

Virginia Tech – U.S. Forest Service August 2015 Housing Commentary Part C: Demographics/Economics



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Opening Comments

The Demographic & Economics section includes information on incomes; employment; gross domestic product; United States and global economies; and demographics.

The information comes from Sentier Research; Bureau of Labor Statistics; Bloomberg; J.P Morgan; Price Waterhouse Coopers; and author's analysis.

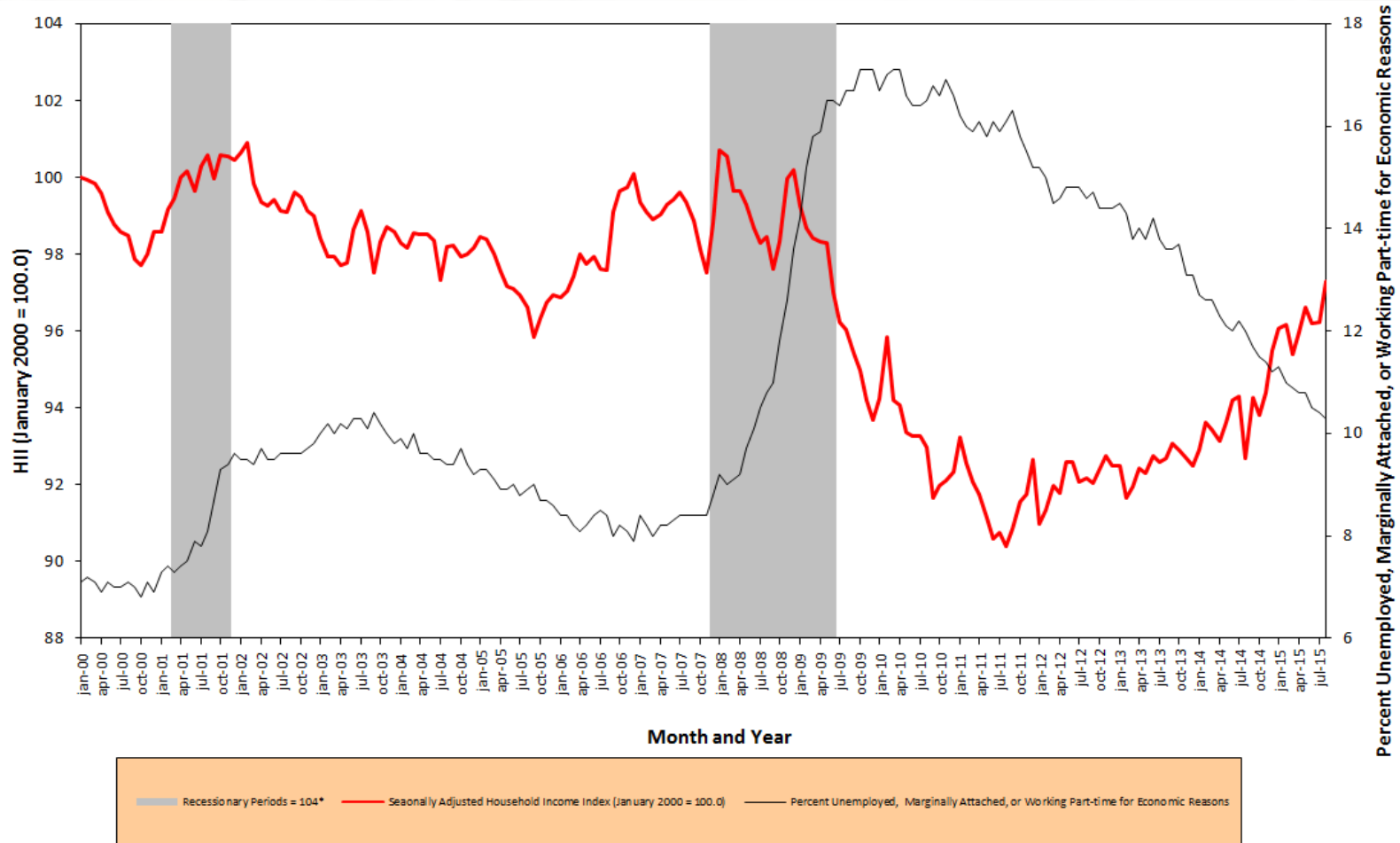
As mentioned in the previous section, these data and information are a “snapshot in time” and should be viewed in a long-term context.



Demographics & Economics

Demographics & Economics

Median Household Income Index, Percent Unemployed, Marginally attached or Working Part-time for Economic Reasons: January 2000 to August 2015



Demographics & Economics

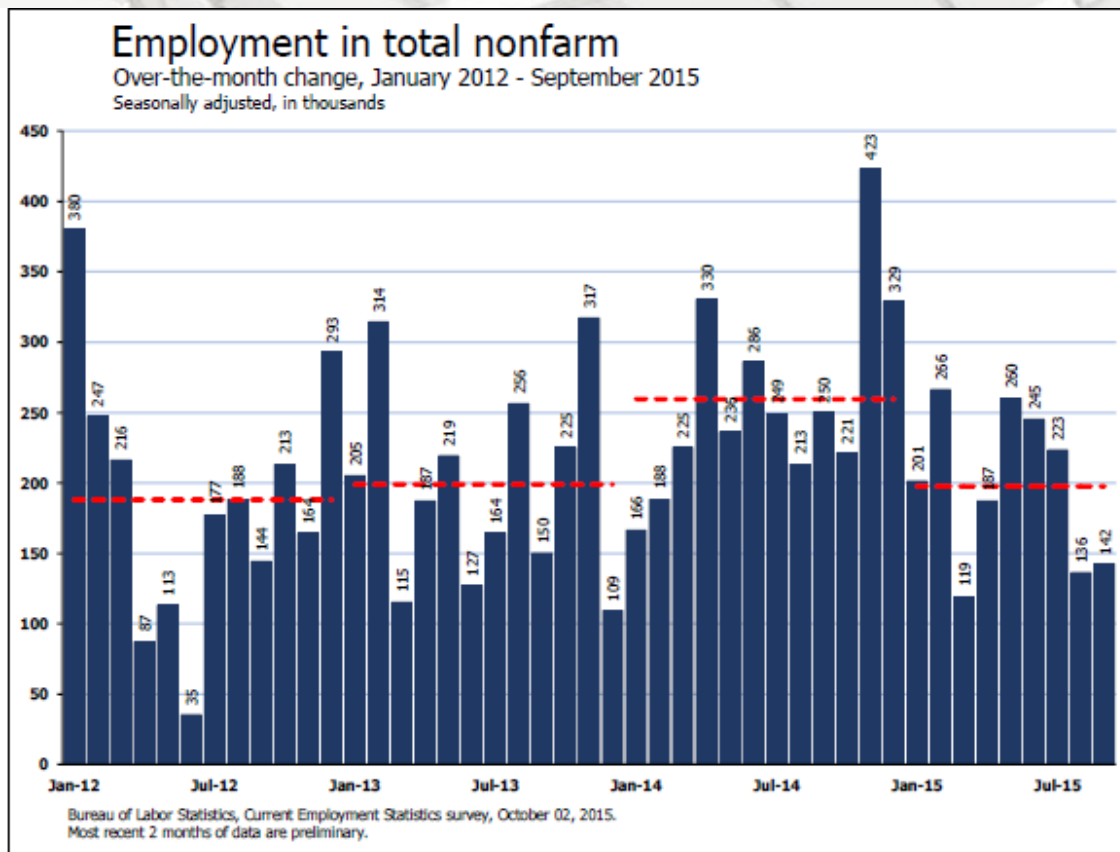
“...median annual household income in August 2015 reached a post-recession high of \$55,794, 1.1 percent (or \$615) higher than the July 2015 median of \$55,179. This is one of the largest month-to-month increases in median household income recorded during the post-recessionary period (since June 2009).

The August 2015 median income of \$55,794 is not significantly different than the median of \$55,634 in June 2009, the end of the recent recession and beginning of the “economic recovery.”

(Since the recession ended consumer prices have increased by 10.8 percent, creating a sizable “headwind” for changes in median annual household income.) However, the August 2015 median was still 1.5 percent lower than the median of \$56,671 in December 2007, the beginning month of the recession that occurred more than seven years ago. And the August 2015 median was 2.7 percent lower than the median of \$57,345 in January 2000, the beginning of this statistical series.

...the broad measure of employment hardship in January 2000 was 7.1 percent, rose to 8.8 percent in December 2007, continued to rise to 16.5 percent in June 2009, fell to 16.1 percent in August 2011, and stood at 10.3 percent in August 2015.” -- Dr. Gordon Green, Sentier Research

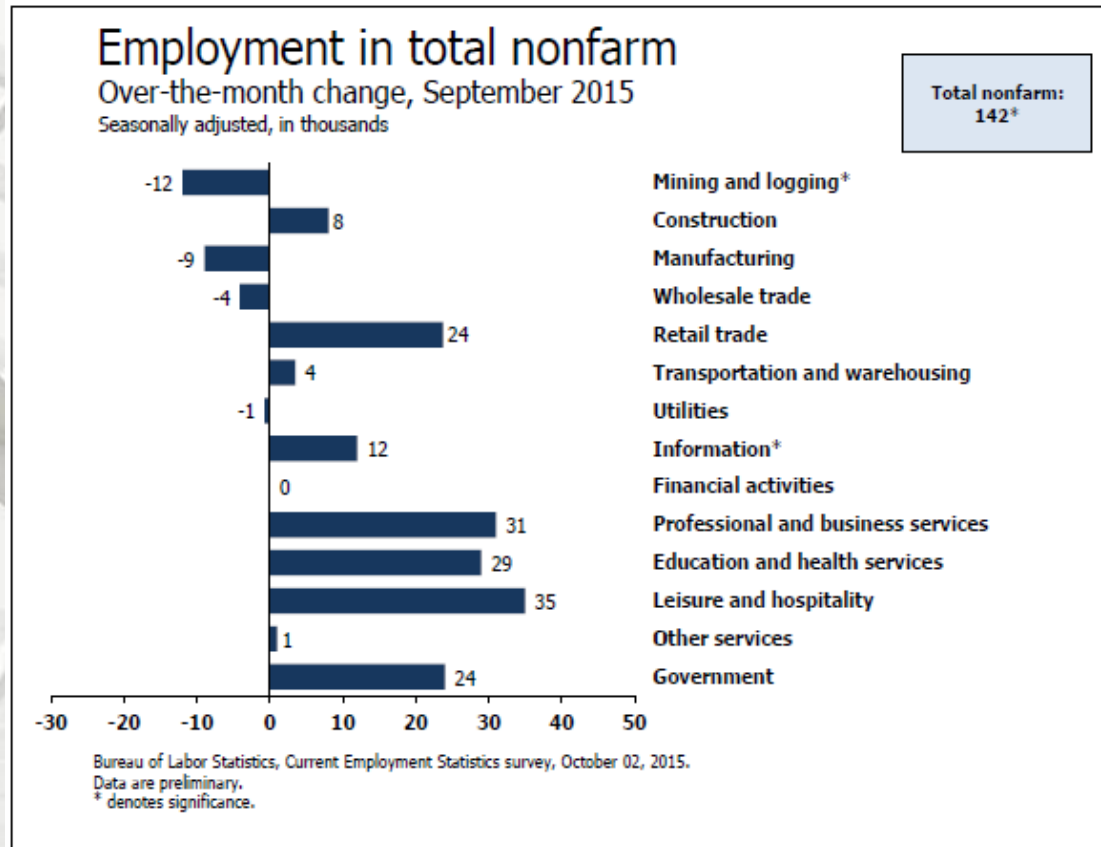
Demographics & Economics



Nonfarm payroll employment increased by 142,000 in September. Employment rose in health care and information, while mining employment decreased over the month. Thus far in 2015, employment has increased by an average 198,000 per month, compared to an average 260,000 per month in 2014.

The employment change for July was revised down from +245,000 to +223,000, and the change for August was revised down from +173,000 to +136,000. Incorporating revisions, employment growth rose by an average 167,000 per month in the third quarter.

Demographics & Economics



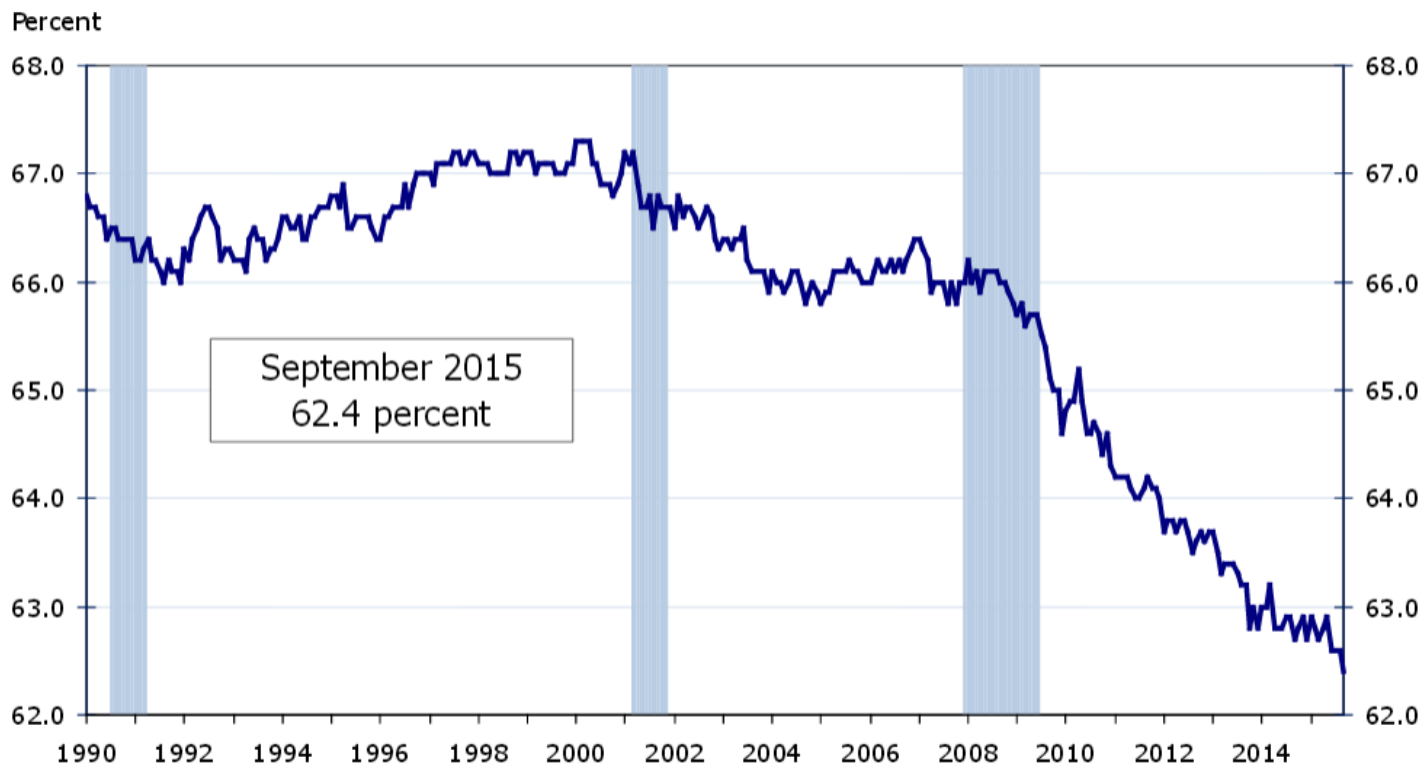
+ 29,000 Education and Health Services
 + 31,000 Professional and Business Services
 - 9,000 Manufacturing
 + 13,000 Financial activities
 + 16,000 Hospitals
 + 1,000 Other Services

+ 24,000 Retail Trade
 - 12,000 Mining and Logging
 - 4,000 Wholesale Trade
 + 4,000 Transportation and Warehousing
 + 35,000 Leisure and Hospitality

+ 12,000 Information
 + 8,000 Construction
 - 1,000 Utilities
 + 24,000 Government

Demographics & Economics

Chart 2. Civilian labor force participation rate
Seasonally adjusted, 1990–2015



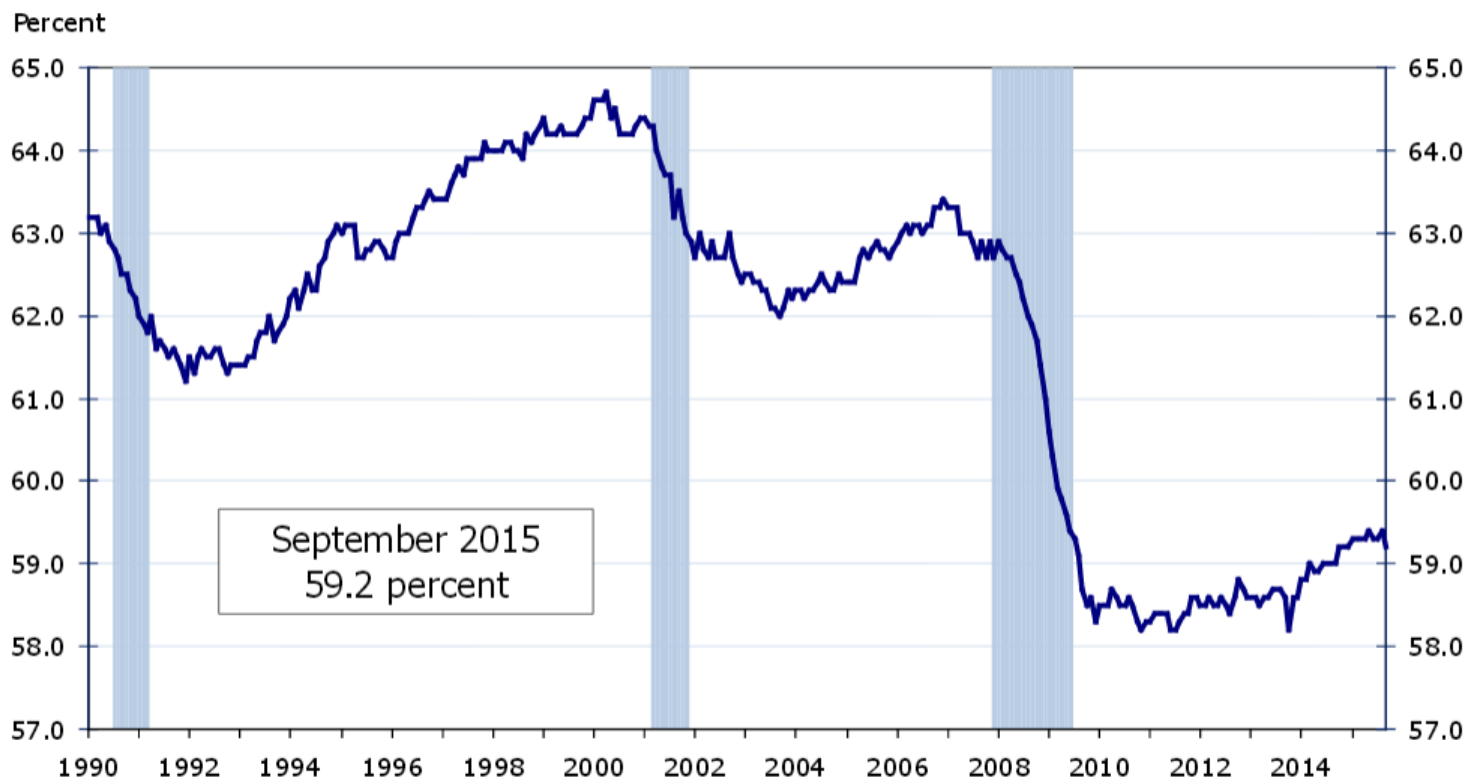
Note: Shaded areas represent recessions as determined by the National Bureau of Economic Research (NBER). Data online at <http://data.bls.gov/timeseries/LNS11300000>.

Source: Bureau of Labor Statistics, Current Population Survey, October 2, 2015.



Demographics & Economics

Chart 4. Employment-population ratio
Seasonally adjusted, 1990–2015



Note: Shaded areas represent recessions as determined by the National Bureau of Economic Research (NBER). Data online at <http://data.bls.gov/timeseries/LNS12300000>.

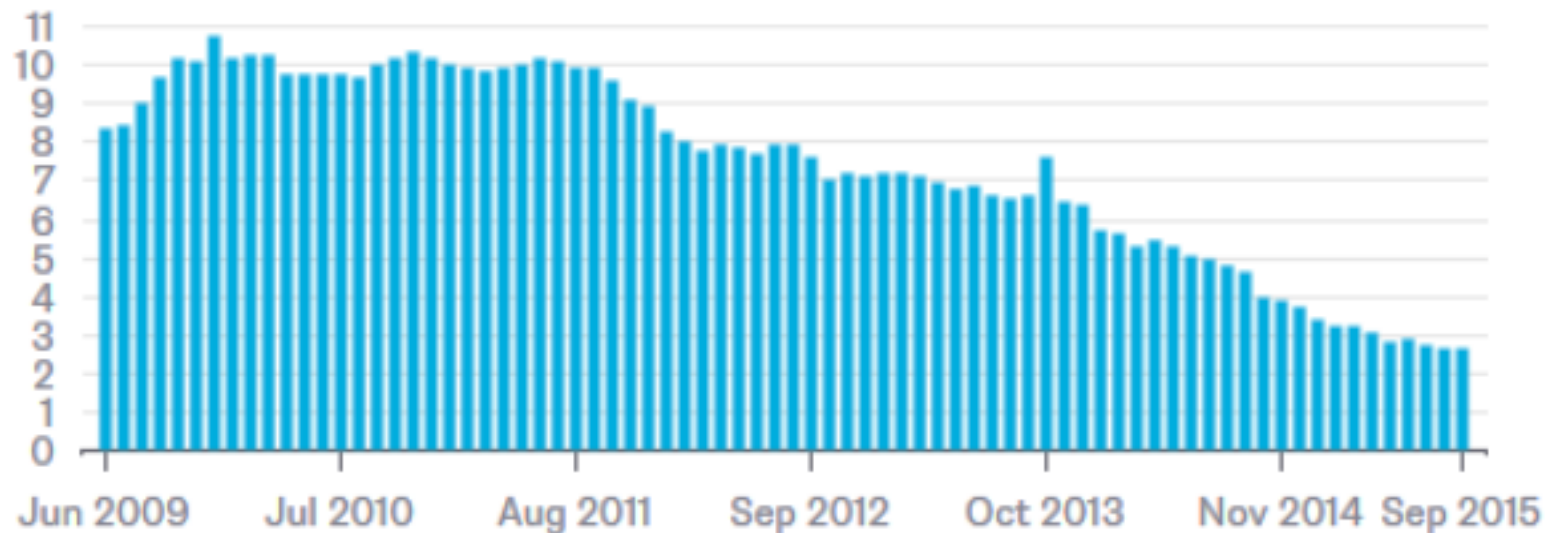
Source: Bureau of Labor Statistics, Current Population Survey, October 2, 2015.



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Employment Gap

■ Millions of full-time-equivalent jobs needed to reach full employment*



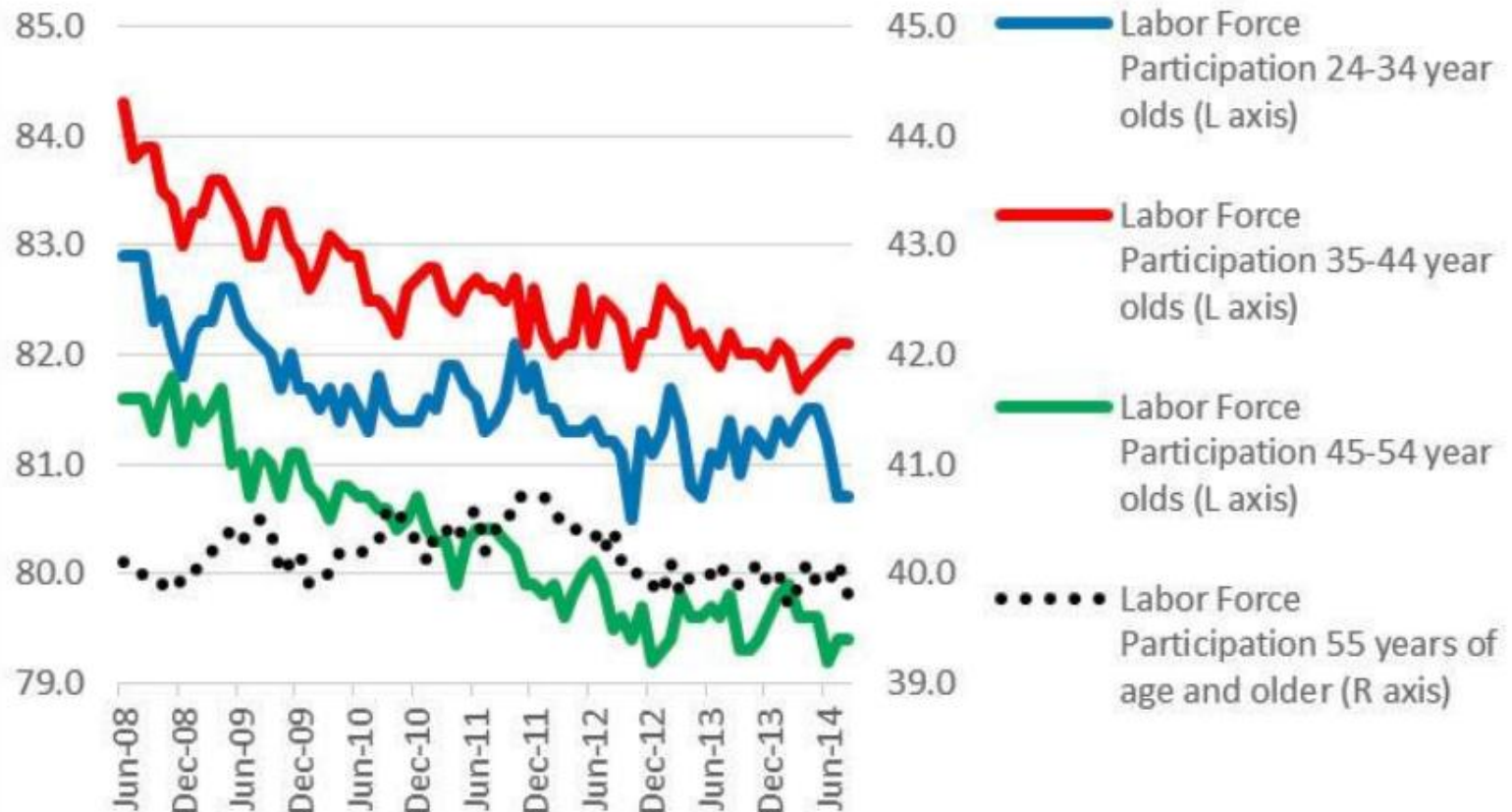
Sources: Andrew Levin, Bloomberg, CBO, BLS, Federal Reserve.

*Assuming CBO estimate of potential labor force, pre-recession average part-time employment and unemployment target of 4.9 percent.

BloombergView

Demographics & Economics

Changes in Labor Force Participation Rates for Various Demographic Groups Since the Great Recession

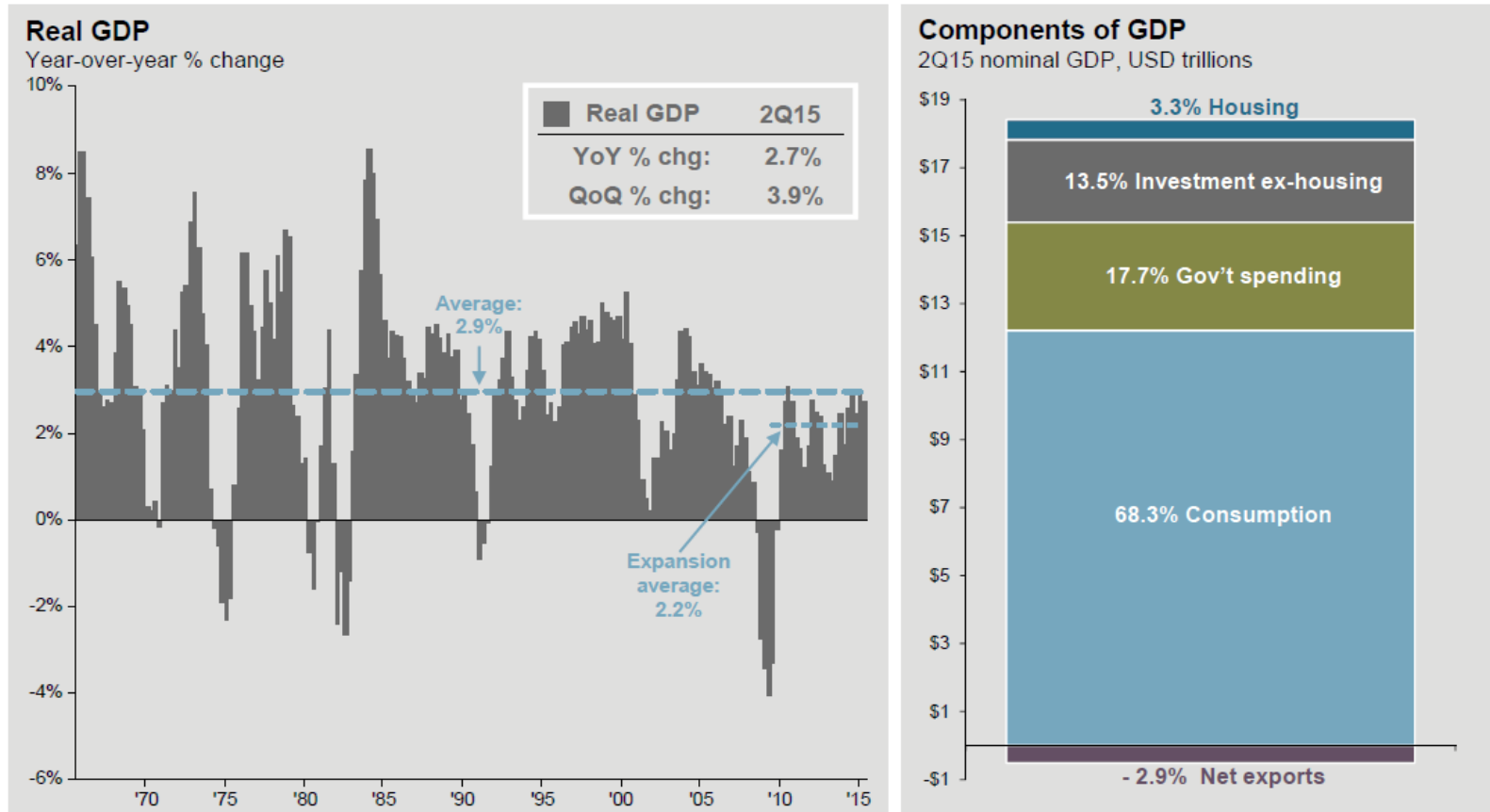


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Economic growth and the composition of GDP

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Economy



Source: BEA, FactSet, J.P. Morgan Asset Management.
Values may not sum to 100% due to rounding. Quarter-over-quarter percent changes are at an annualized rate. Average represents the annualized growth rate for the full period. Expansion average refers to the period starting in the second quarter of 2009.
Guide to the Markets - U.S. Data are as of September 30, 2015.

Demographics & Economics

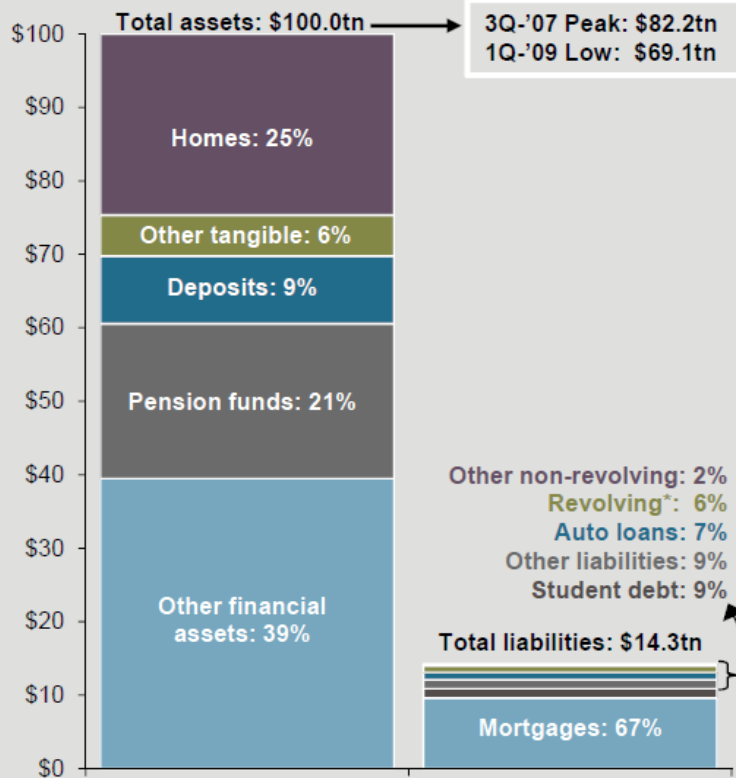
Consumer finances

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Economy

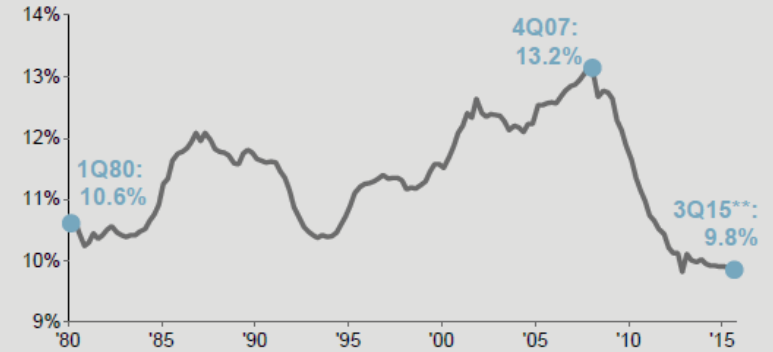
Consumer balance sheet

2Q15, trillions of dollars outstanding, not seasonally adjusted



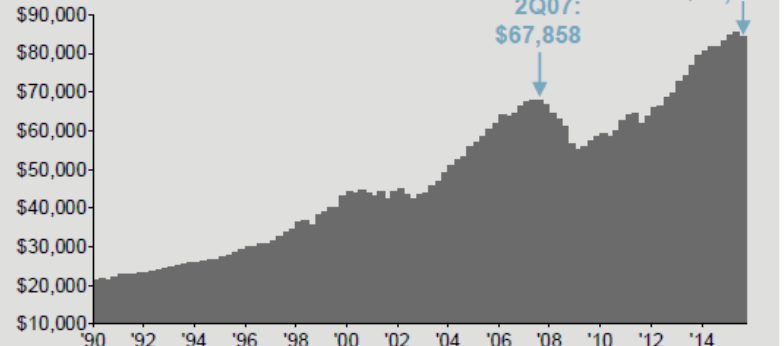
Household debt service ratio

Debt payments as % of disposable personal income, SA



Household net worth

Not seasonally adjusted, USD billions



Source: FactSet, FRB, J.P. Morgan Asset Management, (Top and bottom right) BEA.

Data include households and nonprofit organizations. SA – seasonally adjusted.

*Revolving includes credit cards. **2Q15 and 3Q15 household debt service ratio and 3Q15 household net worth are J.P. Morgan Asset Management estimates. Values may not sum to 100% due to rounding.

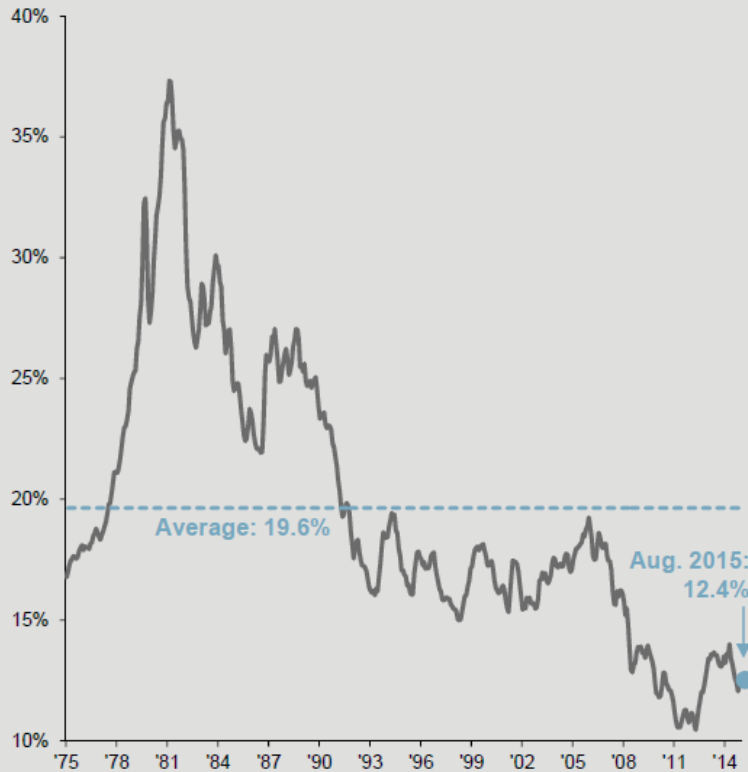
Guide to the Markets – U.S. Data are as of September 30, 2015.

J.P.Morgan
Asset Management

Demographics & Economics

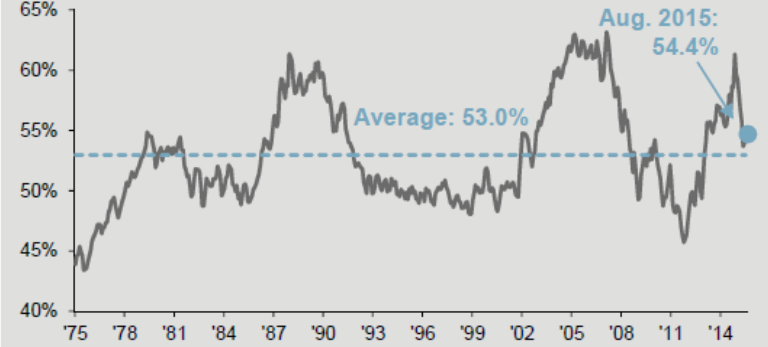
Housing Affordability Index

Average mortgage payment as a % of household income



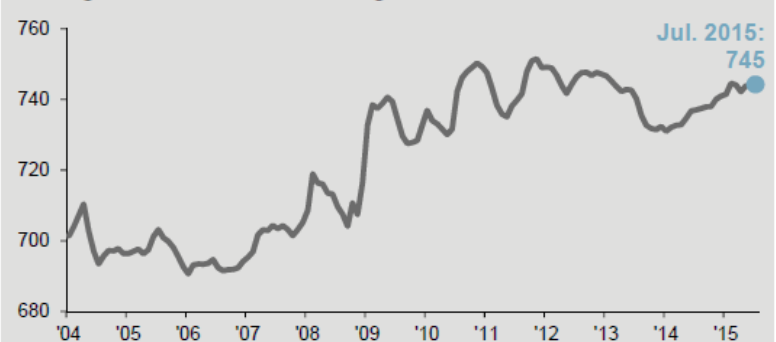
Down payment as a percent of household income

Assuming down payment is a constant 20% of home price



Lending standards for approved mortgage loans

Average FICO score based on origination date



Sources: J.P. Morgan Asset Management, (Left and top right) Census Bureau, Federal Reserve, (Bottom right) McDash, J.P. Morgan Securitized Product Research.

Monthly mortgage payment assumes the prevailing 30-year fixed-rate mortgage rates and average new home prices excluding a 20% down payment.

Down payment assumes 20% of home purchase price paid upfront.

Guide to the Markets – U.S. Data are as of September 30, 2015.

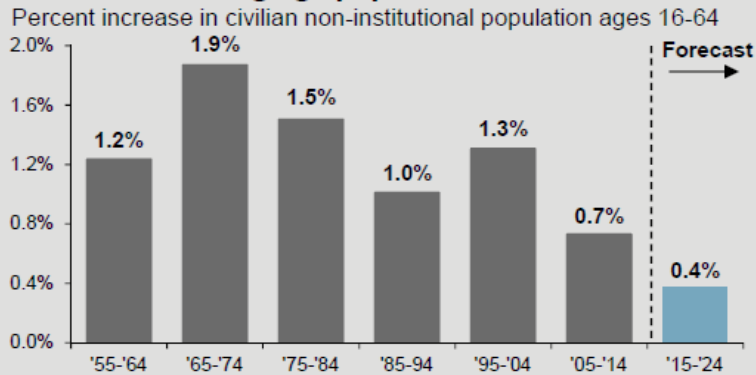
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Long-term drivers of economic growth

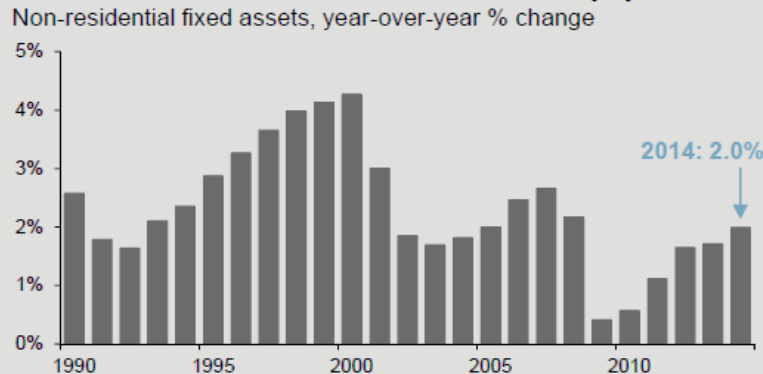
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Economy

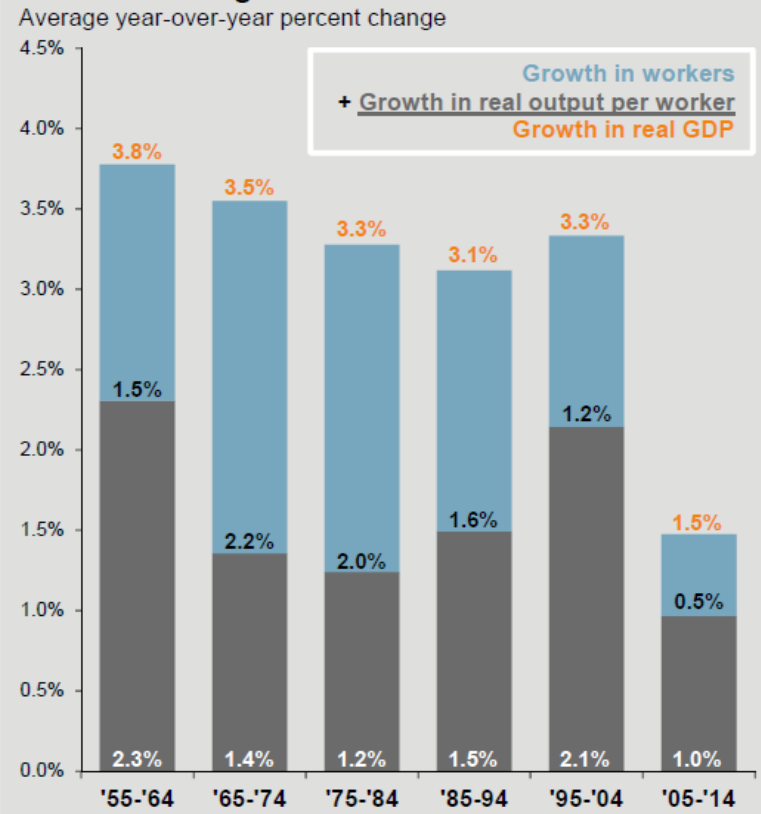
Growth in working age population



Growth in investment in structures and equipment



Drivers of GDP growth



Source: J.P. Morgan Asset Management, (Top left) Census Bureau, DOD, DOJ, (Top left and right) BLS, (Right and bottom left) BEA. GDP drivers are calculated as the average annualized growth between Q4 of the first and last year. Future working age population is calculated as the total estimated number of Americans from the Census Bureau, controlled for military enrollment, growth in institutionalized population and demographic trends. Guide to the Markets – U.S. Data are as of September 30, 2015.

J.P.Morgan
Asset Management

Demographics & Economics

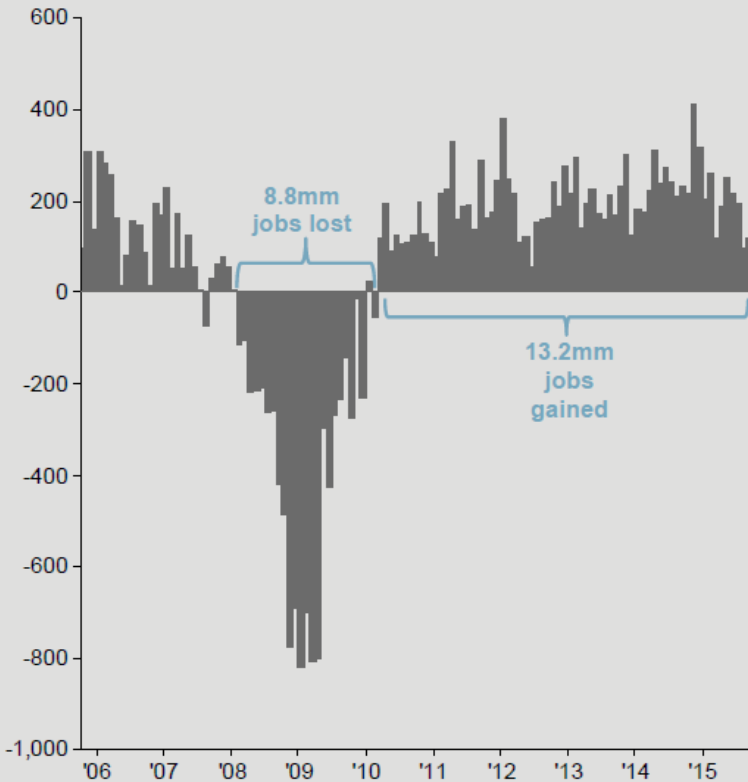
Labor market perspectives

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Economy

Employment – Total private payroll

Total job gain/loss, thousands



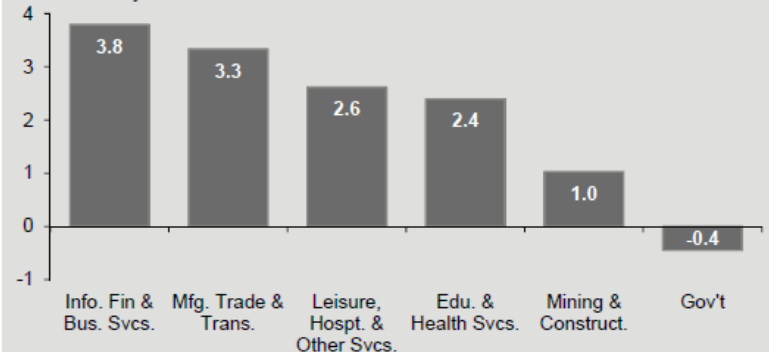
Labor force participation rate

Population unemployed or looking for work as a % of total, ages 16+



Net job creation since Feb. 2010

Millions of jobs

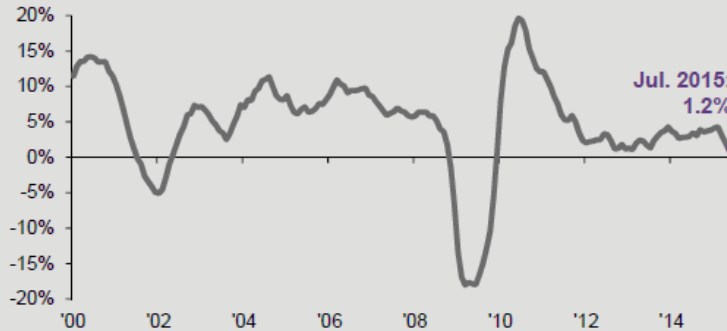


Source: BLS, FactSet, J.P. Morgan Asset Management.
Guide to the Markets – U.S. Data are as of September 30, 2015.

Demographics & Economics

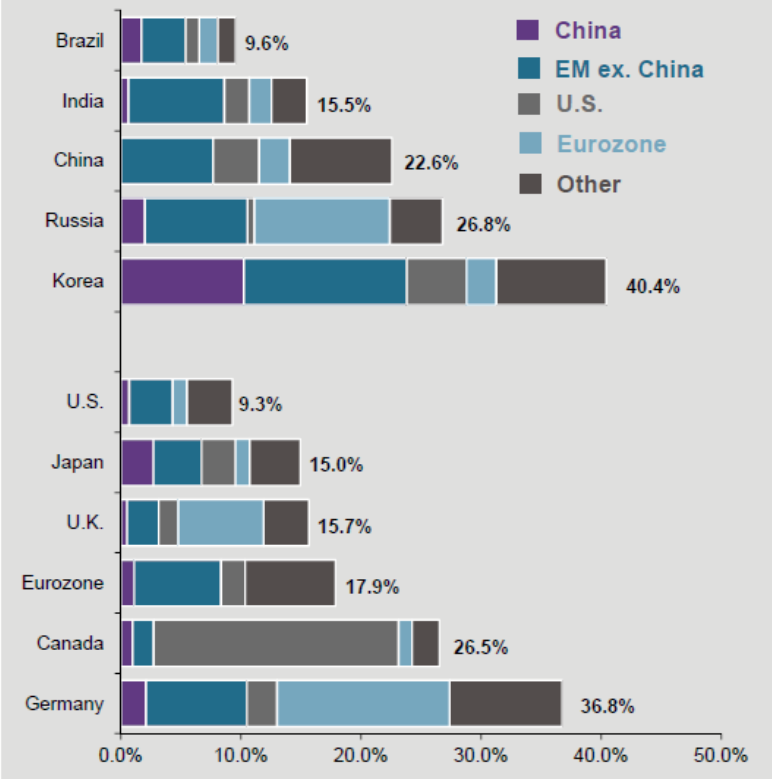
World export volume

% change year-over-year, 3-month moving average



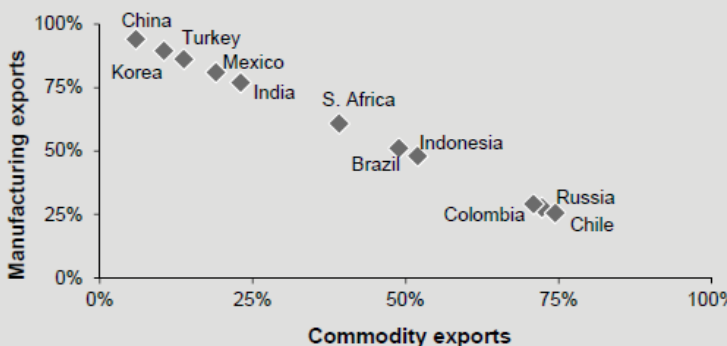
Exports as a % of GDP

Goods exported, 2014



EM exports

% of total exports, 2014*



Source: J.P. Morgan Asset Management, (Top left) Netherlands Bureau for Economic Policy Analysis World Trade Monitor, (Right) FactSet, IMF Direction of Trade Statistics, (Bottom left) World Bank.
 *Russia's total commodity and manufacturing exports are as of 2013 due to data availability.
 Guide to the Markets – U.S. Data are September 30, 2015.

International

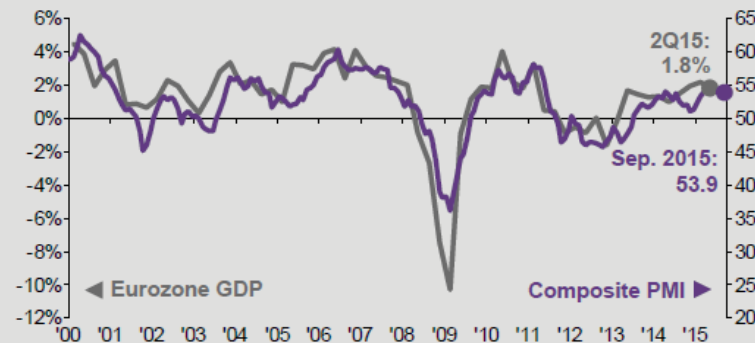
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European recovery

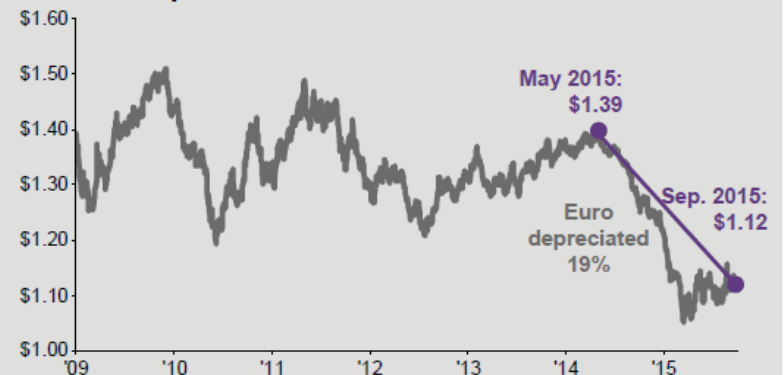
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Markit PMI and GDP growth in the eurozone

Markit Composite PMI index and eurozone GDP q/q SAAR

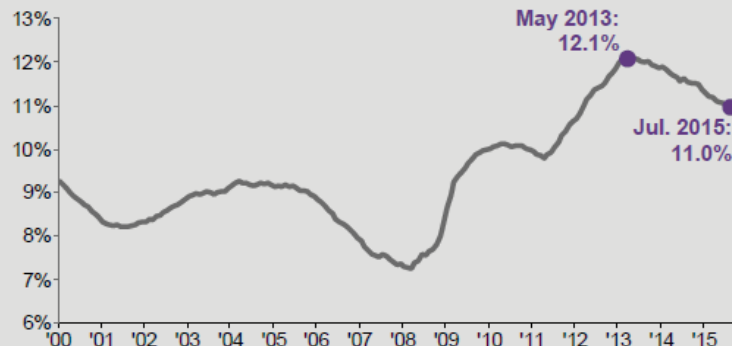


U.S. dollar per euro



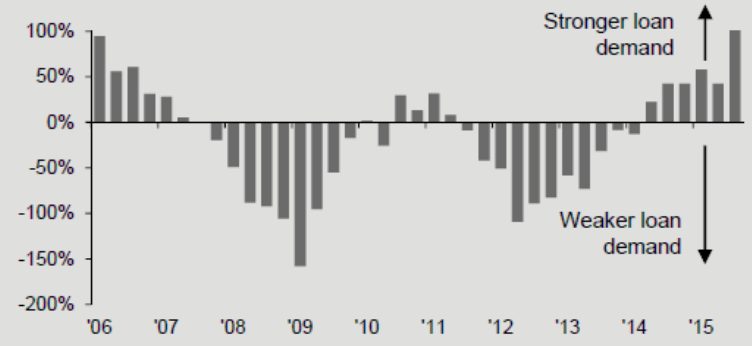
Eurozone unemployment

Persons unemployed as a percent of labor force, seasonally adjusted



Eurozone credit demand

Net % of banks reporting positive loan demand

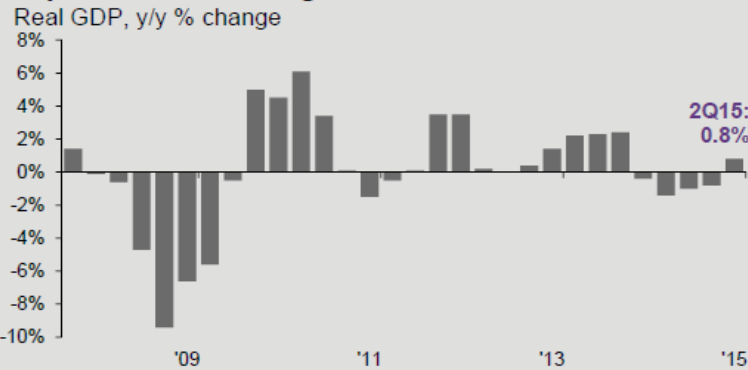


Source: FactSet, J.P. Morgan Asset Management, (Top left) Markit, (Top and bottom left) Eurostat, (Bottom right) ECB.
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International

Demographics & Economics

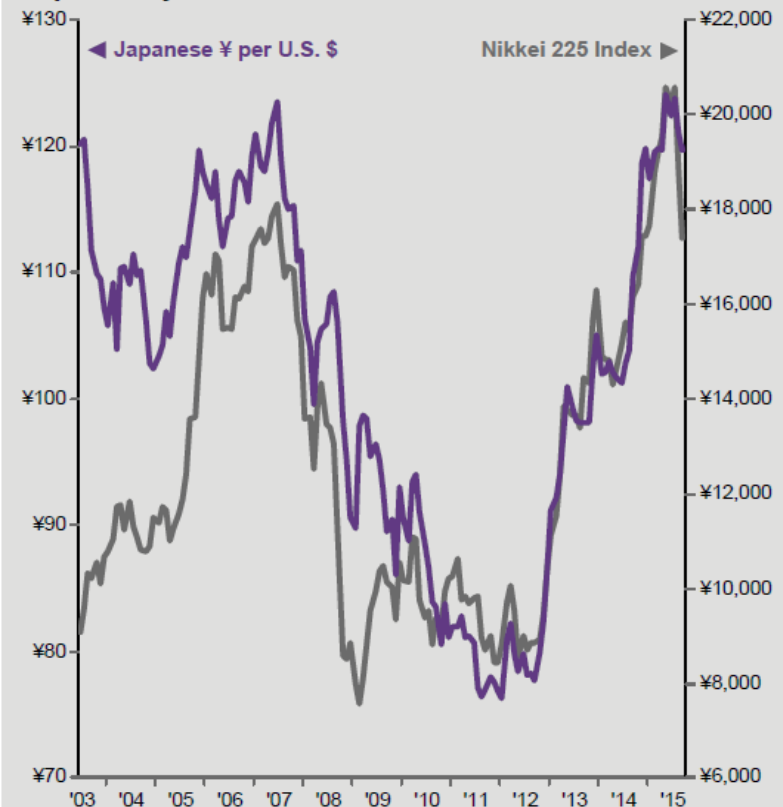
Japanese economic growth



Japanese labor market



Japanese yen and the stock market



Source: FactSet, J.P. Morgan Asset Management, (Top and bottom left) Japanese Cabinet Office, (Right) Nikkei. Guide to the Markets – U.S. Data are as of September 30, 2015.

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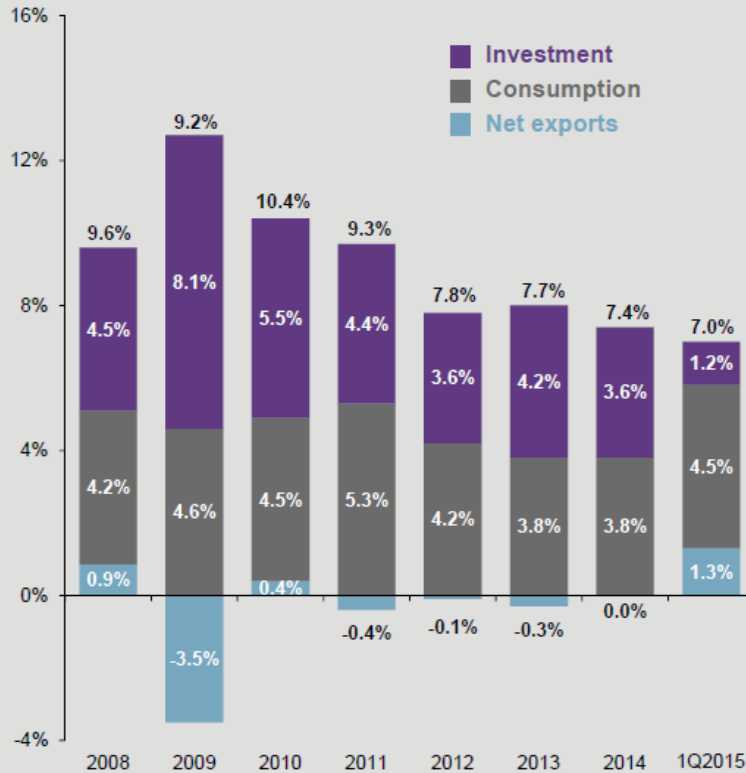
China: Economic and policy snapshot

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International

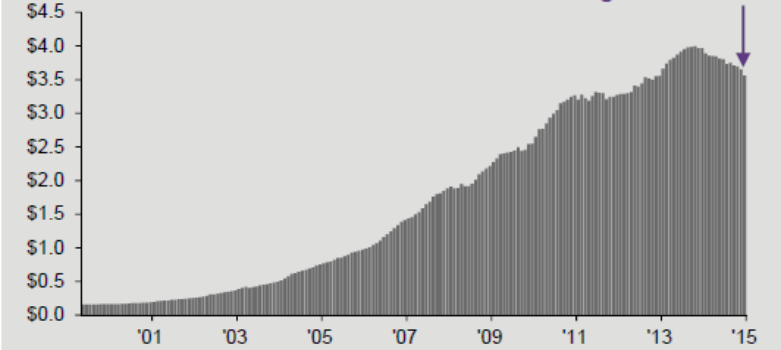
China real GDP contribution

Year-over-year % change



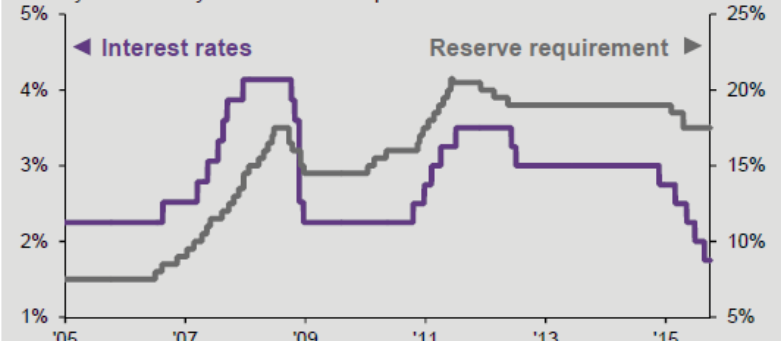
China foreign exchange reserves

Trillions USD



Monetary policy tools

Policy rate on 1-year renminbi deposits



Source: FactSet, J.P. Morgan Asset Management, (Left) CEIC, (Top and bottom right) People's Bank of China. Guide to the Markets – U.S. Data are as of September 30, 2015.

J.P.Morgan
Asset Management

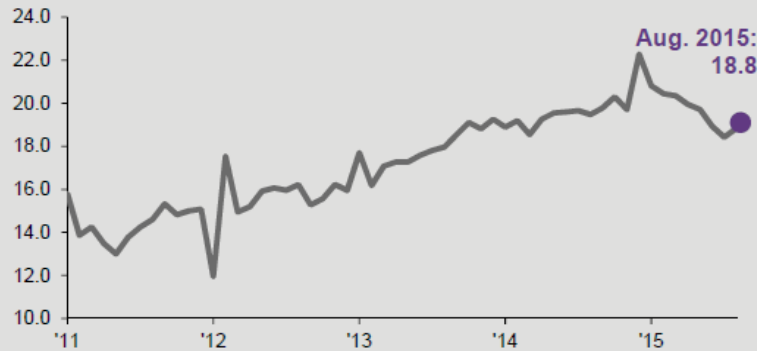
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China: Cyclical sectors

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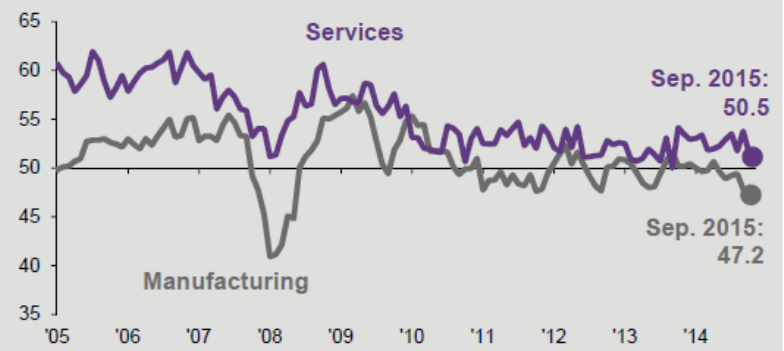
Domestic car sales

Unit sales, millions, seasonally adjusted annual rate



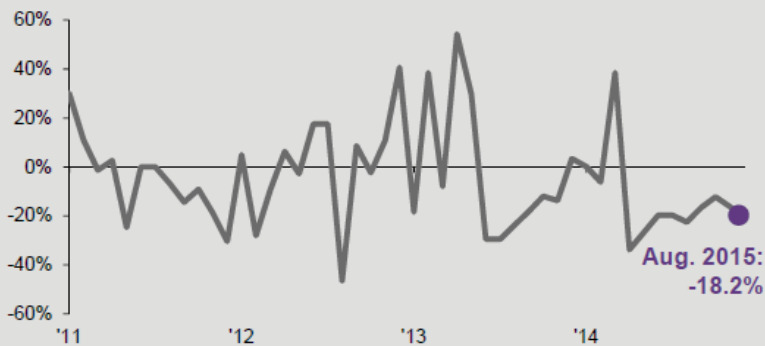
Manufacturing and Services PMI

Caixin/Markit manufacturing and services indices



Construction of private residential floor space

Year-over-year % change



Exports and imports

Year-over-year % change

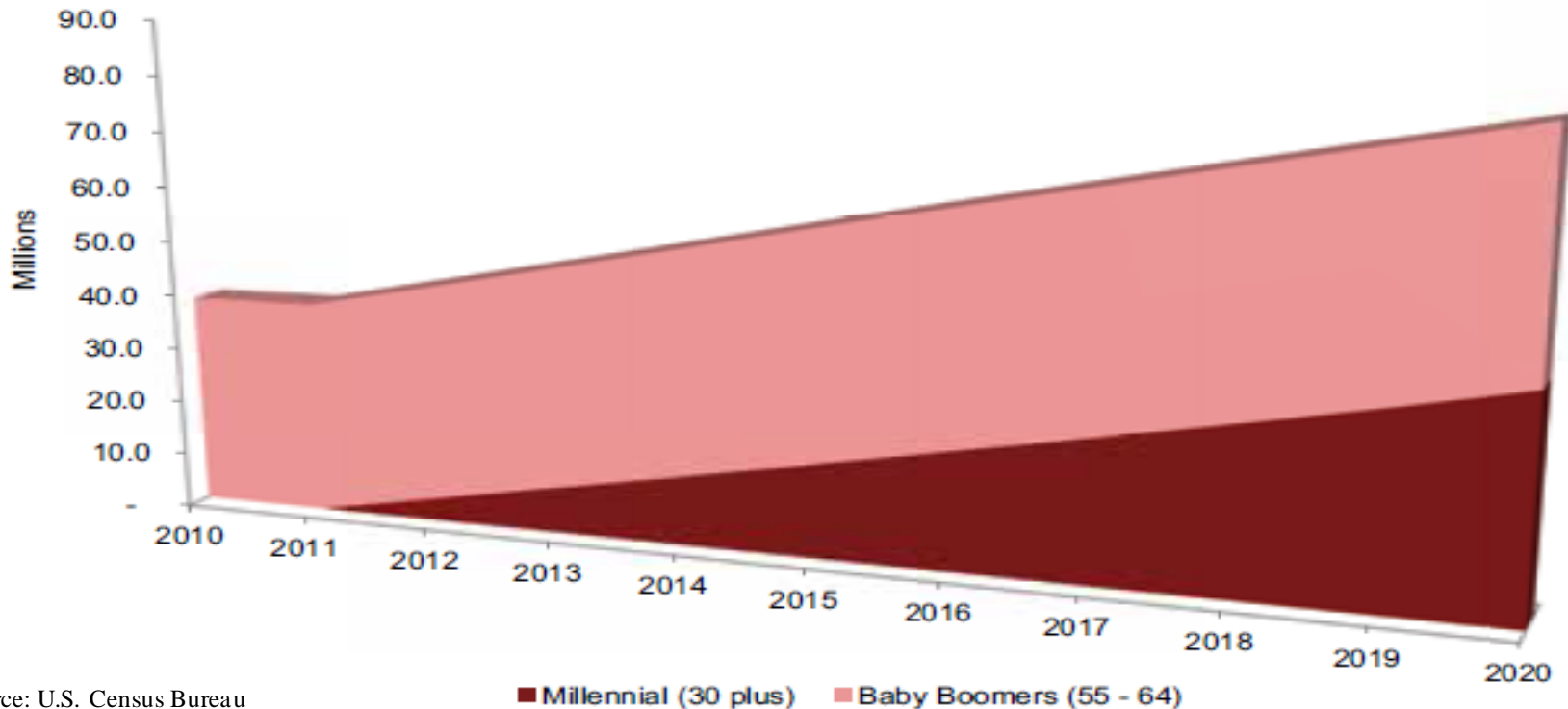


Source: J.P. Morgan Asset Management, (Top and bottom left and bottom right) National Bureau of Statistics, (Top right) Markit Economics. Guide to the Markets – U.S. Data are as of September 30, 2015.

International

Demographics & Economics

Figure 1 – Population that will be making lifestyle decisions in the next five years

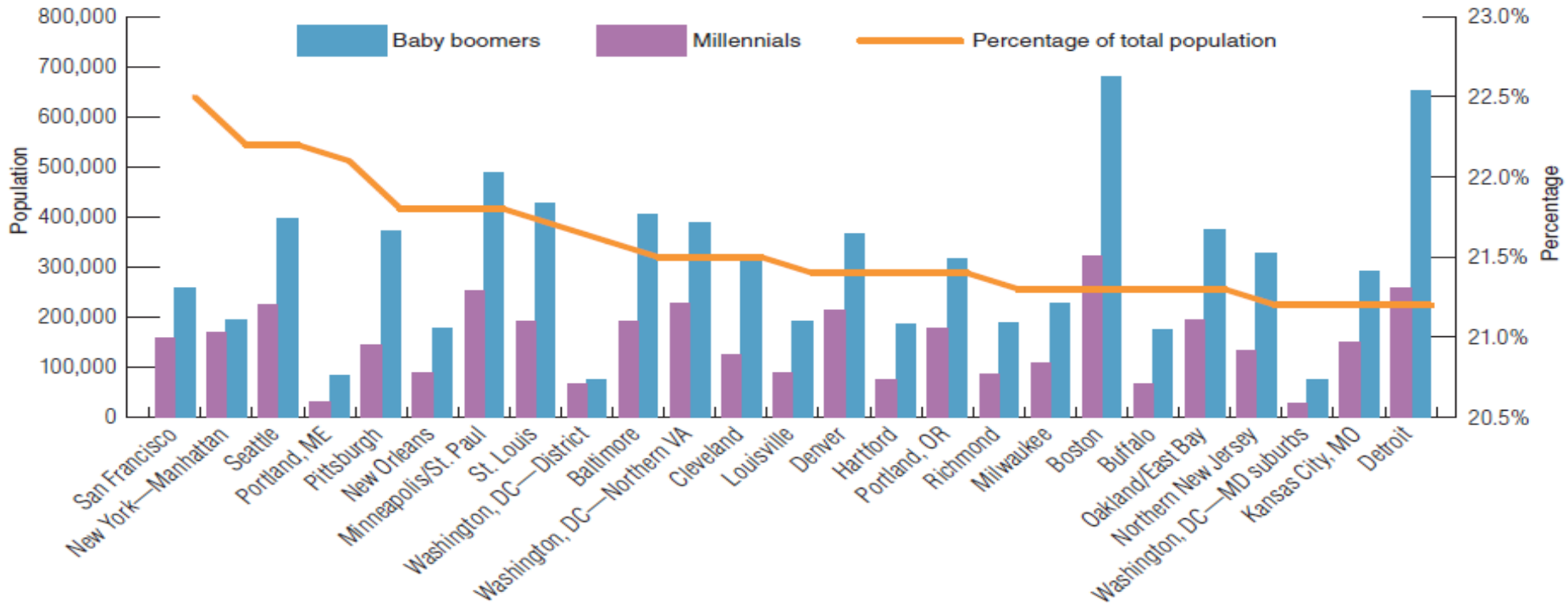


Source: U.S. Census Bureau

“...the market may be driven by the fact that a significant number of these two age groups will likely be making significant life style choices; for example, where to live, home purchases, job status and the like. The real estate market is contemplating the potential impact on housing and commercial real estate markets.” – Andrew Warren, Director, PwC

Demographics & Economics

Exhibit 3-4 Millennials and Baby Boomers as Percentage of Total U.S. Population*



Source: U.S. Census Bureau, December 31, 2013.

*Data include only millennials who are 30 to 35 years of age and baby boomers who are 55 to 64 years of age.

“...a number of markets will find themselves at the mercy of the decisions made by these two groups: millennials over age 30 and baby boomers ages 55 to 64. On average, the combination of these age groups represents from 19 to 22 percent of total population of the markets in this year’s survey.” – PwC, Emerging Trends in Real Estate® 2015

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