will also likely increase the so-called natural rate or sustainable rate of unemployment. “ He didn’t say it, but a natural corollary is that **this**

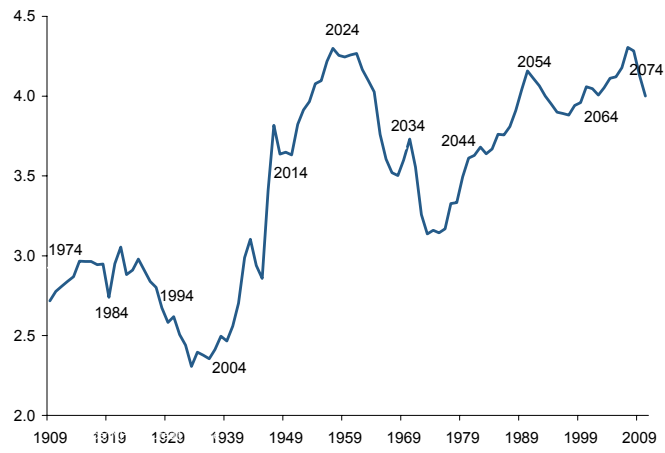
⁴ See, for example, David H. Autor and Mark G. Duggan, “The Rise in Disability Rolls and the Decline in Unemployment,” *Quarterly Journal of Economics*, 17, No. 1 (Feb. 2003): 157-205, and Donald O. Parsons, “The Decline in Male Labor Force Participation,” *Journal of Political Economy*, Vol. 88, No. 1 (Feb., 1980): 117-134. We also thank Dr. Daniel S. Hamermesh, Sue Killam Professor of Economics at University of Texas at Austin, for his helpful comments and discussions on this topic. Of course, he has no responsibility for our conclusions.

syndrome reduces potential GDP, the only ultimate wellspring of fiscal solvency and economic well-being (Exhibit 12) (See also, [US Economics Digest: Is That All There Is?](#) and [Beware Those 2024 Maturities](#), January 27, 2012).

Downward pressure on the prospect of the nation’s potential growth capacity from labor input, or potential GDP growth, implies that productivity gains would have to accelerate further to sustain potential. While this is desired, it is not assured. Structural questions of fiscal sustainability, inflation, and so forth in the next ten years reside in this complex of issues about potential GDP growth, and the starting point is challenging (to borrow a market euphemism). In this regard, it adds urgency to timely and forceful countercyclical stimulus. The FOMC’s decision to push its forward guidance on exceptionally low rates from “at least through mid-2013” to “at least through late 2014” underscores this urgency in members’ minds. (We’ve not keen on zero interest rates as the most efficacious policy, but that’s a different matter.)

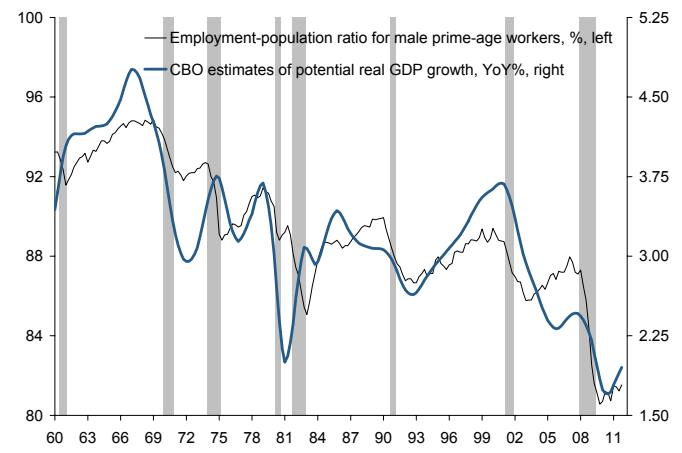
Exhibit 11: Demographics dictate pension and healthcare costs

Number of live births in US (mn); the year they turn 65 marked on top of the line



Source: US Census Bureau, Credit Suisse

Exhibit 12: Low employment-population ratio bodes poorly for US growth potential



Source: BLS, CBO, Credit Suisse

To the extent that labor market dynamics can be interpreted as shaped by cyclical forces (as opposed to structural), it becomes the Fed’s “business.” **Our analysis suggests that demographic factors account for only a small portion of the decline in the employment-population ratio since 2000. That would still leave, say, two-thirds of the decline in the cyclical category, and therefore a suitable candidate for countercyclical stabilization policy.** We first made the case three years ago that structural unemployment had probably risen but surely not to 8.5% of the labor force. As we wrote then: “Even if the NAIRU is deteriorating, it is likely to be several years before the economy generates enough of a drop in unemployment to get to the new NAIRU, presumably above the levels of the last 20 years but surely below the current 9.7% unemployment rate.” (See [US Economics Digest: Where Is Full Employment in a More Volatile Macroeconomy?](#), 18 September 2009.) We reiterated this view in our November 2010 report. Over three years later, we would add the concern of the negative long-term impact on the nation’s potential growth capacity and fiscal situation.

The Fed can stay easy and contemplate getting even easier as monetary policy can be influential on the cyclical process. The process of policy implementation presumably starts with thinking about something, then talking about it, then doing it. We view the Fed as in the “talking” stage of QE3 and expect a program to commence in the next few months with a heavy emphasis on buying mortgage-related securities. **The fact that the FOMC last week emphasized downside risks to the economy, described the housing market as still being depressed, and extended the low rate commitment to late 2014 suggests that QE3 is still likely** (see our January 25 [US Economics Digest: FOMC Meeting Review: Transparent, But Not Clear](#)).

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