Labor Force Participation Rate and GDP

A Study on the Impact of Labor Participation on GDP

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Publication and editorial recognition

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As the U.S. labor force participation rate declines, gross domestic product (GDP) growth will continue to slow, eventually stalling and even declining unless this labor trend reverses. Our analysis has shown that while an aging demographic has contributed to the declining labor force participation rate, a majority of the decline can be attributed to other factors including:

Discouraged workers

- ~41% of the unemployed have been out of work for more than 27 weeks
- The majority of those who leave the labor force do not return
- Baby boomers are prolonging their retirements indicating many workers leaving the labor force are doing so in their prime working years

Increasing education polarizations and misalignment of skills with job demands

- While high school graduation and college enrollments are at historic highs, literacy rates have remained stagnant for the last 10 years
- 60% of all new jobs created over the next two decades will require skills that only 20% of the current workforce possess

Increasing reliance on and abuse of government programs

- Average government transfer payments to supplement income have more than doubled in the last 10 years
- Over the past decade, the number of people collecting disability insurance has risen by 55% or over 3.1 million
- Each employed person in the labor force contributes ~$115,664 to GDP

High tax burdens and excessive regulations

- In high tax states like California and New York the top tax rate for individuals exceeds 50%
- In a survey conducted by the National Federation of Independent Businesses (NFIB) in 2013, small-business owners were more likely to cite either taxes or regulations and red tape as their biggest problem than any other factor including poor sales

With the exception of an aging demographic, many of the factors contributing to the decline in LFPR can be eliminated, mitigated, or reversed

Americans must return to the work force before the U.S. will experience a significant growth in GDP

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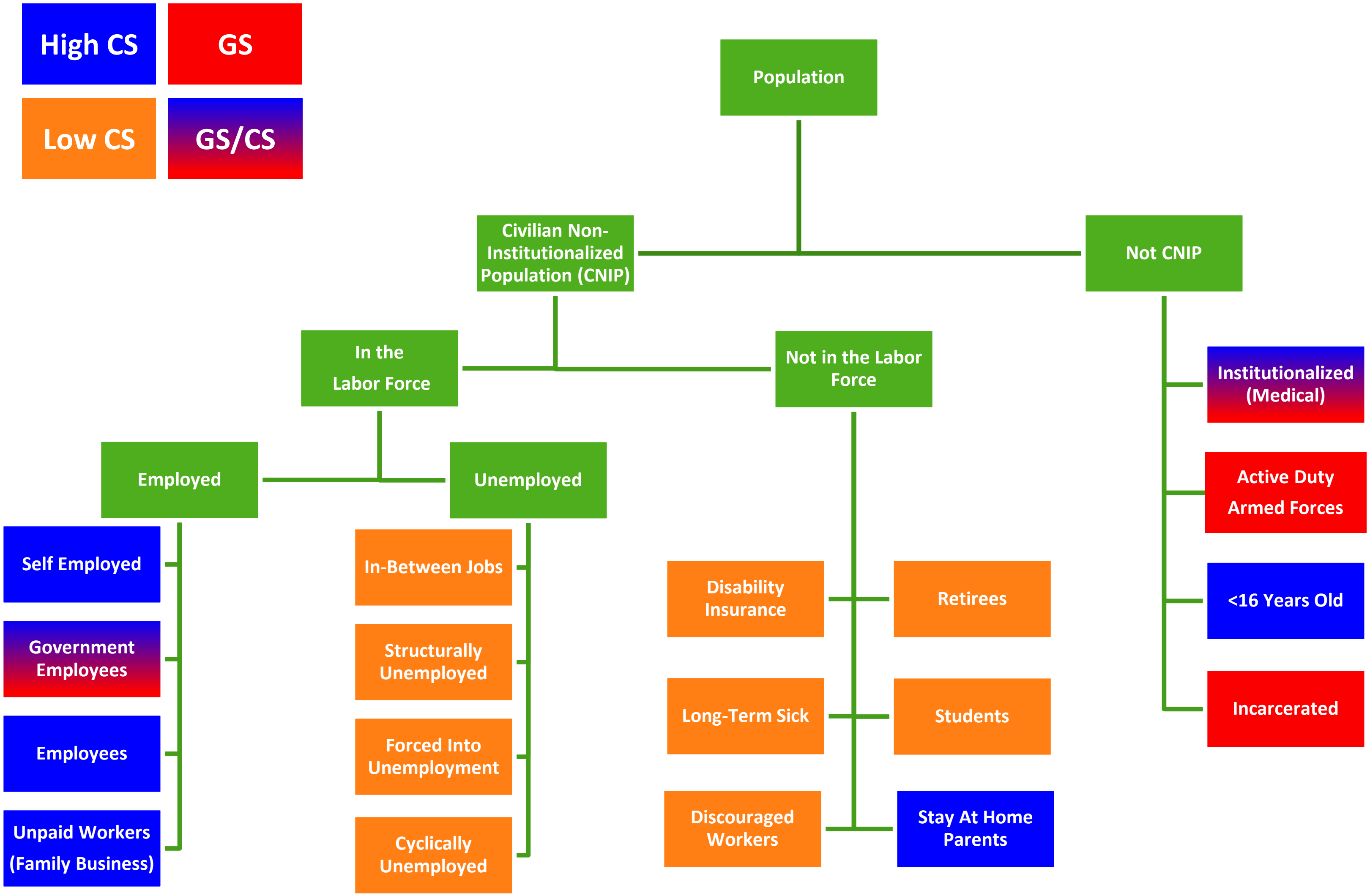
Broadly stated, the declining labor force participation rate will decrease GDP growth in the United States and this declining U.S. GDP growth will decrease GDP growth globally.

- As proven by economic theory, the declining labor force participation rate will cause fewer people to hold jobs and therefore will lead to less consumer spending

- The decrease in the labor force participation rate will lower the unemployment rate in a misleading way, thus causing the U.S. economy to appear stronger than it is

- The decrease in the labor force participation rate will cause Consumer Spending, a component of GDP, to decrease, lowering the average U.S. citizen’s ability to purchase foreign and domestic goods and contribute to the global economy

Modeling the population is crucial to understanding the labor force participation rate



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Defined terms

- **Labor Force Participation Rate (LFPR):** The percentage of working-age persons (16 – 64) in an economy who are either employed or unemployed, but looking for a job
- **Gross Domestic Product (GDP):** The monetary value of all the finished goods and services produced within a country's borders in a specific time period, though GDP is usually calculated on an annual or quarterly basis. It includes all of private and public consumption, government outlays, investments and exports less imports that occur within a defined territory
- **Consumer Spending:** The amount of money spent by households in an economy. The spending includes durables, such as washing machines, and nondurables, such as food. It is also known as consumption, and is measured monthly
- **Economic Freedom Index:** A ranking of countries or states based on the number and intensity of government regulations on wealth-creating activity. Metrics that an economic freedom index evaluates include international trade restrictions, government spending relative to GDP, occupational licensing requirements, private property rights, minimum wage laws and other government-controlled factors that affect people's ability to earn a living and keep what they earn
- **Advanced Economies:** A sovereign state that has a highly developed economy and advanced technological infrastructure relative to other less industrialized nations
- **Secondary Education:** Secondary education refers to high school level education in the U.S.
- **Tertiary Education:** Tertiary education broadly refers to all post-secondary education, including but not limited to colleges and universities.
- **Civilian Non-Institutionalized Population:** In the United States this refers to people 16 years of age and older residing in the 50 States and the District of Columbia who are not inmates of institutions (penal, mental facilities, homes for the aged), and who are not on active duty in the Armed Forces
- **Medium-skill:** An employee who has sufficient knowledge of a particular trade and is able to do respective work. They can do a simple job with the help of required tools and machines
- **Baby Boomers:** People born during the post WWII baby boom as soldiers returned home from battle and settled into civilian life between the years of 1946 and 1964. All individuals born during this time period fall into the ‘baby boomer’ category
- **Literacy/Illiteracy Requirements:** Reading and writing skills that are inadequate to manage daily living and employment tasks that require reading skills above a basic level. A functionally illiterate individual cannot read or write simple sentences in their native language
- **Numeracy/innumeracy:** An individual who is not numerate lacks the ability to reason through and apply simple numerical concepts. Basic numeracy skills consist of comprehending fundamental mathematics such as addition, subtraction, multiplication and division. A fully numerate individual should at a minimum be able to navigate the mathematical demands of life

Defined terms (cont.)

- **ETS:** Educational Testing Service is a private non-profit organization
- **FDI:** Foreign Direct investment is direct investment into production or business in a country or company of another country, either by buying a company in the target country or expanding the operations of an existing business in that country
- **STEM:** Educational fields of Science, Technology, Engineering and Mathematics
- **Skilled vs. Unskilled Labor:** Skilled labor is the specialized part of the labor force that requires a form of advanced education, examples include physicians, attorneys, plumbers, professors, scientists and more. Unskilled labor by comparison is the segment of the workforce associated with a low skill level or a limited economic value for the work performed, unskilled labor requires little or no training or experience for its adequate and competent performance
- **Full employment:** As defined by the employment act of 1946 the United States has a goal of an unemployment rate of no more than 3% for those aged 20 and older and 4% for those aged 16 and over. As a general concept the full employment percentage or desired unemployment rate can vary between 2 and 7 percentage points.
- **Discouraged Worker:** Someone who has left the work force because he or she could not find work; or, unemployed individuals that have given up
- **Mandatory Spending:** Within the United States, mandatory spending refers to the spending of government funds that have already been established by congress through authorization laws. These laws both establish federal programs and mandate that congress must appropriate whatever funds are needed to keep the programs running. Congress cannot reduce the funding for these programs without changing the authorization law itself meaning that this spending cannot be changed without an act of congress
- **Organic Vs Inorganic Growth:** In the case of this presentation inorganic growth is being used to define the growth of the United States economy due to government directives or spending. Organic growth refers to the growth in the economy that occurs naturally due to the private sector as well as the decision of private individuals on how to manage their own finances and persons
- **Consumption Tax:** A consumption tax is a tax on spending on goods and services. The tax base of such a tax is the money spent on consumption. Consumption taxes are usually indirect, such as a sales tax or a value added tax
- **Income Tax:** Tax levied by a government directly on income, especially an annual tax on personal income.
- **Social Security Tax:** Social Security was created by the Federal Insurance Contributions Act, it covers and provides old-age, disability and retirement
- **Self-Reliance Rate:** This measures the fraction of a households income that is not replaced by transfer payments or subsidies, lower Self-Reliance rates indicate decreased incentives to work

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LFPR has been on a steady decline since 2000

1948
58.9%

- From WWII to 2000, the labor force participation rate rises as women join the labor force
- In 1948, only 1 in 3 women are in the labor force[73]

1978
62.8%

- Labor force reaches 62.7% then rises to 62.8%. The United States will stay above this rate until 2014[3]

1979
63.9%

- Women's labor force participation rate reaches 61.7%[73]

1999
67.1%

- Women's labor force participation rate peaks at 74.9%[73]
- Around 2000, the dot com bust occurs causing a decline in the LFPR
- Since the early 2000's, LFPR has fallen by over 3% points[10]

2007
66.0%

- The 2007 recession causes LFPR to drop 2.3% points[37]
- The number of people on disability insurance increases by 0.7% points[37]
- The number of retirees rises by 0.8% points[37]
- The number of individuals outside of the labor force because they are attending school rises by 0.9% points[37]

Present
62.8%

- As of 2014, the economy is still in the grip of post-recession economic trouble with a declining LFPR and a decreasing rate of population growth. At a rate of 62.8%, LFPR has reached the lowest rate seen since 1978
- The civilian non-institutionalized population has increased 11.9 million since 2008 while LFPR has only increased by 1.1 million[4]
- The number of Americans looking for work has decreased by 5.7 million as compared to 2007[37]

There is a trending slowdown of labor force growth and LFPR and the decline is historically underestimated in projections

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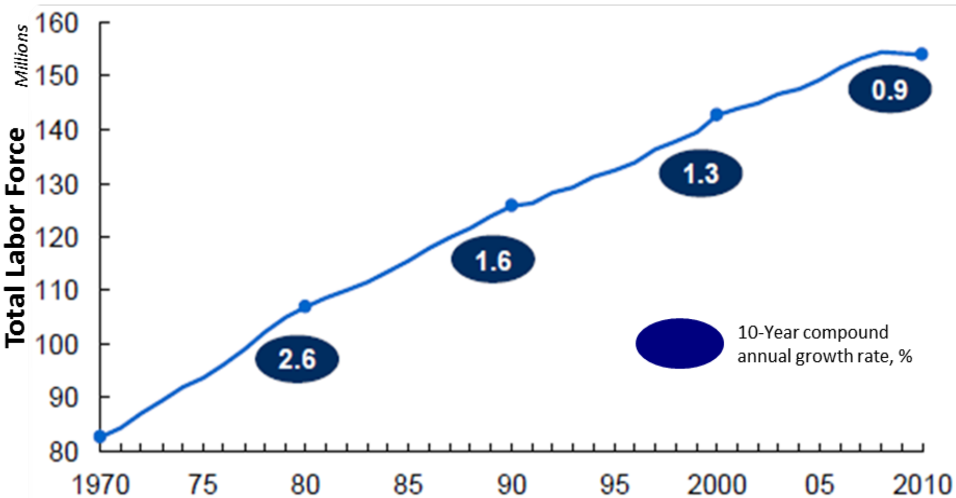
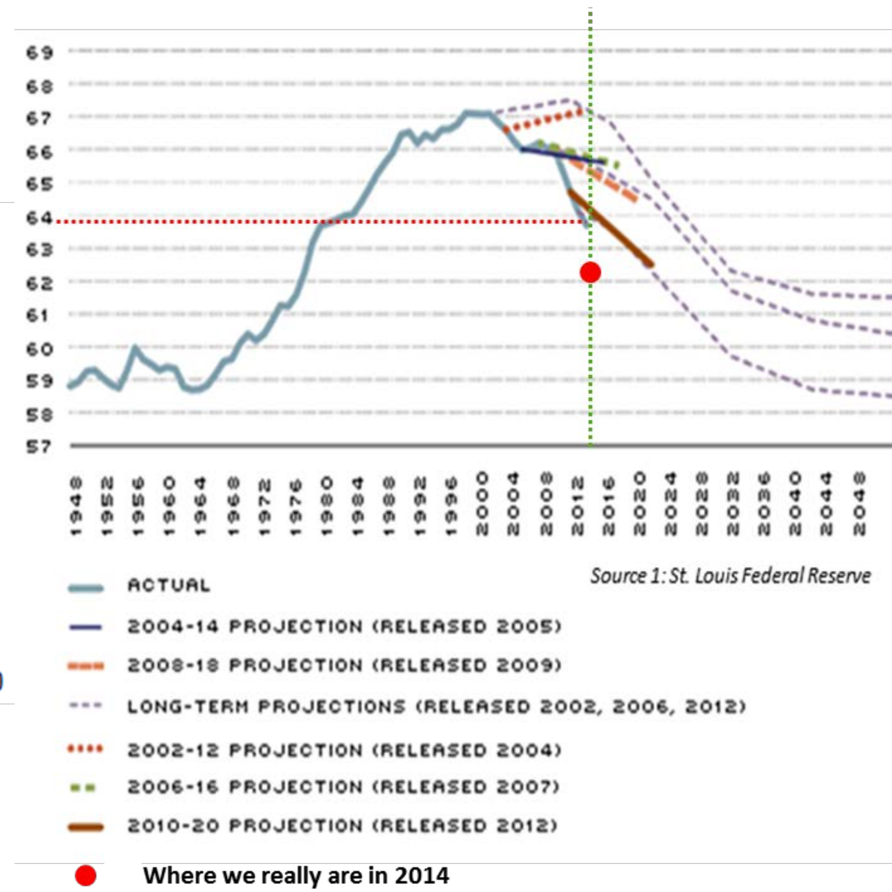
U.S. LF growth rate has been slowing since 1970



Source 55: McKinsey

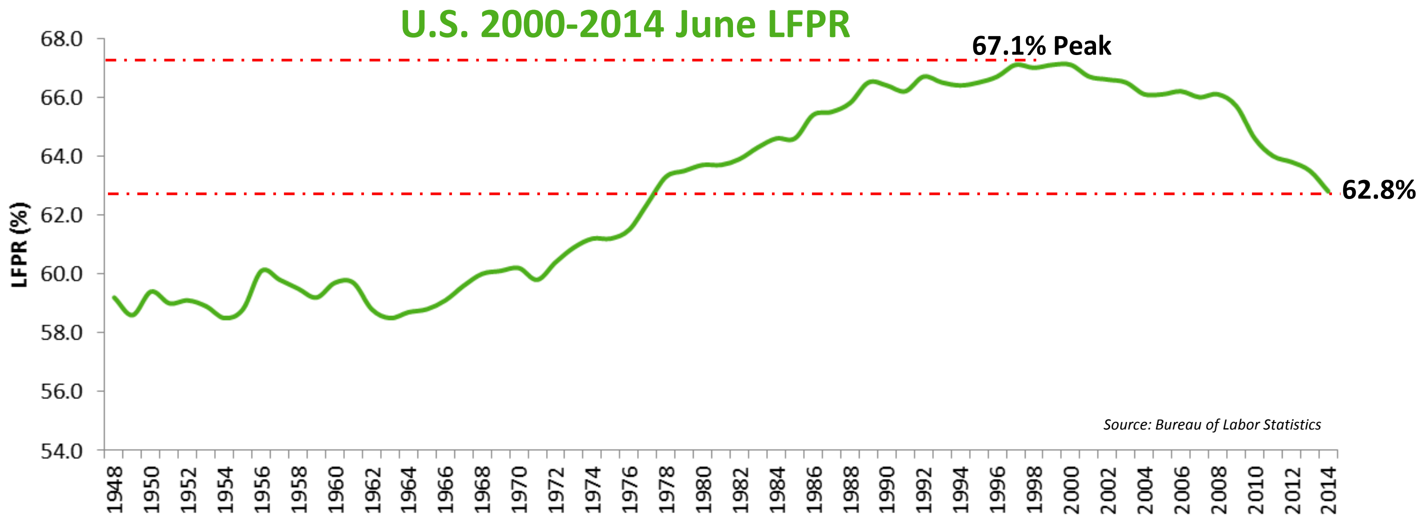
LFPR (%) historical estimated decline projections



Source 1: St. Louis Federal Reserve

LFPR is the lowest it has been since 1978

Job shortages nationwide are equivalent to the population of Colorado or every worker in Ohio losing their job[27]



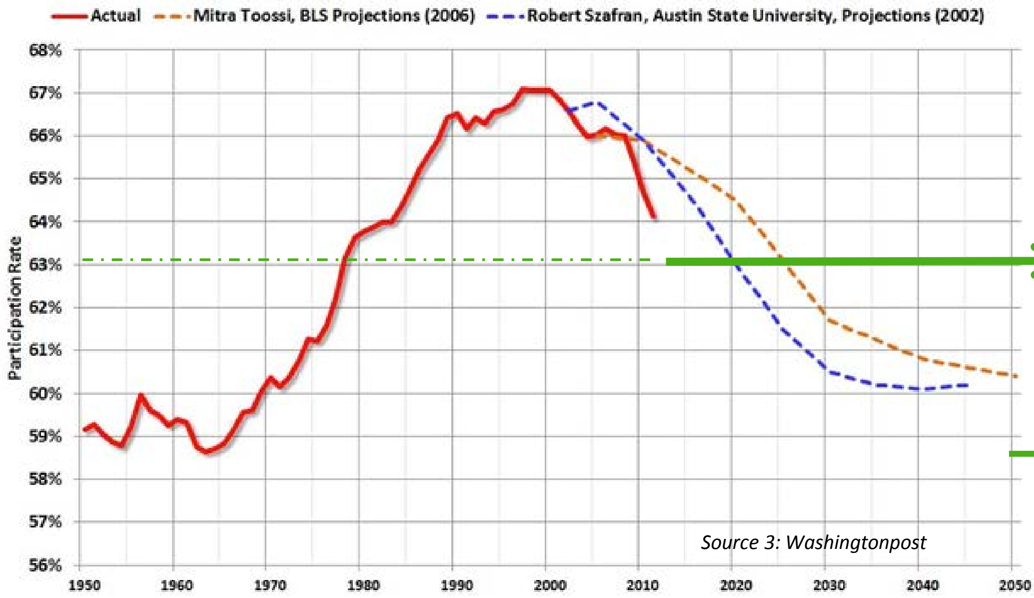
LFPR historical statistics

- The 2020 projection shows that the LFPR of the 16-19 year-old age group is expected to decrease .44% and the 20-24 age group will also decrease .44% from 2010[1]
- The 20-24 age group reached a 42 year LFPR low in 2013[2]
- 10,511,000 Americans ages 20-29 were not in the labor force in 2013[2]
- LFPR in 2013 was on par with 1970's numbers[26]

Takeaways from LFPR's continued shrinkage

- A poor job market causes people to give up searching for work, leading to non-age related dropouts. This is one of the causes of the declining LFPR[3]
- Women are no longer joining the workforce as often as they were from 2002-2003[3]
- In July 2013, there was a total of 988,000 discouraged workers, sending a message that it is not worth looking for work anymore[132]

As LFPR projections continue to decrease, GDP growth will slow



As of 2014, the LFPR is at 62.8% already below the 2002 and 2006 projected rates of 63% for 2020 and 2025

The BLS Predicts LFPR will reach 58.5% by 2050[1]

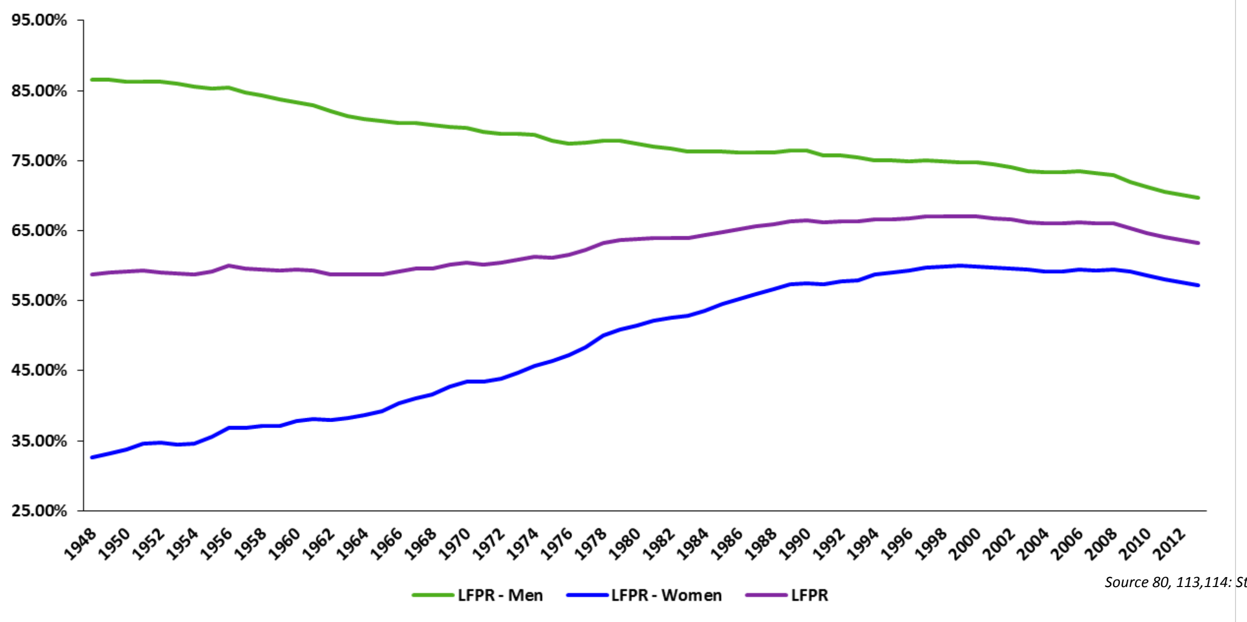
The future of the LFPR

- There is a continued decrease In the LFPR due to:
  - A decreasing rate of population growth
  - Lower quality of education where higher skills are now required
  - Baby boomer retirees' jobs not being filled
- During the 2012–2022 period, the growth of the labor force is anticipated to be due almost entirely to population growth[30]
- The overall labor force participation rate is expected to decrease from 63.7% in 2012 to 61.6% in 2022[30]

Statistics on the LFPR projection

- 2018 projections show LFPR is down for younger age groups:[1]
  - 16-19 down 5.62% from 2014
  - 20-24 down 4.30% from 2014
  - 25-34 down 1.48% from 2014
- A combination of a slower growth in the civilian non-institutional population (CNIP) and falling participation rates will lower labor force growth by a projected 0.5% annually into the foreseeable future[30]

Despite an initial surge of women joining the labor force in the 20th century, LFPRs for both men and women are now declining



Source 80, 113,114: St. Louis Fed

LFPR: Men

- The LFPR for men has gradually declined since the 1950's due to a variety of factors including:
  - Social Security Act allowing for individuals under 50 to claim disability[83]
    - The number of people claiming to have disabilities to receive benefits has risen 5.9 million since 2008[122]
  - Aging demographics
  - Returning to school
- The decline in men's LFPR is expected to continue for 30 years[83]

LFPR: Women

- Women's LFPR increased drastically between the late 1970's and 1999, due to the fact that women were rapidly joining the labor force
- The surge in LFPR for women, until hitting a peak in 1999, was due to the societal shift of accepting women in the labor force
- Many of the factors affecting the decrease in men's LFPR also have had an impact on women's LFPR
  - Returning to school
  - Rises in disability claims

Differentiations between being unemployed and not being in the labor force must be acknowledged in order to understand the severity of the declining trend in LFPR

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Unemployment classification procedure

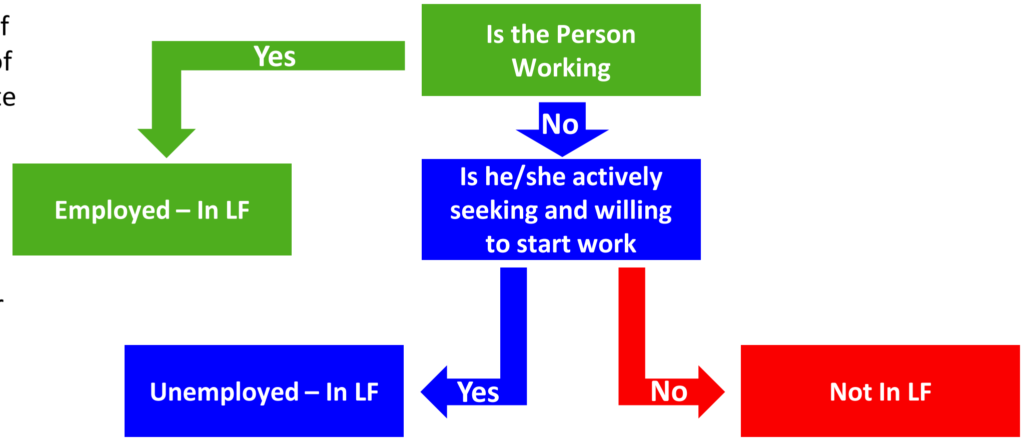
- The unemployment rate is calculated by dividing the number of unemployed by the total labor force, meaning as the number of individuals in the labor force decreases, the unemployment rate also decreases

$$\frac{Unemployed}{Total\ Labor\ Force}$$

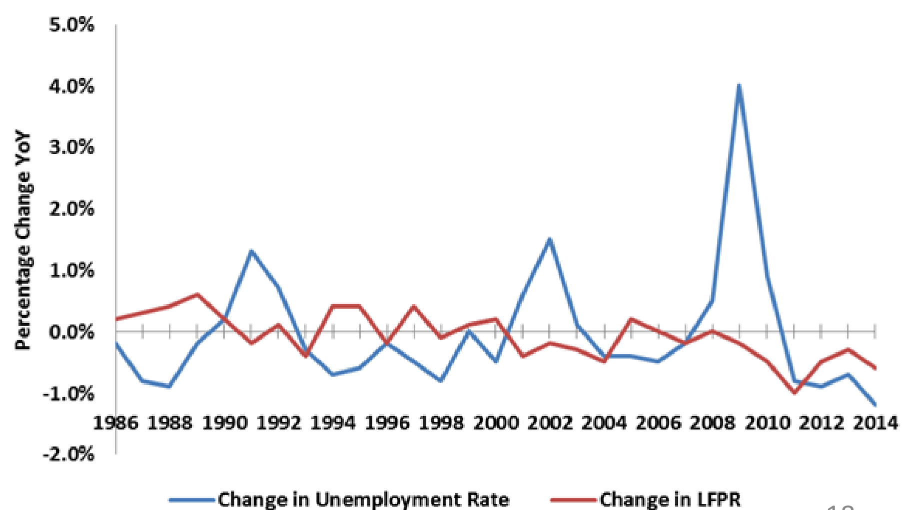
- In order to be considered unemployed, one must currently not have a job, must have actively looked for work in the prior four weeks, and must be available for work
- Actively looking for work consists of any of the following:
  - Contacting:
    - An employer directly or having a job interview
    - A public or private employment agency
    - Friends or relatives
    - A school or university employment center
  - Submitting resumes or filling out applications
  - Placing or answering job advertisements
  - Checking union or professional registers
  - Some other means of active job search
- Workers expecting to be recalled from temporary layoff are also counted as unemployed whether or not they have engaged in a specific job seeking activity

If the same number of adults were in the labor force today as there were in 2008, the unemployment rate would be 10.8%[3]

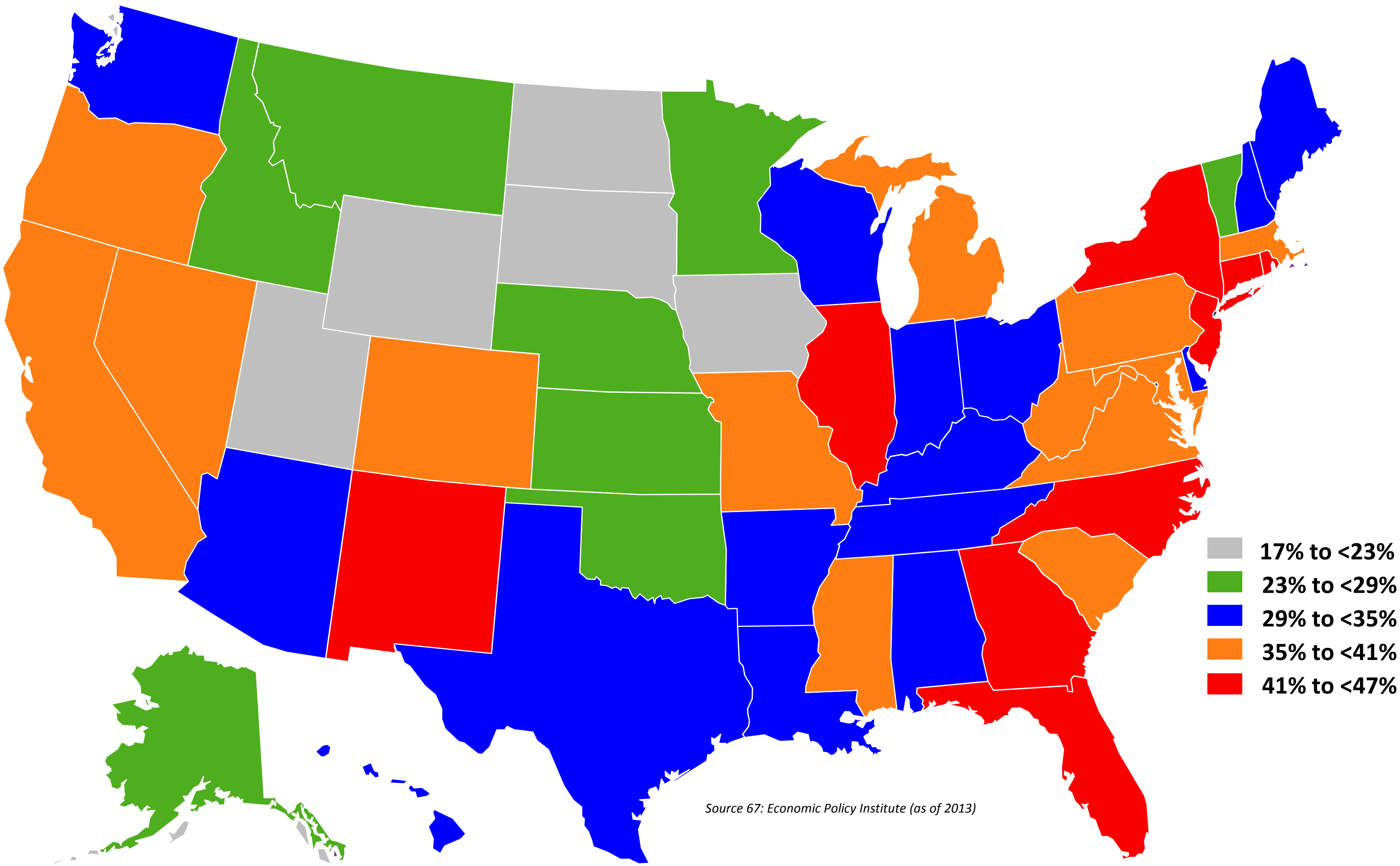
Basic visual classification procedure



Unemployment and LFPR



Increasing amounts of unemployed individuals are at imminent risk of becoming discouraged workers and exiting the labor force



Long-term unemployment in the U.S. is increasing. The share of the unemployed jobless for over 27 weeks is over 30% for most states. This is excluding discouraged workers.

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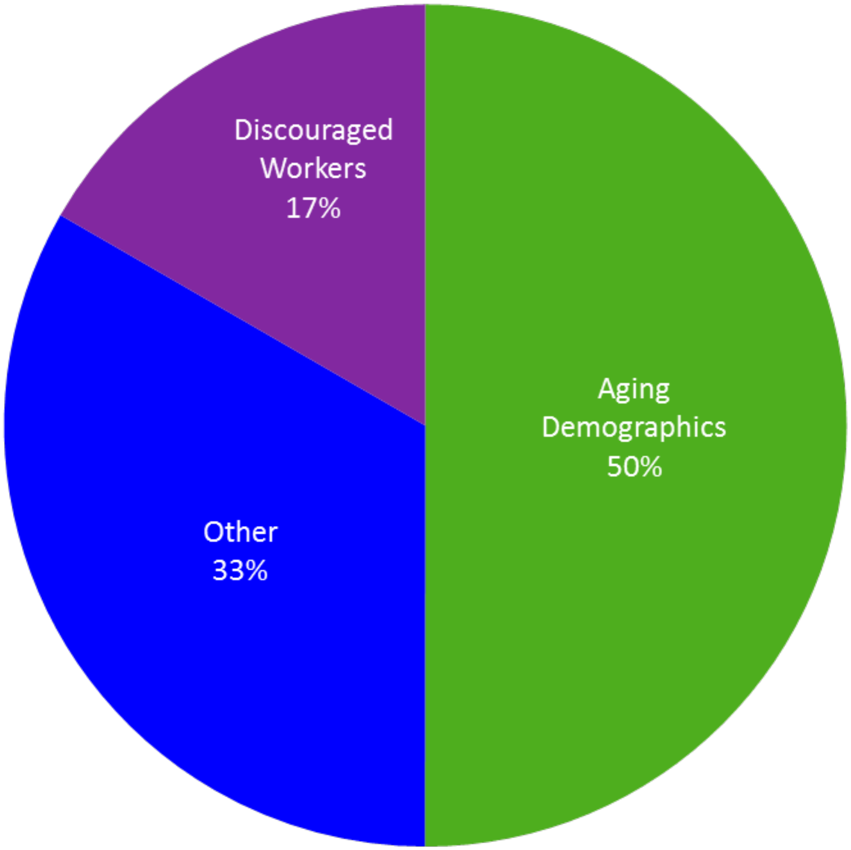
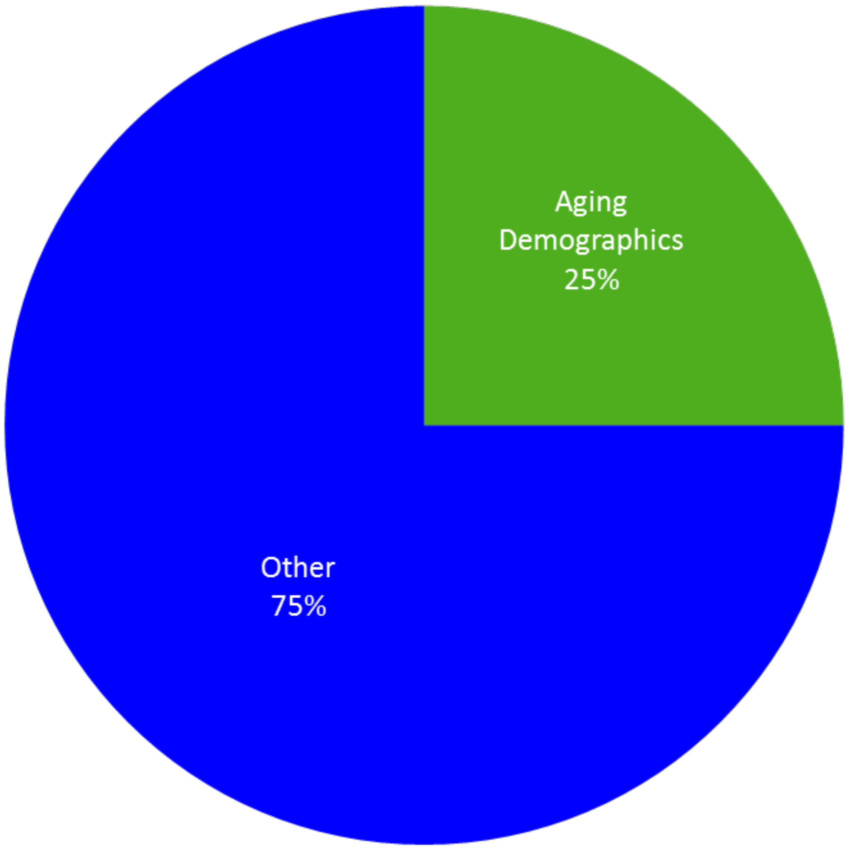
A dichotomy exists between sources in explaining the extent to which the aging population is contributing to the decline in LFPR

CBO LFPR explanation since 2007



Source 93: U.S. CBO (as of 2013)

Heritage Foundation LFPR trend explanation since 2007

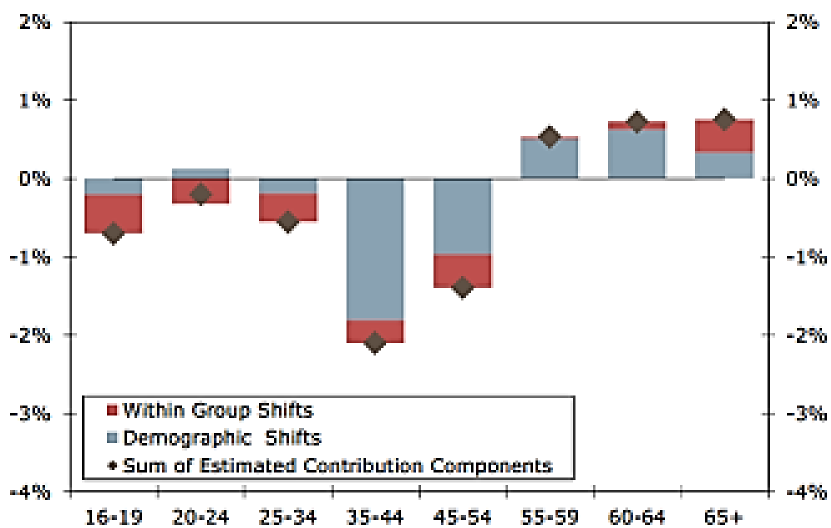


Source 94: The Heritage Foundation (as of 2013)

If LFPR is decreasing due to factors other than aging, this signifies a greater problem with the U.S. Economy

An aging demographic will gradually lower the LFPR, younger workers are also exiting or not entering the LF

Change in U.S. LFPR by age shows prime-age workers dropping out of LF



Source 81: Wells Fargo
Calculation explanation in appendix

"Other advanced economies have also aged in recent years, putting downward pressure on their respective labor force participation rates. What is unique to the United States, however, is the drop in labor force participation among prime-age workers that is attributable to cyclical and non-demographic structural factors." [81]

-Wells Fargo Economics Group

America's population is aging leading to labor gaps between generations

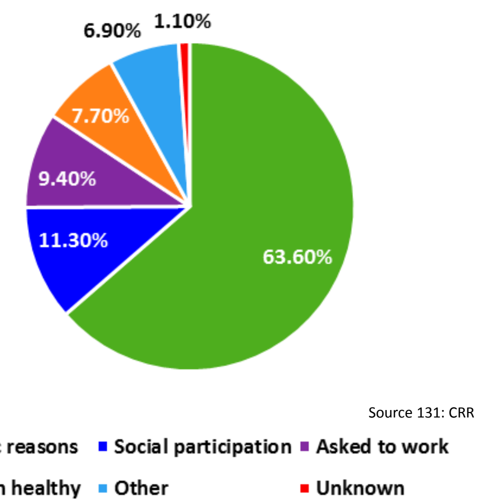
- The increasing surge in the retirement of baby boomers is an ongoing factor in the declining LFPR
- Many long term unemployed never had jobs
- The U.S. population is projected to only grow at a .98% annual growth rate from 2010 to 2020[34]
  - Fewer workers are entering the labor force due to the slowing of population growth leads to a separation between generations, thereby leaving fewer employees to fill the gaps of retirees
    - Example: In December 2013, the economy added 74,000 new jobs but 347,000 workers dropped out of the labor force[26]

Retirees exit cautiously

- Even before The Great Recession wiped out $11 trillion of U.S. household wealth, there was a savings gap for near retirement aged workers[55]
  - Two thirds of the baby boomers were unprepared financially for retirement before the recession and planned to work longer as a result. The most recent recession only exacerbated this trend[55]
- The number of people working past state retirement age has almost tripled over the past 15 years[55]

Japan case study: The differences between the U.S. LFPR decline and Japan's, theirs is majority retirement, ours is not

Reasons for staying in the LF



Maintaining living standards requires more time in the labor force

- Japanese workers age 60 and over remain in the labor force to maintain their standard of living. The mandatory retirement age is 65 and benefits are not paid early, so there is much to gain by remaining in the LF[131]
- Those who choose to retire early will only receive ~30% of their income, which is not sufficient to sustaining present standards of living. Therefore, they are highly motivated to remain in the LF until 65[131]
- There is a high self-employment rate in Japan[131]

Reversal of roles

- The retirement practices of Japan and the U.S. differ in that Japanese cultural practice places more responsibility of care on the grandparents. They are significantly more responsible for the well being of their children, even at retirement ages, resulting in an increased LFPR[131]
- In the U.S. general practice is for the children and grandchildren to take care of their grandparents [131]
- Japan puts a strong emphasis on remaining a productive member of society, social participation[131]
- The U.S. is more accepting of early retirement as well as the elderly withdrawing from the LF[131]

Health is a crucial factor

- Japan has an average life expectancy of 75 years, almost 6 years higher than the life expectancy in the U.S.[131]
- Increased life expectancy rates allow the Japanese elderly to remain in the labor force longer
- Japan's LFPR remains high because their average lifespan is longer and they have high incentives to remain in the LF[131]
- Recent declines in Japan's LFPR are primarily due to demographic causes, this type of decline is much less damaging to an economy than the inorganic declines being seen in the U.S.

Rather than being a result of demographic changes, LFPR will continue to fall due to the following factors

- High school graduation rates for public high schools have recently reached 80%, the highest rate in history[82]
  - The LFPR continues to shrink as more individuals choose to stay in or return to school rather than join the workforce. While this is a potential positive trend for future economic growth, the quality of education that many graduates receive is not sufficient to meet the demands of increasingly complex jobs

- Decreasing literacy and numeracy levels
  - A research paper sponsored by the ETS estimates that the average literacy and numeracy levels of the U.S. working age population will decrease by approximately 7% despite an increase in those going to back to school[34]
  - The continued erosion of quality within the labor force will contribute to the disparity of workers with the necessary skills to find a job

- 60% of all new jobs created over the next two decades will require skills that only 20% of the current workforce possess[34]
  - The discrepancy between skills held and skills needed will cause many to drop out of the labor force as unemployable

- More people are abusing disability benefits; roughly 11 million, or 1 in 14 U.S. workers currently are receiving disability benefits[122,123]
  - 25% of these are estimated to be illegitimate claims[3]
  - 90% of these individuals will never rejoin the labor force[37]
  - Since 2009 the number of individuals receiving social security disability insurance benefits has risen 5.9 million[122,123,125]

- Increasing incentives not to work
  - High Income taxes on both a state and federal level decrease the incentive to work.
  - In some situations, it becomes more economically beneficial to be unemployed rather than holding a job
  - Increasing transfer payments such as welfare and food stamps make maintaining standards of living while not working easier
  - Social Security policies are in need of reform as the current S.S. tax levels do not accurately reflect the amount being received in benefits

Over-taxation can have a negative impact on GDP in the short and long term

Consumption tax positively impacts LFPR

- Taxing goods consumed provides a positive alternative to taxing an individual's pay check. By taxing goods consumed, there is an increased incentive to save[112]
- Consumption tax is an equal amount for everyone, regardless of income levels
- A consumption tax is an alternative way to approach taxation. Using this form of taxation over income tax encourages more people to join the labor force because less money is taken out of each paycheck[112]
- Increased savings assists in building a foundation for a robust future economy and increases the potential for future investments[112]
  - This method may have short term, negative effects on Consumer Spending, however with an increase in LFPR, there will be more people earning a wage, which will result in an increase in future spending[112]

Traditional taxation approach discourages savings

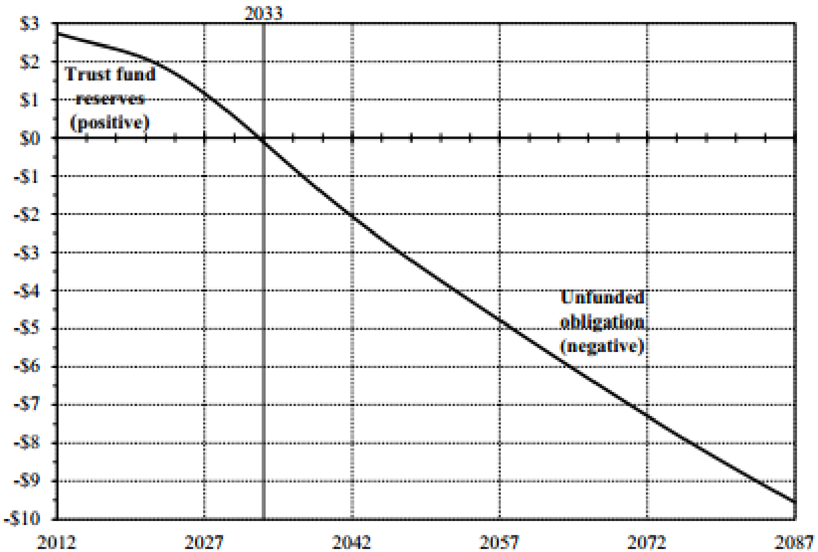
- High income taxes create a barrier between the value of a person's labor and what he/she actually receives, creating a negative force on the economy. The increase in income tax decreases a person's incentive to work because the purchasing power of his/her paycheck declines[112]
- High income taxes have a negative impact on savings because the tax is taken out of the paycheck before the worker has a chance to decide what percentage of the paycheck to save and spend[112]
  - The barriers created by income tax are less savings, reduction in investment and discouragement of innovation.[112] These are strong drivers of GDP and a decline in any single category will have a direct negative impact on GDP

High social security tax policies discourage workers and decrease LFPR, Chile's privatization model provides a possible long-term solution

Current outlook on S.S. for America

- U.S. workers pay 12.4% of their wages into social security[86]
- The S.S. program had a negative cash flow in 2012 of $55BN. This deficit is expected to continue[90]
- In 2013, Pew Research fact tank estimated that S.S. reserves will be fully depleted by 2033. Once depleted, the tax revenue being received will only be enough to pay an estimated three quarters of the benefits scheduled[90]

Social security reserves outlook ($BN)



Source 90: PewResearch

Chile: an example of successful social security privatization

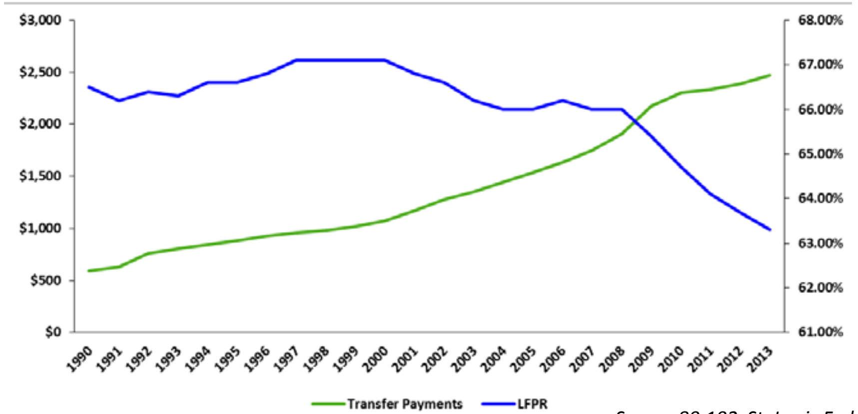
- The Chilean social security system was reformed 33 years ago to allow private accounts for social security[86]
- Chileans now put 10% to 20%, based on preference, of their earnings into a private fund earning compound interest[86]
- Upon retirement, workers can choose a life annuity or make periodic withdrawals. If the worker dies, heirs inherit what is left[86]
- The transition to this program included the abolishment of the public program once the last current retiree passed away
- The program had a 93% acceptance rate[86]
- In Chile, individuals have choices in benefit receipt plans
  - At age 62, someone in the U.S. that could retire with an annual pension of $18,000 a year could expect to receive $55,000 under Chile's program[89]
  - At age 65, U.S. benefits that equal $25,000 per year would, under Chile's program, equal $70,000 per year89
  - At 65, the individual in the scenario above could retire with an annual pension of $53,000 and a one-time cash payment of $223,00089
- Those arguing against a private social security system claim that "if one lacks the knowledge and wherewithal to manage their own private funds then they are out of luck", making a private system to difficult for average Americans
  - Chileans can do it, Australians can do it and many Latin Americans and Europeans do it as well. Americans can too

Privatization adds value to a retirement tax and helps discouraged workers find incentive to return to work

Incentives not to work are on the rise as the LFPR reaches long-time lows

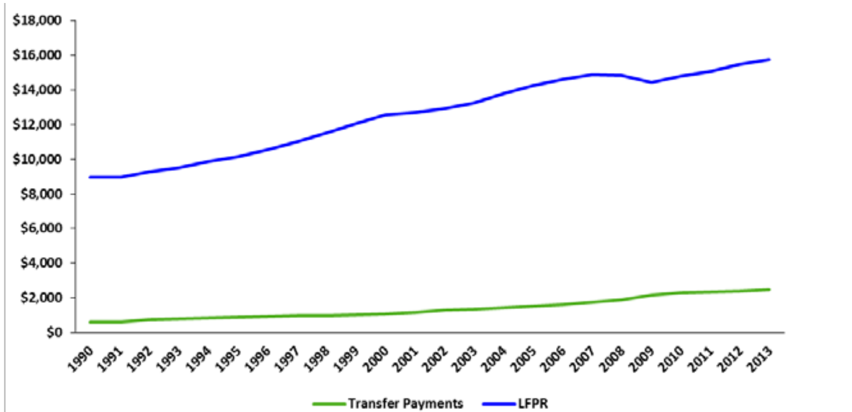
- The correlation between transfer payments and LFPR between 1990 and 2013 is 0.66[102], which can be explained by the recent increase in transfer payments and recent decline in LFPR
- Transfer payments and GDP have a positive trend. The primary driver of this trend is Consumer Spending. Transfer payments effect GDP by way of Consumer Spending
- There is an increase in American healthcare technology advances, so people should be getting healthier; however, 11 million[122] Americans currently are receiving disability benefits and are not participating in the labor force[103]
- The increase in transfer payments contributed to the decline in the LFPR. Due to the increase in transfer payments there is less of an incentive to work

Transfer payments ($BN) vs. LFPR



Source 80,102: St. Louis Fed

Transfer payments ($BN) vs. GDP ($BN)



Source 101,102: St. Louis Fed

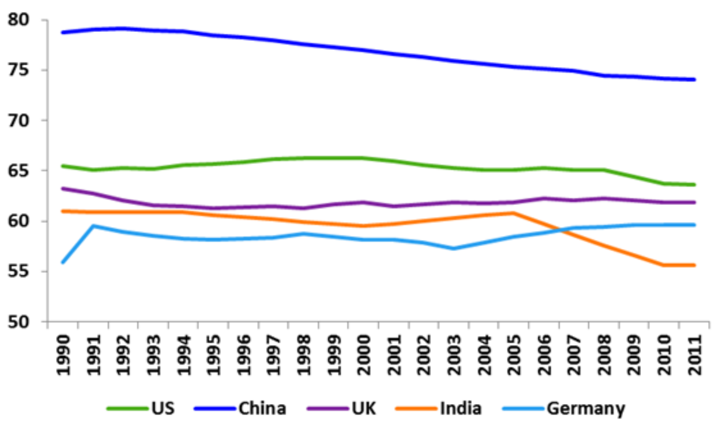
The U.S. is falling behind relative to China and other competing economies globally in terms of LFPR, education and job creation

Trending Issues for Advanced Economies

- Slow-growing or even shrinking labor forces, lower labor participation rates, aging and retirement and decreasing education achievement levels, all lead to a need to accelerate productivity growth to maintain GDP growth

- **Aging Advanced Economies, as of 2010 estimates, will need to increase productivity growth by ~60% of historic levels to about 1.9% annually in order to maintain historic rates of GDP growth[54]**

U.S. and comparable economies LFPR's (1990-2011)

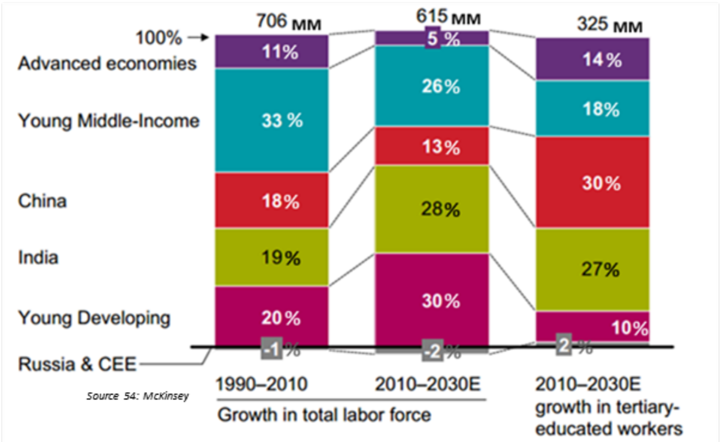


Source 65: IndexMundi

Global LFPR and tertiary education projections

India, South Asia and sub-Saharan Africa will add the most workers through 2030

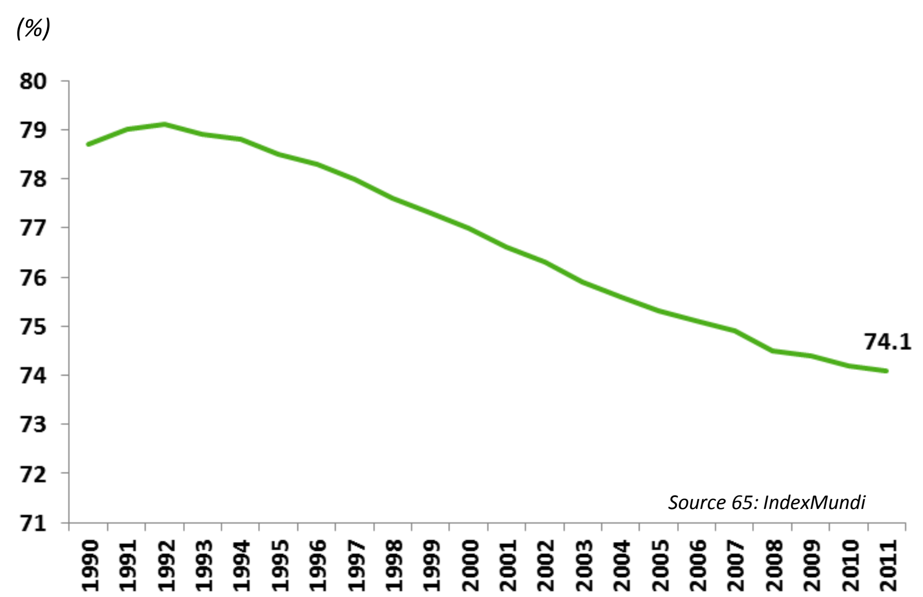
Net Additions to Labor Force and Tertiary-Educated Workers



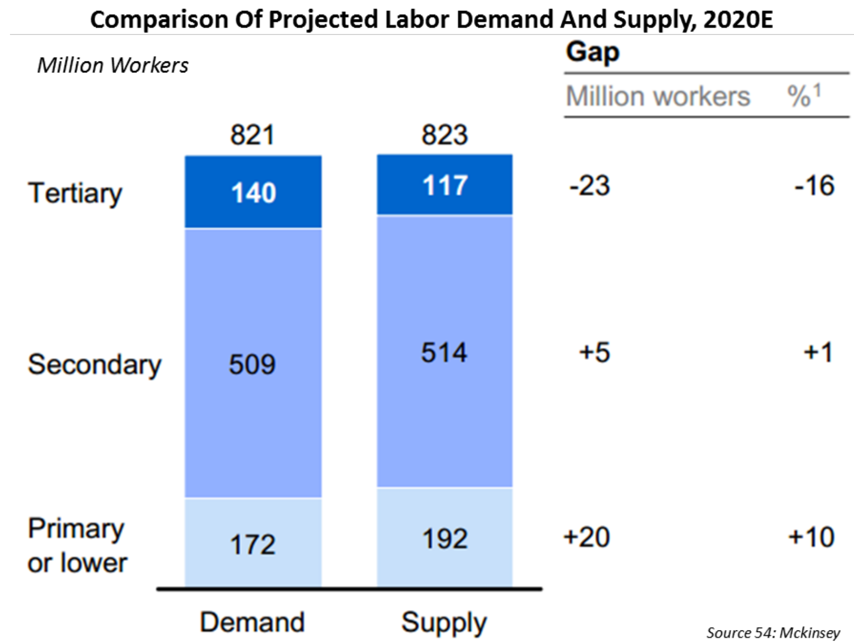
China and India will lead in workers with the most tertiary education

China is ahead of the global market in terms of LFPR and job creation, but will still have trouble meeting skilled-labor demand

China's LFPR



Shortage of skilled labor in China



Comparisons

- LFPR decline in China can mostly be attributed to retirement, with almost all of the rest due to an increase in individuals staying in school to attend college
- If China is set to face a shortage of tertiary workers in 2020 despite their quickly growing economy and high numbers of college graduates, it is easy to see that the U.S. will face a similar problem on a larger scale
- From 1980–2010, China's non-farm labor force grew by 315 million to around 475 million[54]
  - The population of the United States is currently ~314 Million

Higher education is statistically proven to lower unemployment and to increase LFPR

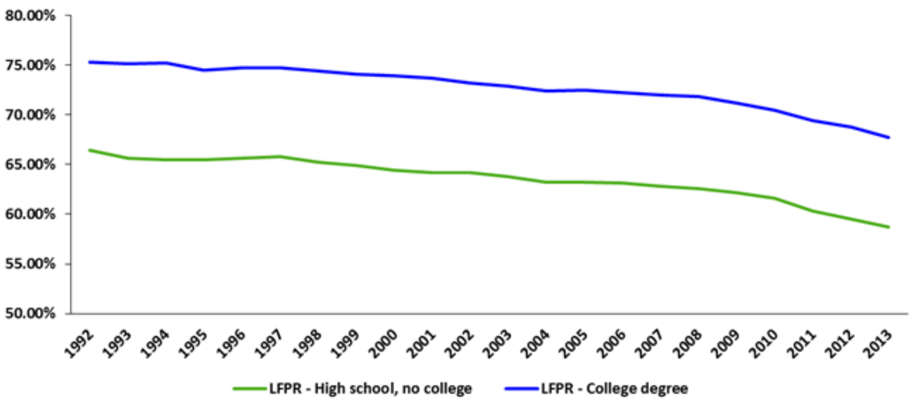
Importance of education

- Education is a strong driver of LFPR and unemployment which in turn impacts GDP
  - Those with bachelors degrees or higher are much more likely to be hired than those with only a high school diploma or associates degree

- By 2020, 20% of the people will have the skills for 60% of the jobs available to the U.S[34]
  - While both high school enrollment and college enrollment are on the rise, students are still not learning the skills needed for current and future job openings

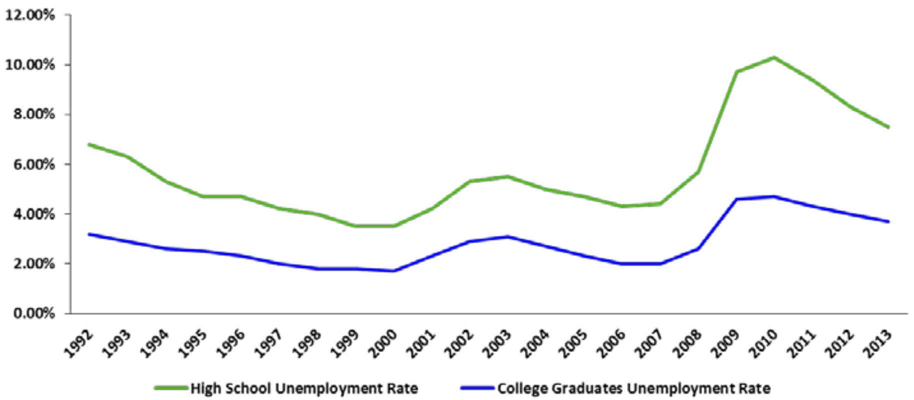
- America is shifting from a manufacturing based economy to a more knowledge based economy. There needs to be a substantial amount of time, money and effort invested into tailoring the educational system to produce workers that possess the skills required for today and tomorrows jobs

LFPR: college vs. high school



Source 104,105: St. Louis Fed

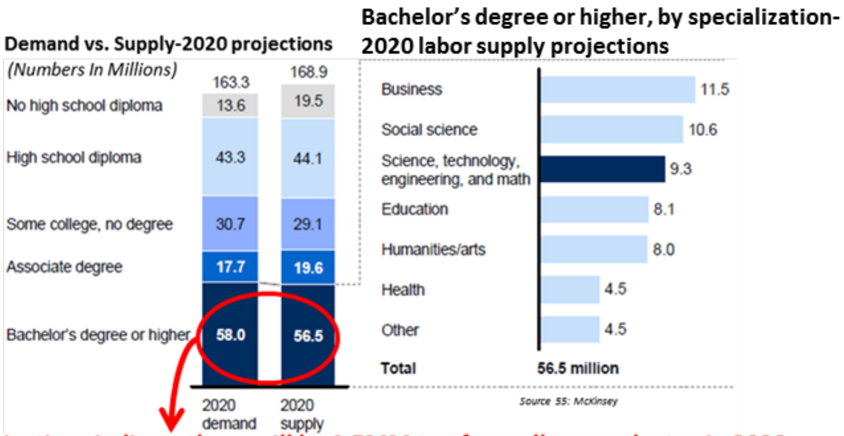
Unemployment: college vs. high school



Source 106,107: St. Louis Fed

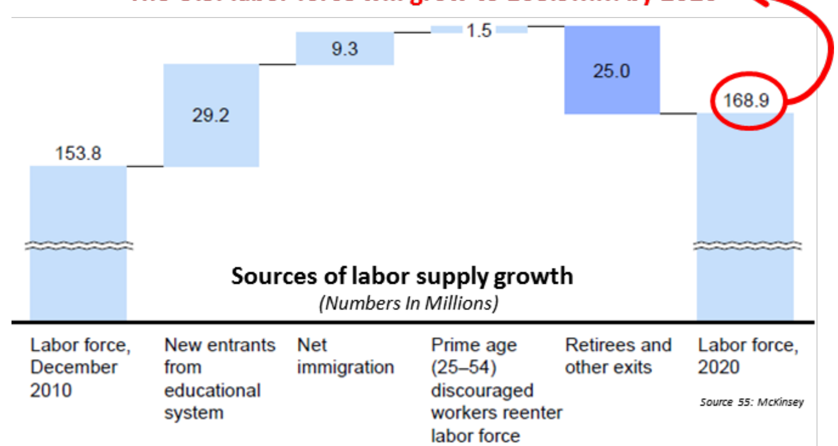
Outlook for U.S. labor force shows an impending shortage of skilled-labor

Labor force grows, participation rate falls and an education gap looms[55]



Projections indicate there will be 1.5MM too few college graduates in 2020

The U.S. labor force will grow to 168.9MM by 2020



Education gap of employer desired skills

- By 2020 there will be a mismatch of demand and supply for jobs falling within all education requirement tiers

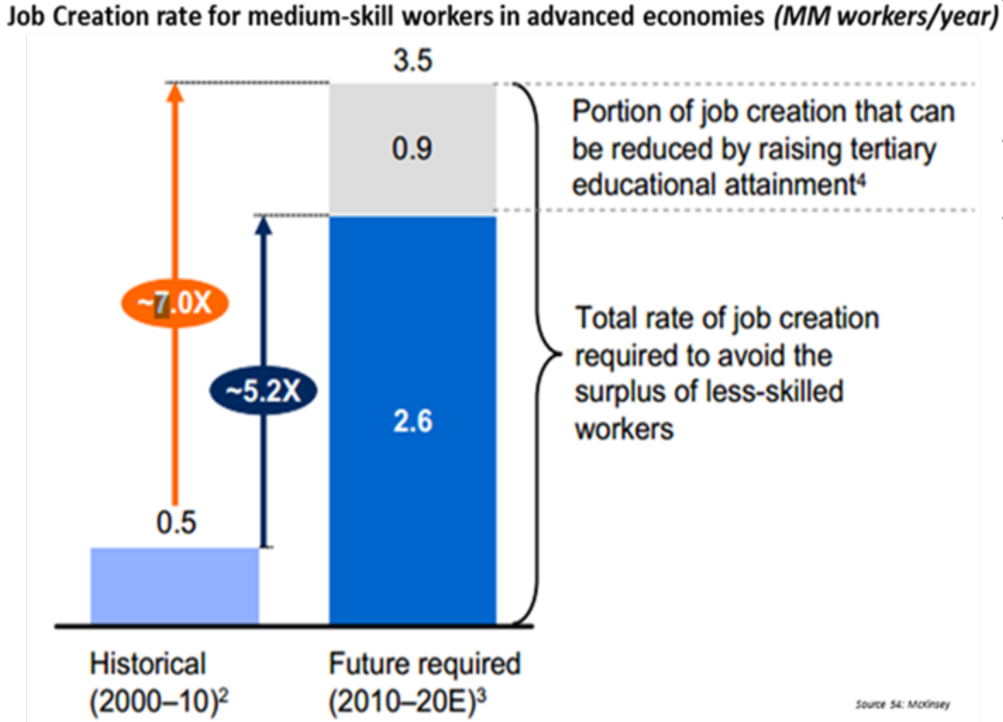
- There will be more than twice as many graduates in social sciences and business than in the STEM fields in 2020. This shortage of STEM graduates compared to other fields will hurt the LFPR due to a lack of employees with the skills to fill STEM jobs that will be created and will hurt the GDP growth rate[55]

Education/skill-based labor gap

- With 25 million retirees leaving the workforce by 2020 and 29.2 million new entrants projected to enter the workforce from the educational system, it is key to categorize the type of labor leaving and entering
- Many of the retirees held jobs that require specific skill sets that few of the new workers possess
- While there will be no shortage of “open jobs” for high skill employees, there will not be enough high skilled workers to fill these jobs. The remainder of the workforce without the necessary education to fill high-skill job positions will face steep challenges to find employment due to the surplus of unskilled labor that is projected to worsen
- This inability to replace exiting labor will create an education/skill based labor gap in the economy

The dichotomy of the U.S. labor force will be perpetuated by a comparable shortage of medium-skill jobs

The LF trend will not change without more medium-skill jobs



Needed: medium-skill jobs

- The demand for medium-skill workers in advanced economies will need to grow at 5-7 times the historical rate to avoid a surplus of labor[54]
- Medium-skill jobs have not recovered from The Recession
- The high and low skill jobs don't lose any notable ground during recessions. The medium skill jobs is a key factor in changing the LFPR trend[121]

Spain's 25.6% unemployment and 59% LFPR paint a picture of the future of the U.S. if action is not taken

High government regulation leads to high unemployment and low LFPR

- Spain is a prime example of how increased government regulation leads to an increase in unemployment and a decrease in the LFPR[127]
- Increases in welfare, unemployment and disability benefits are shown, by Spain, to decrease incentives to work and increase unemployment as well as decrease LFPR[127]

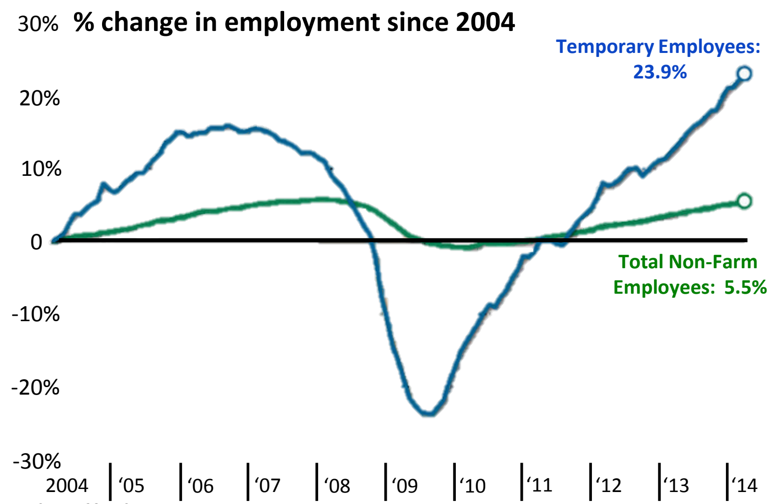
High levels of temporary employment

- American employment, in the low-skill job environment, has become increasingly made up of temporary jobs[128]
- Spain shows historically that an increase in temporary labor results in a decrease in productivity, decreased incentives to work and leads to a decrease in LFPR and an increase in long-term unemployment[127]

Extreme increases in individuals staying in school creates an over-skilled workforce

- The high employment rates in Spain for young adults caused many to return to school and pursue further schooling rather than enter the labor force, this resulted in an overqualified workforce and has further increased the unemployment rate in Spain[127]
  - The U.S. currently has a shortage of high skill workers making the increasing rates of extended schooling beneficial currently
  - If the LFPR continues to decrease, eventually we will face the same issue as Spain

Temp-jobs: an increasing trend for the U.S. labor force



Source 28: WSJ

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History and outlook of the labor force participation rate

Overview of the causes of labor force participation rate decline

LFPR effects on components of GDP

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Appendix

Gross Domestic Product

Consumer Spending → Investment → Government Expenditures → Net Exports

$$GDP = C + I + G + (X - M)$$

A decline in LFPR affects multiple components of GDP

glendonTodd CAPITAL

Consumer Spending

- Less people working means a larger portion of consumers have less to spend

Government Spending

- More transfer payments
- More stimulus programs in an attempt to increase consumer spending and investments

Investment

- Expected slowdown in economic growth as a result of a declining labor force disincentivizes businesses to invest in further growth domestically

The consumer spending increase is partially driven by government spending despite a decrease in LFPR

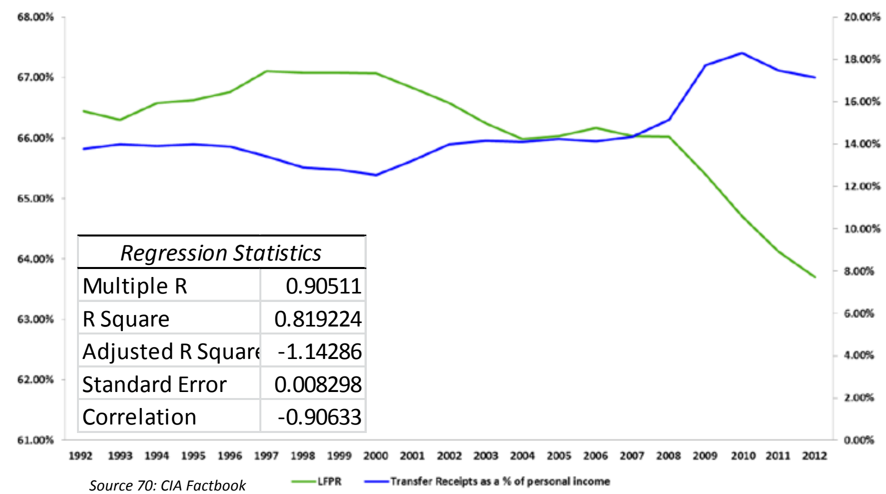
- If transfer payments were to be included in GDP calculations under government spending, government spending would equal roughly 40% of GDP[96]
  - Since late 2008, transfer payments have ballooned by 34% or almost $800 billion a year, rising from 17.3% to 20.1% of GDP[96]

- Transfer payments have a strong negative correlation with LFPR
  - An aging demographic coupled with an unfavorable job environment is causing more Americans to increasingly rely on government transfer payment programs

Average government social benefits: a rising share of personal income

Source 97: Brookings

Strong negative correlation between transfer payments as a % of income and LFPR



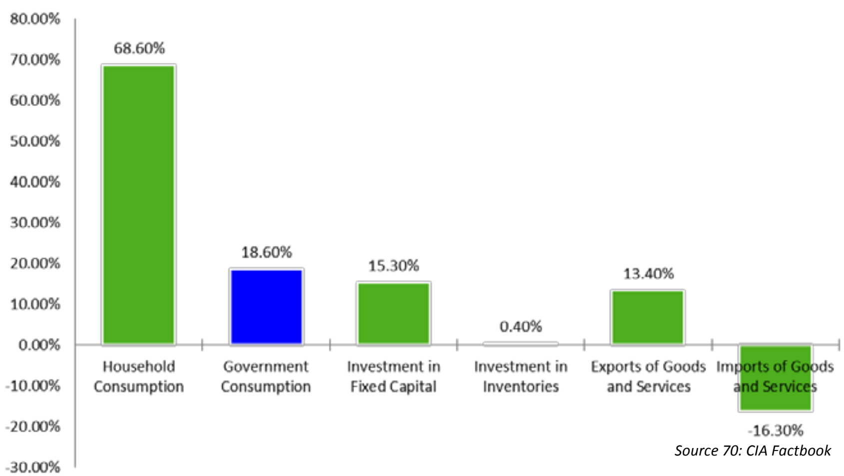
Regression Statistics	
Multiple R	0.90511
R Square	0.819224
Adjusted R Square	-1.14286
Standard Error	0.008298
Correlation	-0.90633

Source 70: CIA Factbook

Government spending is deceptively understated in the GDP equation

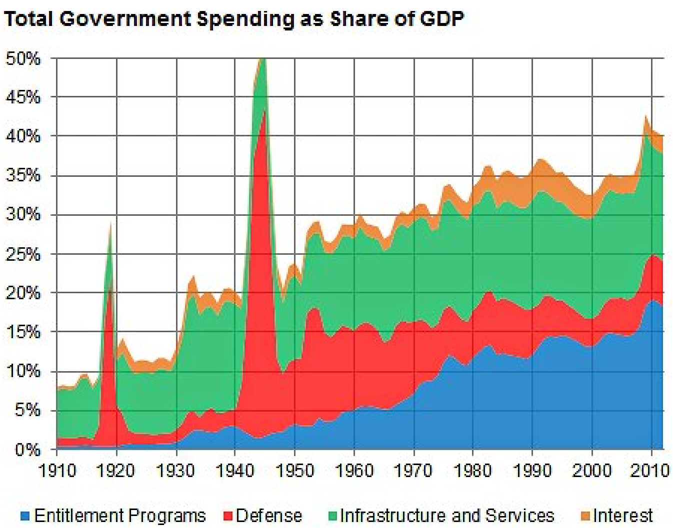
- Government spending measures total expenditures in a given year for final goods and services. Salaries for government employees, national defense, and state and local government spending is included in these calculations
- Since transfer payments are payments made or received for which there are no goods or services being paid for or provided, they are excluded from the GDP equation. Programs excluded include:
  - Welfare
  - Social Security
  - Unemployment compensation
  - Medicare
  - Government subsidies for developing industries and technologies
- Growth in these excluded components of government spending have outpaced other areas such as education and defense
- The money spent as a result of transfer payments flows into various components of GDP, mainly Consumer Spending
- Government employment numbers are also misleading because millions of government contract jobs are counted as private employment

Government spending as % of GDP based on GDP calculation equation



Source 70: CIA Factbook

Growth in transfer payment programs has outpaced other government spending



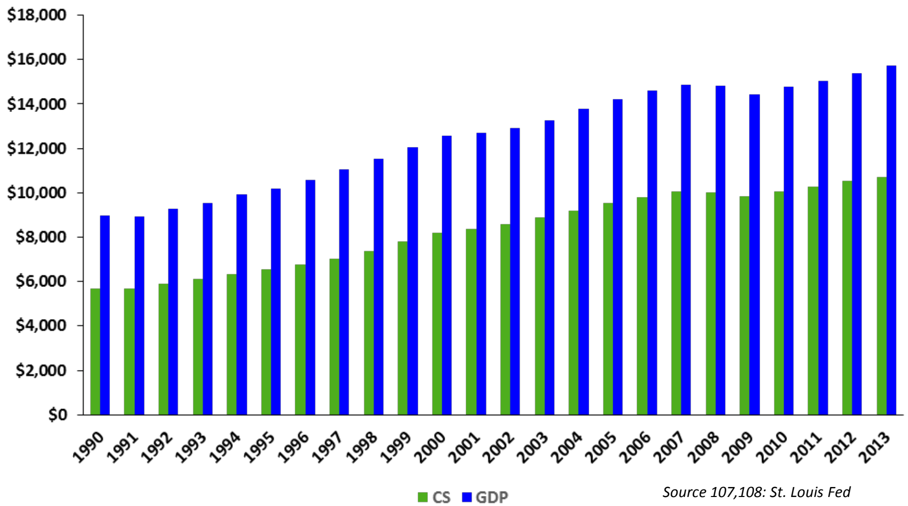
Source 118: NYtimes

Consumer spending is artificially inflated due to transfer payments causing an indirect increase

Consumer spending as a powerful driver of GDP

- Consumer Spending (CS) is the primary measure of spending on goods, both durable and nondurable as well as services in the U.S.[69]
- CS is valued in market prices and includes applicable tax[69]
- CS is a powerful driver of GDP, making up ~70% of U.S. GDP.
- CS is artificially inflated by the influx it receives when consumers spend their transfer payments (government spending) for everyday needs. This then gets classified under the CS umbrella, causing an increase in GDP
- This is an artificial and deceptive increase in GDP through Consumer Spending by increased government spending on transfer payments
- CS and the economic growth rate have a negative correlation due to the sacrifice of investment spending as a percent of GDP made to increase consumer spending as a percent of GDP

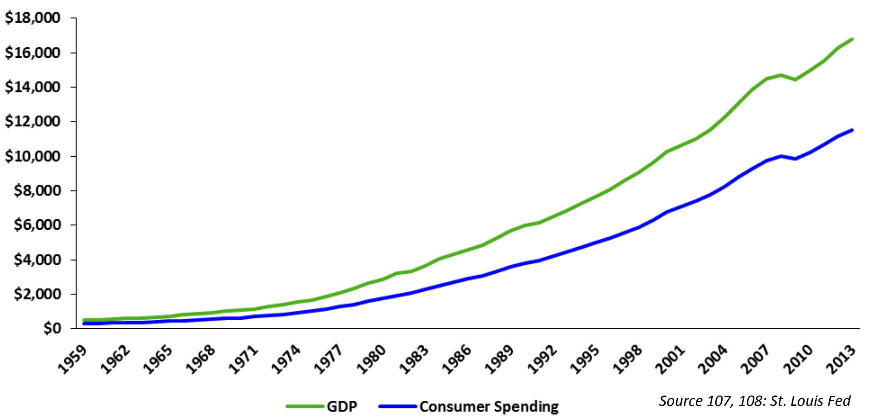
Historical consumer spending & GDP ($BN)



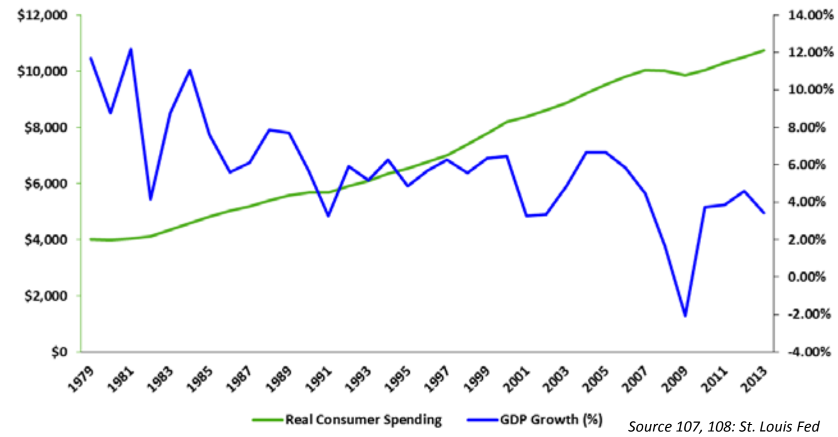
Source 107,108: St. Louis Fed

Long term economic growth is sacrificed for short-term increases in GDP, but partially mitigated by FDI

CS & GDP ($BN)



CS & GDP Growth ($BN)



CS' strong GDP contribution

- **Correlation:** 0.99 (1959-2013)
- CS has a strong impact on GDP as a dollar amount, with CS comprising of ~70% of GDP. It is evident that strong spending on goods and services will numerically increase GDP
- The boost in CS, if in tandem with an increase in Investment Spending as a percentage of GDP will provide strength to the economy and help investors regain confidence
- Capital account surplus (through FDI) provides the ability to finance consumer spending

CS' declining correlation with GDP

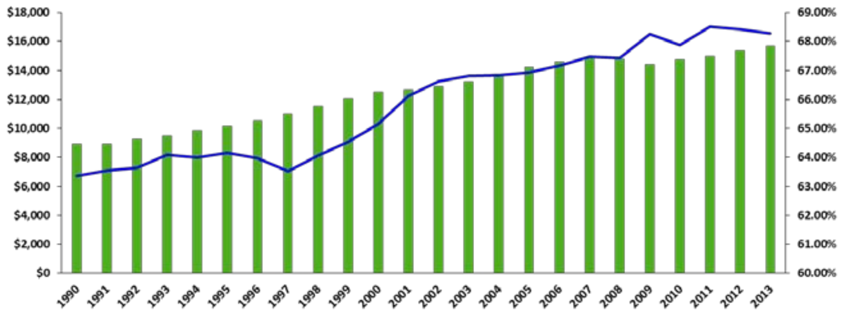
- **Correlation:** -0.65 (1979-2013)
- CS and GDP growth are inversely related
- CS is an integral portion of GDP, but it is Investment Spending that is responsible for sustainable GDP growth
- The Increases in CS are being driven by increases in government transfer payments
- Consumer Spending is currently increasing as a percentage of GDP by crowding out Investment Spending as our economy chooses to consume an increasing amount of goods and services by sacrificing an increase in Investment Spending

A decrease in LFPR will inevitably lower the primary driver of GDP, Consumer Spending

- There is a 0.68[80,108] correlation between CS and the LFPR. This shows that the LFPR is a primary driver of CS. As the LFPR declines CS and Investment Spending will begin to fall, which will cause GDP growth to trend downward
  - Historically, CS has accounted for >65% of GDP and is comprised of durable goods, non durable goods and services
  - The LFPR is an important factor because it effects GDP through CS. Currently, LFPR has been on a downward trend due to a rise in consumer spending and a lower growth in investment spending
  - An important driver of CS is participation in the labor force. An increase in the LFPR can cause an increase in growth through the LFPR's effect on CS which results in a higher GDP

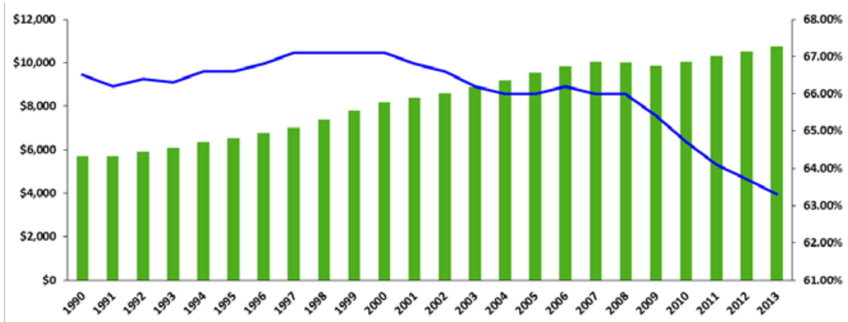
- Transfer payments and other inorganic variables have an increasing effect on Consumer Spending and are causing the current numbers to overstate the growth of the U.S. economy
- Overregulation causes a decline in productivity, which makes the declining LFPR a large concern because productivity growth is the major off setter of LFPR in maintaining a standard of living

GDP ($BN) & CS as a % of GDP



Source 108, 107: St. Louis Fed

CS ($BN) & LFPR



Source 80, 108: St. Louis Fed

Consumption driven economy and lower LFPR: a self-perpetuating cycle

- LFPR represents the portion of the population responsible for the majority of consumer spending. A decrease in LFPR explains why there is a negative impact on CS growth(%) despite an increase in CS as a dollar amount. The dollar amount increase in CS is largely due to population growth as it has been increasing despite LFPR's rapid decline for the previous fourteen years[79]

- While an increase in LFPR is good for CS, there has to be a push for investment in business capital to promote long-term growth because increases in CS over Investment as a percent of GDP have been shown to have a negative impact on long-term economic growth

- In the consumption driven economy many individuals invest in perishable or "leisure" goods as opposed to education (human capital) and business capital investments. This develops a consumption dependent mentality, devaluing investment spending and lowering long-term GDP growth potential

- **The key to a sustainable GDP growth is increase LFPR therein causing an increase in investment opportunities in addition to an increase in income dependent Consumer Spending increases, increasing transfer payments is not a long-term solution and only further perpetuates present damages to the growth potential of the future economy**

Positive drivers for LFPR & CS

- Increased education leading to high-skill, high-pay careers leading to an increase in spendable income

- Investments in small and medium business growth resulting in long-term growth and job creation ability

- Lower taxes resulting in an increase in spendable income as well as an increase in investable income

Detractors from LFPR & CS

- 20% of the workforce will have the skills for 60% of the jobs as of 2020, education quality levels must improve[34]

- High taxes lower spendable income levels and caused increased levels of discouraged worker dropouts from LFPR

- Transfer payments falsely inflate CS and "enabling" programs are incentivizing unemployment

Investment is being squeezed out by over-consumption and government spending

Drivers of Investment

- Investment as a component of GDP is measured by calculating the total value of a producer's acquisitions, less disposals of fixed assets on an annual basis. Examples include:
  - construction of a new mine
  - Purchases of machinery
  - Equipment for a factory

- Investment makes up ~15% of GDP

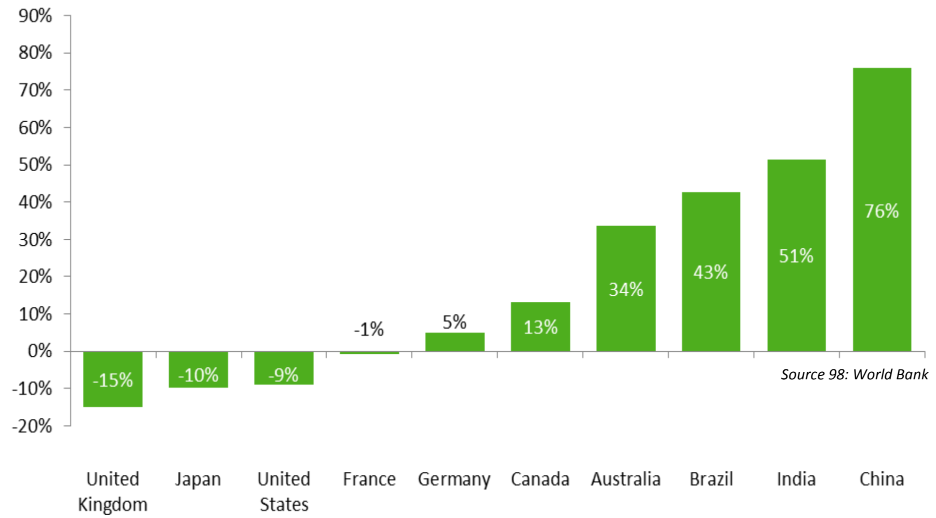
- United States growth in it's Investment, a component of GDP, has fallen ~9% since 2007[98]

- High income tax environments decrease long-term saving and consumer spending[112]

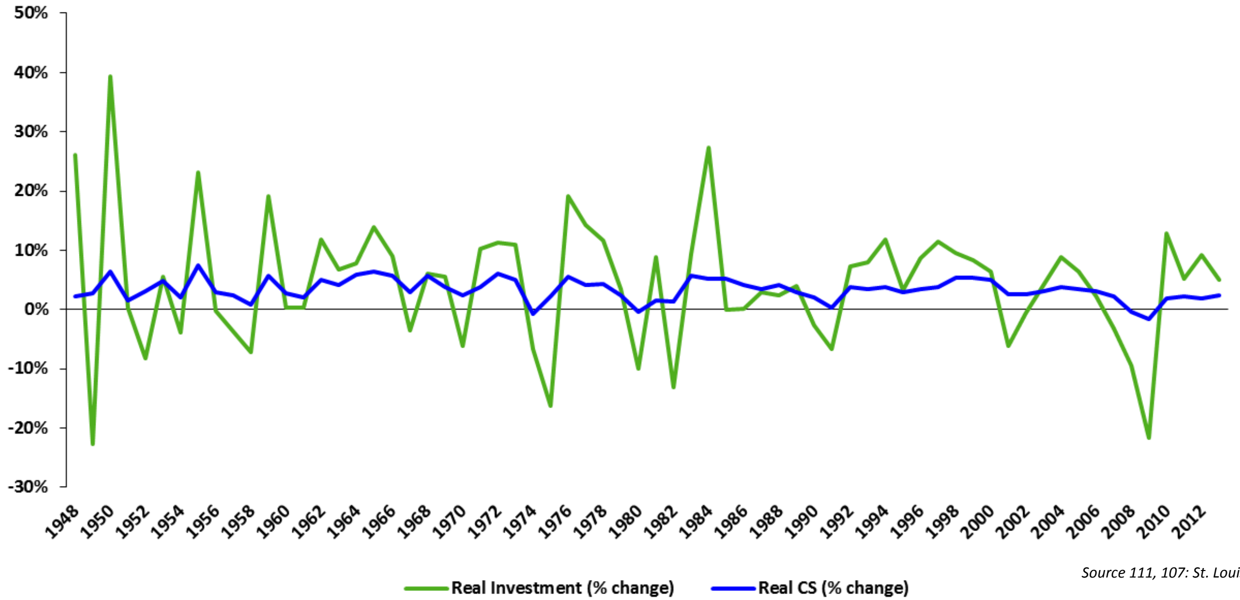
- Investment spending has decreased recently. As GDP increases, it is vital that investment spending increase along with it in order to maintain robust, sustainable expansion[117]

- FDI helps drive investment and innovation in the U.S. FDI is the investment that has allowed U.S. Consumers to spend more (as opposed to save), thus increasing GDP by overconsumption[132]

Investment growth (%) in developed world economies since 2007



To perpetuate LFPR and GDP growth, it is vital that we draw a balance between Investment and Consumer Spending



Source 111, 107: St. Louis Fed

Correlation: consumption & investment

- The increase in Consumer Spending is crowding out investment spending, as shown by the declining change in real investment
- There is a correlation coefficient of -0.07 between percent change in Consumer Spending and percent change in Investment Spending meaning as CS increases, Investment decreases
- Consumer and Investment Spending are strong contributors to GDP but, in order to have sustainable growth, there needs to be a balance between the two

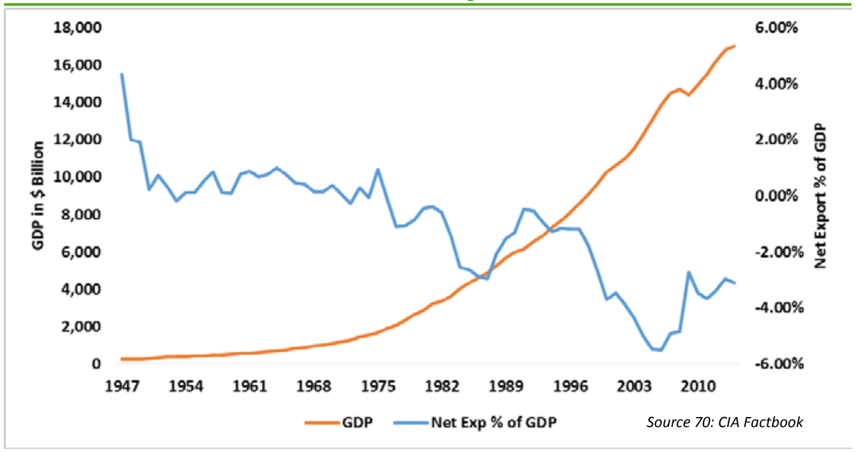
Implications

- Consumer Spending is increasing much faster than Investment Spending. This increased consumption spending does not translate into increased demand for labor (job creation)
- Consumer Spending is drastically increasing while Investment Spending is lagging, this is on reason why there is a shortage of jobs in the economy[110]

Net exports decrease in an economy which continues to shift its employment base from manufacturing to service industries

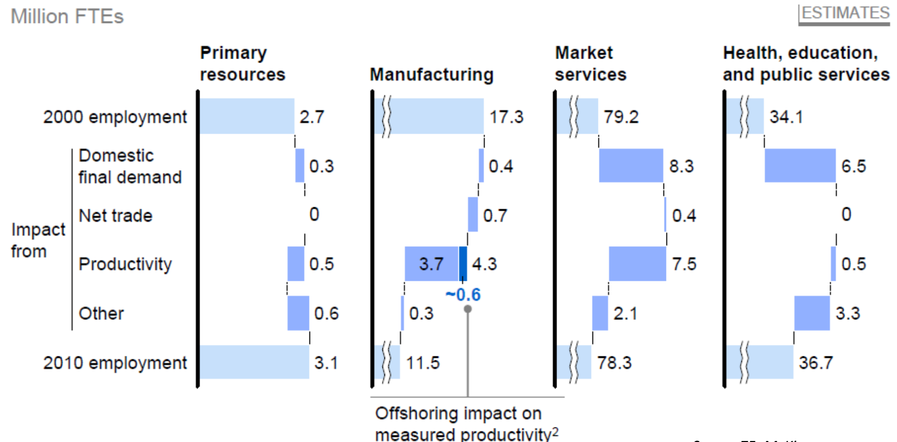
- Net exports of goods and services is the difference between U.S. exports of goods and services and U.S. imports of goods and services
- Exports measure the portion of total U.S. production of goods and services – GDP – that is provided to the rest of the world
- The impacts of imports depend on the degree to which they act as substitutes for, or as complements to, domestic production
- Offshoring between 2000 and 2010 only resulted in 600k of the 5.8 million job decrease seen in the manufacturing industry[75]

Historical net exports & GDP



Source 70: CIA Factbook

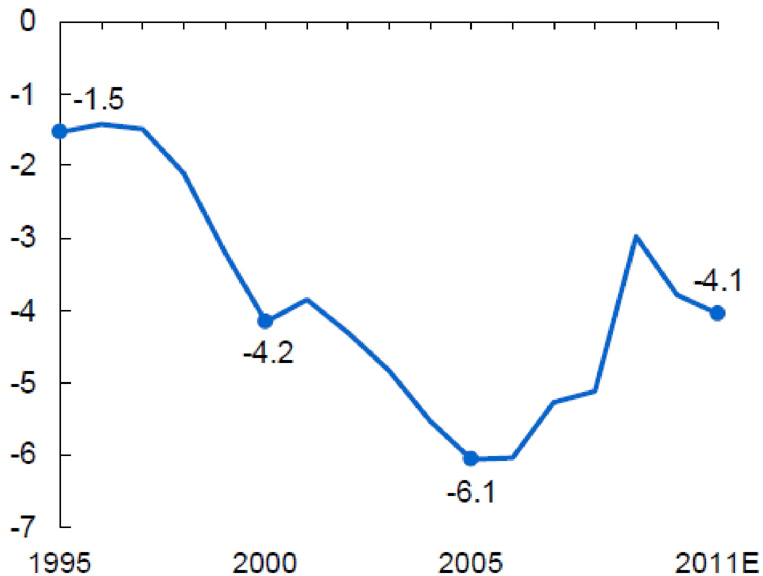
Shifting demand from manufacturing to services



Source 75: McKinsey

A steady increase in consumer spending and goods imported results in an increasing trade deficit

U.S. trade trends



	1995	2000	2005	2011E
Net exports $ billion	-112	-412	-761	-615
Exports % of GDP	11	11	10	14

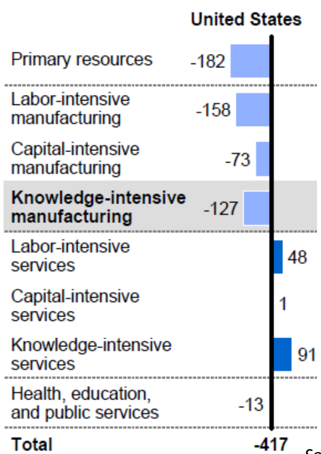
Source 75: McKinsey

Explaining the negative trend

- The U.S. last ran a trade surplus in 1975
- A dependence on natural resource imports coupled with consumers' demand for imported goods as the U.S. continued to offshore labor intensive manufacturing contributed to a historical trade deficit of -6.1% of GDP in 2005
- A weakening dollar, combined with the slowdown of consumer spending and imports of manufactured goods related to the recession of 2007, helped to shrink the U.S. trade deficit to ~ 4.1% of GDP in 2011[75]
- As of Q1 2014, net exports have reached -3.1% of GDP as the effects of the recession still linger
- Total net exports as of Q1 2014 were an annualized -$527B[75]
- Capital account surplus is enabling investment and the amount of foreign investors (or savors) are mitigating the trade deficit by enabling consumer spending
  - The U.S. Consumer can spend more when a foreign entity buys U.S. debt
  - When a foreign investor invests in the U.S., the U.S. Consumer is enabled to spend more

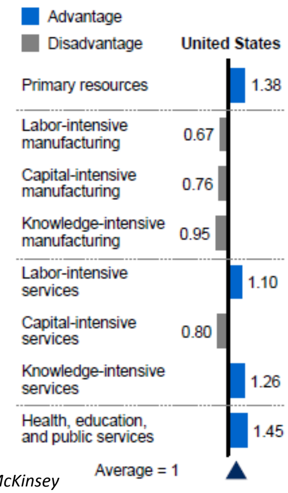
Primary resources, not manufacturing losses, are at the heart of the imbalance regarding net exports

U.S. net exports by sector



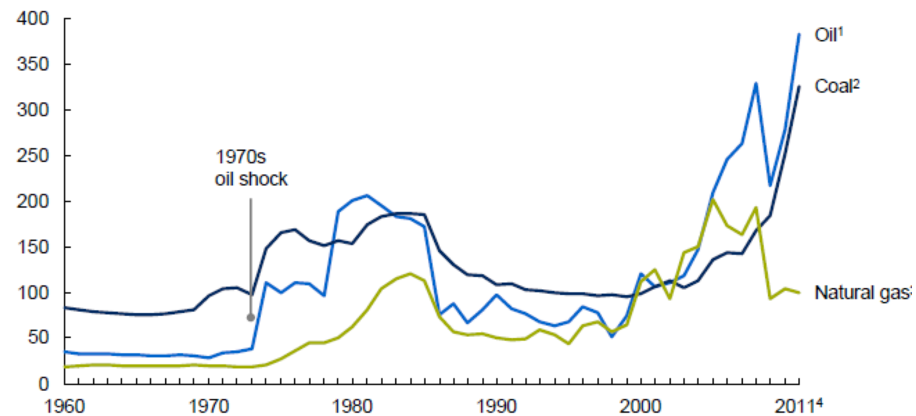
$BN, Nominal, 2009

U.S. comparative advantage by sector



Source 75: McKinsey

Commodity prices have increased sharply since 2000 (real energy prices)



Primary resources (agriculture, mining)

- Primary resources have been the U.S.'s largest net import since the increase in commodity prices in the early 2000's
- From 2000 until 2008, primary resources accounted for all of the increase in the U.S. trade deficit[74]
- The trade imbalance in the U.S. follows its comparative advantages, except for primary resources of which the U.S. demand outweighs domestic supply

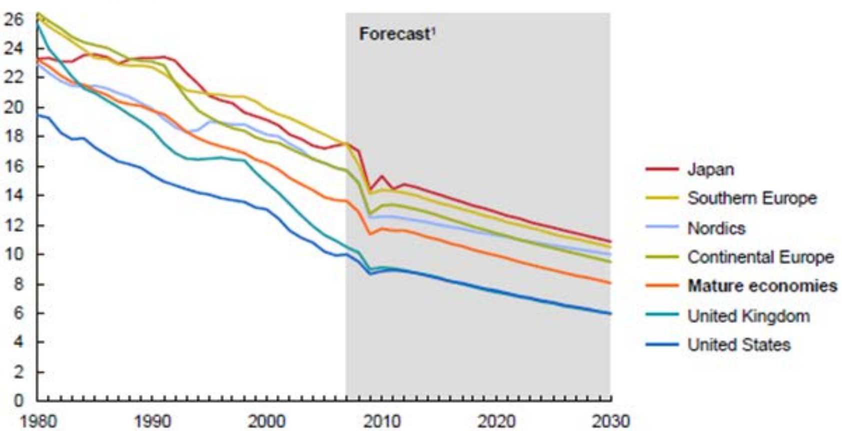
Historical context

- Since 2000, the real prices for primary resources have soared due to surging demand from emerging markets and rising recovery and production costs
- If resource prices had remained at the 2002 levels, the aggregate trade accounts of mature economies would have been in balance in 2008[75]

Shifting demand and continued productivity gains drive employment changes more than trade

- The long-term decline in manufacturing jobs reflects productivity increases across the globe
- Most proponents of bringing manufacturing back to the U.S. argue that closing the trade deficit of -3.2% of GDP by increasing manufacturing exports would bring more jobs to America; however, doing so would only add 2.2 million[75] jobs to the sector, a level equivalent to 2007 total manufacturing employment
- The U.S. could accomplish this goal by increasing its competitiveness, especially through innovation, in areas other than manufacturing where the U.S. can be competitive in factors other than cost.[75] For example, the productivity increases in manufacturing resulted in the loss of ~3.7 million full time jobs, whereas trade resulted in the loss of ~700K. Therefore, both the number of manufacturing jobs globally and the LFPR are decreasing while total global production is on the rise

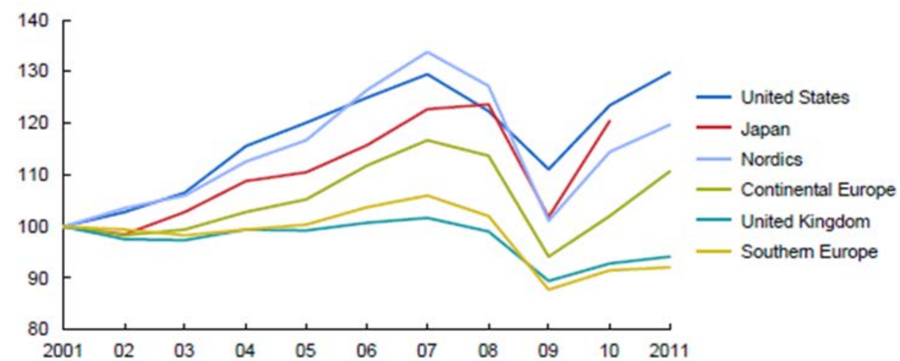
Manufacturing employment decreasing worldwide



1 Assuming that sector productivities will grow in all countries/clusters at the same rate as they did in the mature economies sample between 1996 and 2006; real value added forecast from IHS Global Insight.

Source 75: McKinsey

Real manufacturing output is increasing due to more value added



Source 75: McKinsey

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As individuals either leave the labor force completely or become unemployed, quantifiable impacts on GDP can be observed

Calculated data on GDP loss per leave per capita

- **July 2014 GDP:** $16,912,540,000

- **Total U.S. Population:** 314,900,000
  - **Civilian Non-Institutionalized Population (CNIP):** 247,814,000 People
    - **Not in Labor Force:** 92,120,000 People
      - % of CNIP: 37.17%
    - **Labor Force:** 155,964,000 People
      - **% of CNIP (Labor Force Participation Rate):** 62.9%
      - **% of Total Population:** 49.5
      - **GDP cost of 1 general dropout:** $108,438
      - **Employed:** 146,221,000 People
        - **% of Total Population:** 46.4%
        - **% of CNIP:** 59%
        - **% of Labor Force (Employment Rate):** 93.7%
        - **GDP cost of 1 Employed dropout:** $115,664

Labor force dropouts

- By taking the number of individuals within the labor force and dividing that by GDP, we found that each individual in the labor force adds roughly $108,438 to GDP

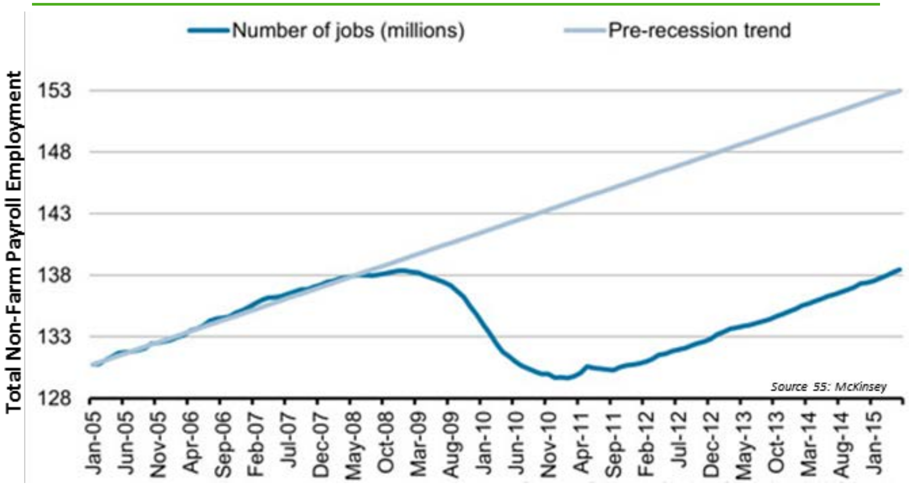
- When one person leaves the labor force, he/she is essentially decreasing GDP by $108,438 and passing the burden of compensating for this loss to those still remaining in the labor force

Employed individuals dropping out

- To precisely narrow down the value-add of each employed individual within the labor force to GDP, we divided GDP by the number of employed individuals in the U.S.
- When an employed American becomes either unemployed or leaves the labor force, GDP essentially decreases by roughly $115,438
- The exit of this employee from the "employed" category passes the burden of compensating for the loss of the $115,438 he/she previously added to GDP to the rest of the employed individuals in the labor force

The U.S. economy's past and recent performance indicates a decrease in GDP due to LFPR will be difficult to recover from

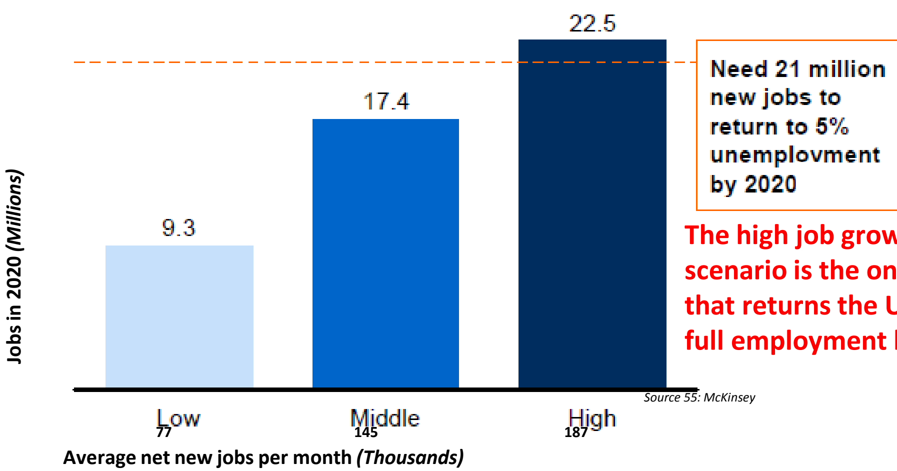
Recent economic picture



Current jobless recovery

- In May 2014, non-farm unemployment rates returned to January 2008 levels (2,312 days later)[59]
- There has been a 23% drop in the rate of new business creation since 2007. This has resulted in the loss of as many as 1.8 million jobs[55]

Employment demand scenarios for 2020



The high job growth scenario is the only one that returns the U.S. to full employment by 2020

By 2020 the U.S. needs:

- 21 million jobs to return to full employment
- 1.5 million more college graduates in the workforce to fill the predicted shortage[55]

The passing of time makes reversing the current LFPR trend more difficult

- More time spent unemployed directly correlates to increased difficulty in finding a job
  - About 41% of the unemployed have been out of work for more than 27 weeks[16]
  - The longer an individual remains unemployed, the less likely he/she will be able to find a job in the future due to eroding skills, waning motivation and personal network deterioration

- The majority of those who get on disability insurance do not return to work[37]
  - 52% qualify for social security retirement benefits
  - 37% die
  - 10% leave the system because health has improved enough for them to return to work

- Decreasing regulation and increasing benefit amounts lead to abuse of government unemployment and benefit programs
  - More generous safety-net programs such as SNAP and increased unemployment benefits have contributed to a decline in the "self-reliance" rate from 70% to 55% since 2007[115]

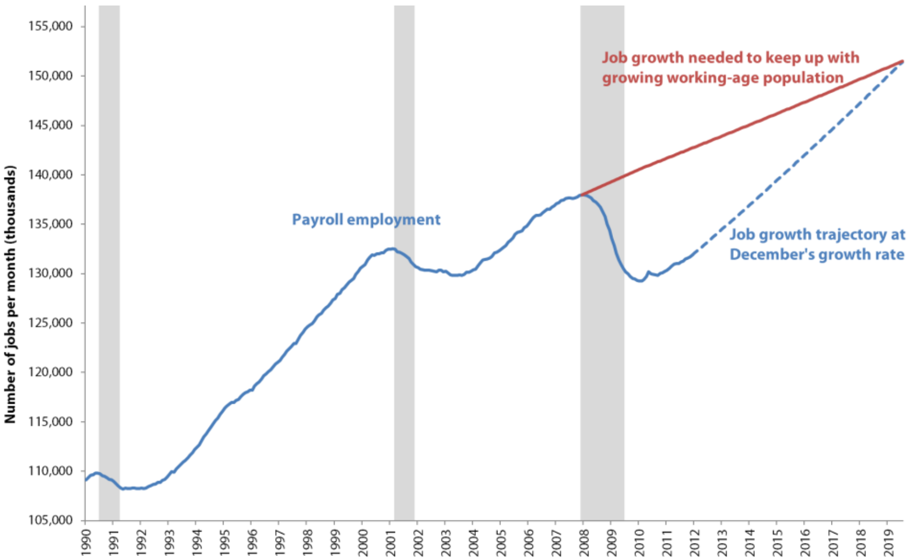
- The "return to school because I cannot find a job" mentality
  - While the increase in time spent in school will be helpful by fixing the shortage of high-skill workers in the labor force, if the trend continues too long unemployment will begin to rise and LFPR will continue to fall due to an increasingly over-skilled labor force (See Spain case study – slide 32)

The limited timeframe of reversal possibilities urges decisive action

Rough path to growth

- If the labor force grows by 90,000 a month, an economy creating 200,000 jobs a month would take about eight years to return to full employment (~5%)
- If the labor force grows by 125,000 a month — plausible if discouraged workers begin returning to the labor force — it will take almost 14 years to return to full employment[16]
- Without immediate action to reverse the trend, the difficulty of reversal will only grow due to the increasing number of individuals leaving the labor force each month

Job growth needed through 2019 to keep up with retirement



Source 16: Washington Post

The missing worker

- There are at least 3 million potential workers who are missing from the labor force because they are not actively seeking work as of 2012[48]
  - There were 3.7 job seekers for every posted position in 2012[16]

Regulatory policy has both visible and invisible hands at work across multiple issues

- Policies such as the Affordable Care Act create increased incentive not to work[12]
  - Allows workers to cut back their hours or exit the labor force without fear of being unable to purchase health insurance
  - Healthcare subsidies increase the marginal tax rate on employees and disincentivize work
  - People can work less because they can keep the same standard of living while working fewer hours

- The ongoing abuse and manipulation of disability insurance
  - The number of claims continues to rise even though Americans are not getting sicker. Overall health has improved and mortality rates have fallen due to modern medicine. This should allow Americans to live longer and healthier lives with fewer disabilities
  - Disability judges, as of recent years, must have 'good reason' to refuse anyone benefits which average $300,000 over a lifetime. They are not permitted to order a psychological test to determine if the applicant is lying and they are forbidden to consult sites such as Facebook to better evaluate the legitimacy of the applicant's claim[126]

- Spending on Social Security, Medicare and other mandated programs has exceeded $2 trillion a year since FY 2011[64]
  - These payments consume most of the government's budget in each year[64]
    - **Increased spending is making it sustainable to live without a job. This detracts from the government's ability to perform its constitutionally mandated duties**
    - **In the United States, 6.1 million people between the ages of 16 and 24, who are neither in school nor in the workforce, generate costs to U.S. taxpayers of nearly $100 billion annually[62]**
  - Government mandated programs cannot be changed without an act of Congress[64]
    - **This is difficult to do politically, since any benefits that are cut will take money out of the pockets of current beneficiaries[64]**
    - **Mandated spending programs such as welfare, social security and disability insurance, when abused, perpetuate the decreasing labor force participation rate by making it easier to maintain a sustainable lifestyle on benefits payments**

- Minimum wage raises continue to be a detriment to the LFPR
  - In President Obama's 2013 address he stated his goal of raising the minimum wage to "nine dollars an hour." Since then, the administration has raised the minimum wage of government employees to $10.10 an hour in an effort to build momentum for a nationwide raise in minimum wage for all Americans
    - **As an entry level wage for young people, a group already struggling to find jobs, a raise in the minimum wage causes a crowding out of urban teens and older workers who are in need of their jobs to maintain a base standard of living by suburban teens who enter the labor force because the wage increase makes it more appealing**

The unseen consequences of raising the minimum wage are seldom addressed yet can greatly impact LFPR

A raise in minimum wage creates demand shortage

- A raise in the minimum wage has historically caused a decrease in LFPR due to:
  - An increase in the price of labor causing employers to lay-off part of their workforce
  - A decrease in new hires as companies freeze hiring
  - A decrease in benefits as employers look to cut costs[84]
- Proponents of raising the minimum wage argue that it improves the standard of living and lifts low-income families out of poverty

A loss of needed jobs as opposed to wanted jobs

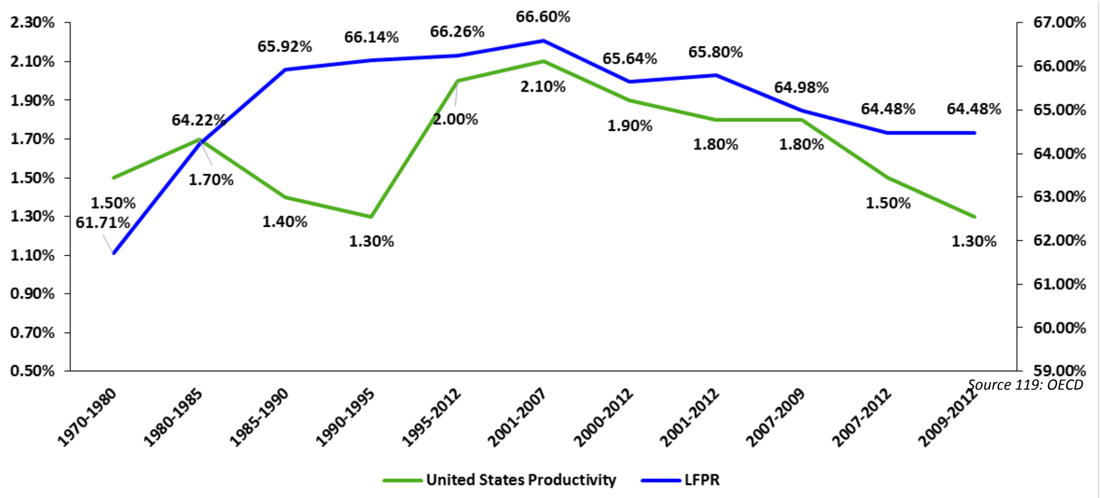
- Higher minimum wage draws more suburban affluent teenagers to the workforce, crowding out urban teens and disadvantaged adults who would have sought jobs at the previous wage rate[84]
- As the cost of employing a minimum wage worker rises, employers are more likely to lay-off older less productive employees who need their jobs in favor of more productive suburban teenagers working while in high school who do not need the jobs

Minimum wage case study – the American Samoa

- The American Samoa is a small U.S. island territory in the pacific where the majority of the jobs were low paying and in the tuna canning industry
- Until 2007, the average worker on the island made $3.26 per hour
- In 2007, American congress decided to increase the minimum wage on the island in 50 cent annual increments until it reached the $7.25 rate of the average U.S. State[84]
- By May 2009 the third 50 cent increase had raised the minimum wage from $3.26 to $4.76
- Instead of helping the workers, the raise in minimum wage caused:
  - StarKist, one of the two canneries on the island, to lay off workers, cut hours and benefits, and freeze hiring
  - Chicken of the Sea, the other cannery, to shut down
  - Overall employment to fall 14% between 2006-2009 and inflation-adjusted wages to fall 11%
  - Employment in the tuna canning industry to fall 55% between 2006-2009[84]
  - A decrease in purchasing power, demand for goods/services and the standard of living in the Samoa

Productivity is the economic tape measure of output

Declining productivity hinders LFPR



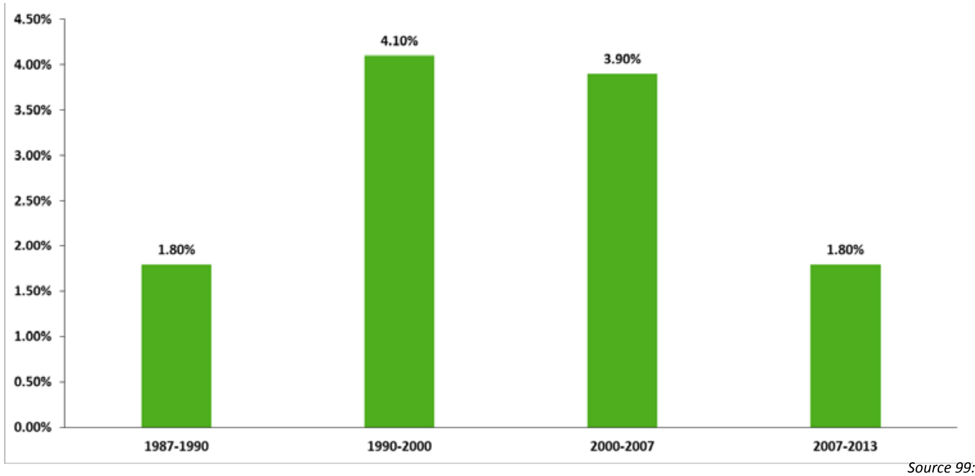
Capital infrastructure

- Productivity is defined as measuring the output of a good for a given amount of labor, capital, time and knowledge. The definition is very similar to what GDP shows us. The productivity rate is a vital statistic used to gauge the efficiency of an economy

- Infrastructure investment is a strong driver of GDP and a necessity for future economic growth
  - An ambitious effort to increase infrastructure investment by $250 billion annually over seven years would likely increase productivity growth by 0.3 percent annually[116]
  - A productivity acceleration of 0.3 percent would have measurable impacts on the estimated Non-Accelerating Inflation Rate of Unemployment (NAIRU) and could allow macroeconomic policymakers to target significantly lower rates of unemployment[116]
  - A $250 billion annual increase in infrastructure investment could mean that more than 1 million additional workers each year find employment[116]

Technology is redefining productivity causing a shift from human capital to technological capital

Productivity (%) changes in the nonfarm business sector



Source 99: BLS

Productivity is shifting from manual manufacturing to technological manufacturing

- The U.S. is shifting from an industrial manufacturing based economy to a knowledge based economy. This has an impact on the productivity of the labor force as the development of technology and innovation assists in expediting processes[100]

- Technology is a large driving force of productivity. Computers are slowly affecting the jobs market, but there are still many jobs that require physical labor and advanced mental capabilities. These opportunities are slowly diminishing, but there are still ways for innovation to increase job creation

- Displacement historically has not had a significant impact on LFPR because workers simply moved from agriculture to manufacturing. Compensating for displacement is increasingly more difficult in the 21st century[100] as low-skill workers becoming unemployed face increasing competition in finding a new job

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LFPR has declined to its lowest level since 1978 and will continue to do so without any action to stop it

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As the U.S. labor force participation rate declines, gross domestic product (GDP) growth will continue to slow, eventually stalling and even declining unless this trend reverses

If policies are not enacted to correct the trend, the U.S. will continue to suffer from:

- An increasing number of discouraged workers dropping out of the labor force
- An education system producing graduates that are unprepared for the demands of jobs
- Continued widespread fraud in the disability benefits program
- Increasing reliance on government programs to supplement income
- Relocation of businesses overseas due to excessive taxation
- The expansion of government-spending fueled Consumption

The result of a declining labor force ultimately leads to a decline in GDP and the loss of America's competitive edge in the global economy

Fortunately, there are many opportunities to improve the LFPR through policies that:

- Decrease incentives not to work and increase incentives to work
- Better align what is being taught in classrooms with skills needed for today and tomorrow's jobs
- Encourage businesses to grow and remain in the U.S.
- Rebalance the drivers of GDP growth

The U.S. government must enact policies and reforms that encourage workers to return to the work force before the U.S. will experience a significant growth in GDP

Solutions to an LFPR increase are found in the incentives for individuals to work

Disincentives continue to exacerbate with LFPR declines

- Over time, as the LFPR gradually fluctuates, many incentives are created for people to not join the labor force
  - Increased transfer payments
    - Increase in jobless benefits
  - Higher taxes on money made from working
  - Lowering the age to claim Social Security disability[83]
- With these entitlements and benefits increasing, there is less and less of a reason to join the labor force
- Dependency-creating transfer payments have a strong correlation with the LFPR and when they increase, LFPR decreases

Incentives are primary drivers in increasing LFPR

- The creation of incentives to work and encourage labor force participation is a vital aspect of helping Americans return to work
- Ways to incentivize the American worker include but are not limited to:
  - An increased focus on the creation of jobs by lessening the tax and regulatory burdens on the American employer
  - A decrease in dependency creating transfer payments as well as increased due diligence on claims for benefits such as disability insurance
    - Statistics show transfer payments and similar benefits have a nearly perfect negative correlation to LFPR
  - A decrease in paycheck reducing taxes that currently work to discourage workers by effectively underpaying them for their labor
    - The over-taxing of high-income workers leads to a decrease in new entries into high-skill positions and even exits from the labor force as the time and effort required to become qualified for these high-skill positions is becoming decreasingly worthwhile economically
  - Educational reforms that create incentives to pursue degrees leading to high-skill employment

The U.S. should focus on increasing the number of skilled workers in the labor force in order to rise employment

The struggle to full employment

- Employment has been something the U.S. has struggled with for many years. The problem has been largely looked at from a macro view by examining employment at a Federal level, when the largest drivers of unemployment come from a state level
- To begin fixing the labor problem in the U.S., employment should be examined on a state by state basis to see what the largest contributor to unemployment is, and begin taking corrective actions

Education is key in building a skilled workforce

- Education is part of a strong foundation for economic success[120]
- Economic growth is driven primarily by LFPR and productivity. Education is vital to the increase in both LFPR and productivity[120]
- Inadequate investments in education weakens the ability of a state to develop, grow and attract high-skilled jobs in their economy[120]

The surpluses and shortages of labor

- The U.S. experienced an unemployment rate of 6.1% in June 2014, a number falsely portraying an improvement in out economy as it is actually decreasing due to the declining LFPR[99]
- The U.S. is experiencing two different types of detrimental labor issues in the current day in age and will continue to according to projections touched on previously (see slide 30)
  - There is a surplus of unskilled labor
  - There is a shortage of skilled employees to fill high-skill job openings

Potential solutions

- Increased immigration regulation to:
  - Decrease immigration of unskilled labor of which there is a surplus
  - Increase the immigration of skilled labor to fill the gap between number of jobs and number of skilled workers

Swiss model to successful economic growth: create an enabling environment

Switzerland has the best healthcare and the lowest GS on Healthcare globally

- Switzerland is number one for the best healthcare for both physical and mental health globally[130]
- Their government spending on healthcare is only 2.7% of their GDP yet they have universal coverage for all of their citizens. They subsidize poor citizens insurance with a goal of having it not reach over 10% of the individuals paycheck[129]
- The Swiss system has each citizen buy insurance themselves. There is no government run or employer sponsored insurance programs. The government only defines the minimum benefit package that qualifies for the mandate[129]
- Citizens pay a portion of the costs of their care encouraging frugality[129]

Swiss education takes a lead

- 86% of adults aged 25-64 in Switzerland have earned the equivalent of a high-school degree, higher than the global average of 74%[130]
- The Swiss have higher test rating than the global average in literacy, math and science[130]
- The quality of management schools is number one in the world[130]
- The quality of primary schools is number one globally[130] as well, preparing the countries youth for the challenges of tomorrow

A focus on fostering talent and innovation

- With the best environment globally for innovation, on-the-job training, ability to attract talent from elsewhere and the government provided training they have created an environment that is perfect for people to pursue their own entrepreneurial ventures[130]
- Switzerland also nurtures an environment where intellectual property is valued and protected[130]
- Small and medium sized enterprises comprise 99% of the Swiss economy and represent 75% of the workforce[130]

Creation of an environment where people and companies can leverage capital

- Switzerland has an infrastructure that allows for ease of transportation and internet connectivity[130]
- The Swiss institute for Management Development claims they follow the “golden rules of competitiveness”: Manufacture, diversify, export, invest in infrastructure, educate, support small and medium enterprises, enforce fiscal discipline and above all maintain social cohesion[130]

The economy requires immediate attention to develop a decisive solution to declining LFPR, LF and GDP growth rate

While the U.S's aging population is widely credited by economists and the media as the primary cause of the decline in the LFPR, we have shown that there are many other components that are contributing equally if not more so to the current downtrend. These detracting factors can be mitigated and in some cases even turned into factors contributing to the growth of LFPR if policymakers enact beneficial reforms including but not limited to:

Reforming Education

- Encourage education reform that supports teaching the skills necessary for the jobs of today and tomorrow
- Continue to subsidize all forms of education while starting to focus on improving programs in STEM majors as well as encouraging the pursuit of these majors by not raising tuition for them as is usually done each year (Florida State University Debate[91])

Decreasing or eliminating non-vital transfer payment programs

- Many of these programs give Americans incentives not to work rather than to work causing a decrease in LFPR
- Disability insurance, for example, must be better regulated. The ease of which one can abuse the system incentivizes individuals not to work because they can have the same standard of living by claiming to have an injury

Decreasing taxes on income

- Excessive income taxes on both a state and federal level are discouraging workers from advancing into higher tax brackets. Lowering these taxes would decrease the number of discouraged workers and give those currently not working more incentive to work
- The current social security system is set up as a tax system through the government. Privatization of this system, as seen in Chile, would allow Americans to accumulate more money by retirement and increase the drive to advance in their career

Not increasing the minimum wage beyond inflation-based adjustments

- Employers will create more jobs and hiring freezes will begin to end if minimum wage stays at or below its current levels
- More individuals who are truly in need of a job will be able to secure one

Immigration reform to help solve labor supply surplus and shortage issues

- Increasing the number of skilled workers entering the country through more stringent immigration regulation and potentially the creation of incentives for high-skill workers to immigrate to the U.S. will aid in solving the high-skill worker shortages
- Increased regulation on immigration will also help decrease the surplus of low-skill workers. Limiting low-skill immigration will increase the LFPR. Due to the current surplus of low-skill labor many immigrants come to America and find themselves unable to find a job and subsequently drop out of the labor force

Additional research may be beneficial to further developing and understanding the relationship between LFPR and GDP

- Adjustments in monetary policy could potentially help LFPR get back on track
  - Adjusting the Federal Reserve's mandate by shifting it from "keeping unemployment at the natural rate" to "helping to raise the labor force participation rate"

- Further research in the phenomena of scared investors during and following the great recession as well as the Federal Reserve's policies on quantitative easing could explain why the labor force participation rate continues to decline despite a trending recovery from the Great Recession

- Employment lags between the start of a recession and the start of the lay-offs that result from the economic down turns have been getting smaller as the world becomes increasingly interconnected. Further research into this concept may provide insight into why the LFPR has been declining since 2000

Post-research investment suggestions

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Non-cyclical investments

- Precious metals, necessity goods and commodities

Low-skill jobs

- Jobs in the construction, service and manufacturing industries

Elderly retirement care

- Nursing homes, retirement centers and hospice care

Knowledge based outsourcing

- Application outsourcing, infrastructure outsourcing and consulting services

Tech-enabled services

- Application creation, productivity enhancers and streamlined processes

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Executive summary outline

- **As the U.S. labor force participation rate declines, GDP growth will continue to slow, eventually stalling and even declining unless this trend reverses**
  - LFPR has been on a steady decline since 2000
  - There is a trending slowdown of labor force growth and LFPR and the decline is historically underestimated in projections
  - LFPR is the lowest it has been since 1978
  - As LFPR's projections continue to decrease, GDP growth will slow
  - Despite an initial surge of women joining the labor force in the 20th century, LFPR for both men and women are now declining
  - Differentiations between being unemployed and not being in the labor force must be acknowledged in order to understand the severity of the declining trend in LFPR
  - Increasing amounts of unemployed individuals are at imminent risk of becoming discouraged workers and exiting the labor force
- **Our analysis has shown that while an aging demographic has contributed to the declining labor force participation rate, a majority of the decline can be attributed to other factors including:**
  - A dichotomy exists between sources in explaining the extent to which the aging population is contributing to the decline in LFPR
  - While a larger aging demographic will gradually lower the LFPR, younger workers are also exiting the labor force
  - Japan case study: The differences between the U.S. LFPR decline and Japan's, theirs is majority retirement, ours is not
  - Rather than being a result of demographic changes, LFPR will continue to fall due to the following factors
  - Over-taxation can have a negative impact on GDP in the short and long term
- **Discouraged workers**
  - High Social Security tax policies discourage workers and decrease LFPR, Chile's privatization model provides a possible long-term solution
  - Incentives not to work are on the rise as the LFPR reaches long-time lows
- **Increasing education polarizations and misalignment of skills with job demands**
  - The U.S. is falling behind relative to China and other competing economies globally in terms of LFPR, education and job creation
  - China is ahead of the global market in terms of LFPR and job creation, but will still have trouble meeting skilled-labor demand
  - Higher education is statistically proven to lower effect on unemployment and to increase LFPR
  - Outlook for U.S. labor force shows an impending shortage of skilled-labor
  - The dichotomy of the U.S. labor force will be perpetuated by a comparable shortage of medium-skill jobs
  - Spain's 25.6% unemployment and 59% LFPR paint a picture of the future of the U.S. if action is not taken

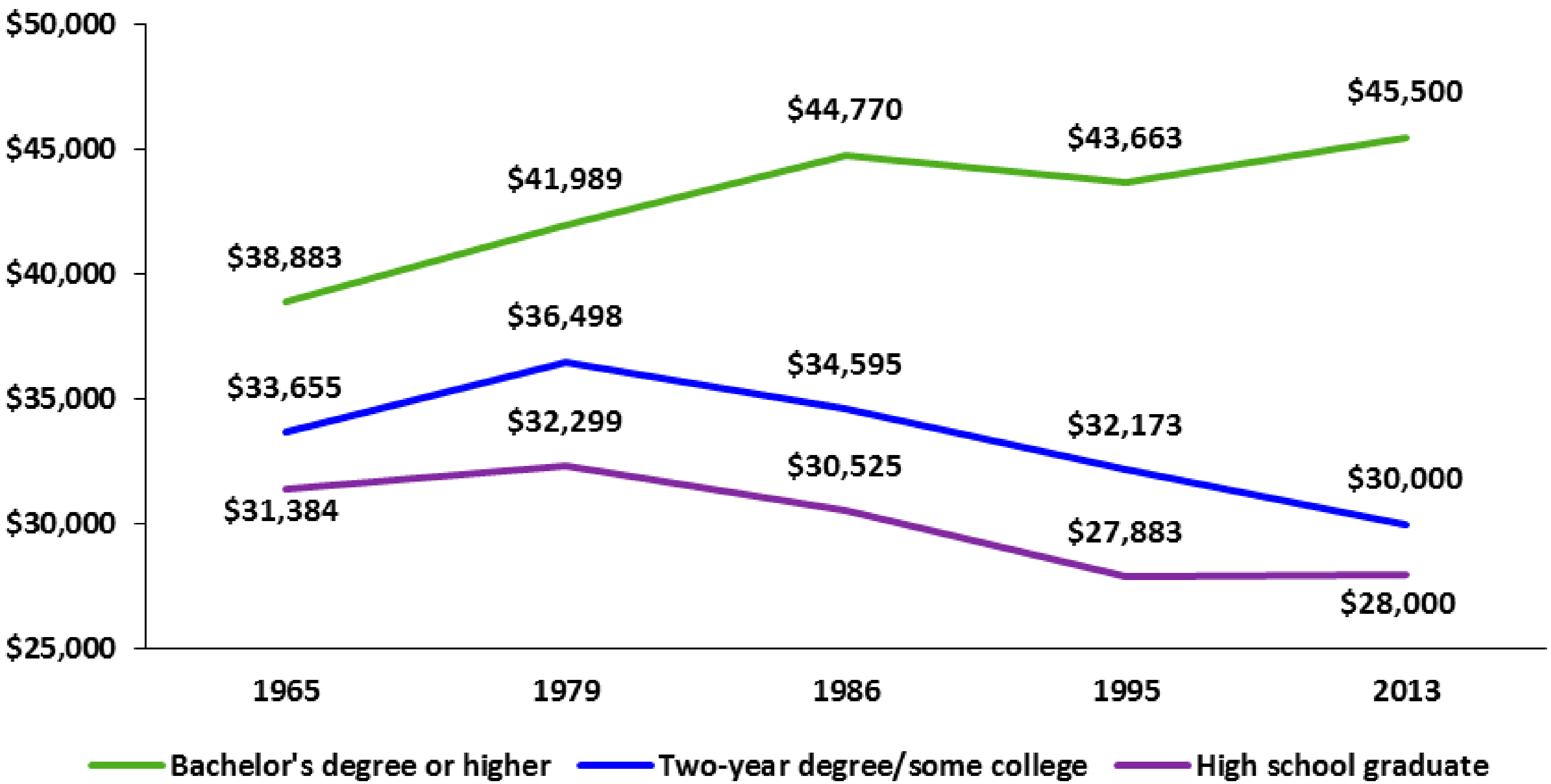
Executive summary outline (cont.)

- **Increasing reliance on government programs**
  - (Explained in GDP section)
- **A declining labor force participation has a negative impact on GDP**
  - A decline in LFPR affects multiple components of GDP
  - The consumer spending increase is partially driven by government spending despite a decrease in LFPR
  - Government spending is deceptively understated in the GDP equation
  - Consumer spending is artificially inflated due to transfer payments causing an indirect increase
  - Long term economic growth is sacrificed for short increases in GDP
  - A decrease in LFPR will inevitably lower the primary driver of GDP, consumer spending
  - LFPR declining will have an impact on the growth of consumer spending and on the economy
  - Consumer driven economy and lower LFPR: a self-perpetuating cycle
  - Investment is being squeezed out by overconsumption and government spending
  - To perpetuate LFPR and GDP growth it is vital that we draw a balance between investment and consumption
  - Net exports decrease in an economy which has shifted its employment base from manufacturing to services
  - A steady increase in consumer spending and goods imported has resulted in a declining trade balance
  - Primary resources, not manufacturing losses, are at the heart of the imbalance regarding net exports
  - Shifting demand and continued productivity gains drive employment changes more than trade
  - As individuals either leave the labor force completely or become unemployed, quantifiable impacts on GDP can be observed
- **Americans must return to the work force before the U.S. will experience a significant growth in GDP**
  - The U.S. economy's past and recent performance indicates a decrease in GDP due to LFPR will be difficult to recover from
  - The passing of time makes reversing the current LFPR trend more difficult
  - The limited timeframe of reversal possibilities urges decisive action
  - Regulatory policy has both visible and invisible hands at work across multiple industries
  - The unseen consequences of raising the minimum wage are seldom addressed yet can greatly impact LFPR
  - Productivity is the economic tape measure of output
  - Technology is redefining productivity causing a shift from human capital to technological capital

Executive summary outline (cont.)

- **There are solutions to help improve the current crisis**
  - LFPR has declined to its lowest level since 1978 and will continue to do so without any action to stop it
  - The economy requires immediate attention to develop a decisive solution to declining LFPR, LF and GDP growth
  - Solutions to an LFPR increase are found in the incentives for individuals to work
  - The U.S. should focus on increase the number of skilled workers in the labor force in order to increase employment
  - Swiss model to successful economic growth: create an enabling environment
  - Additional research may be beneficial to further developing and understanding the relationship between LFPR and GDP

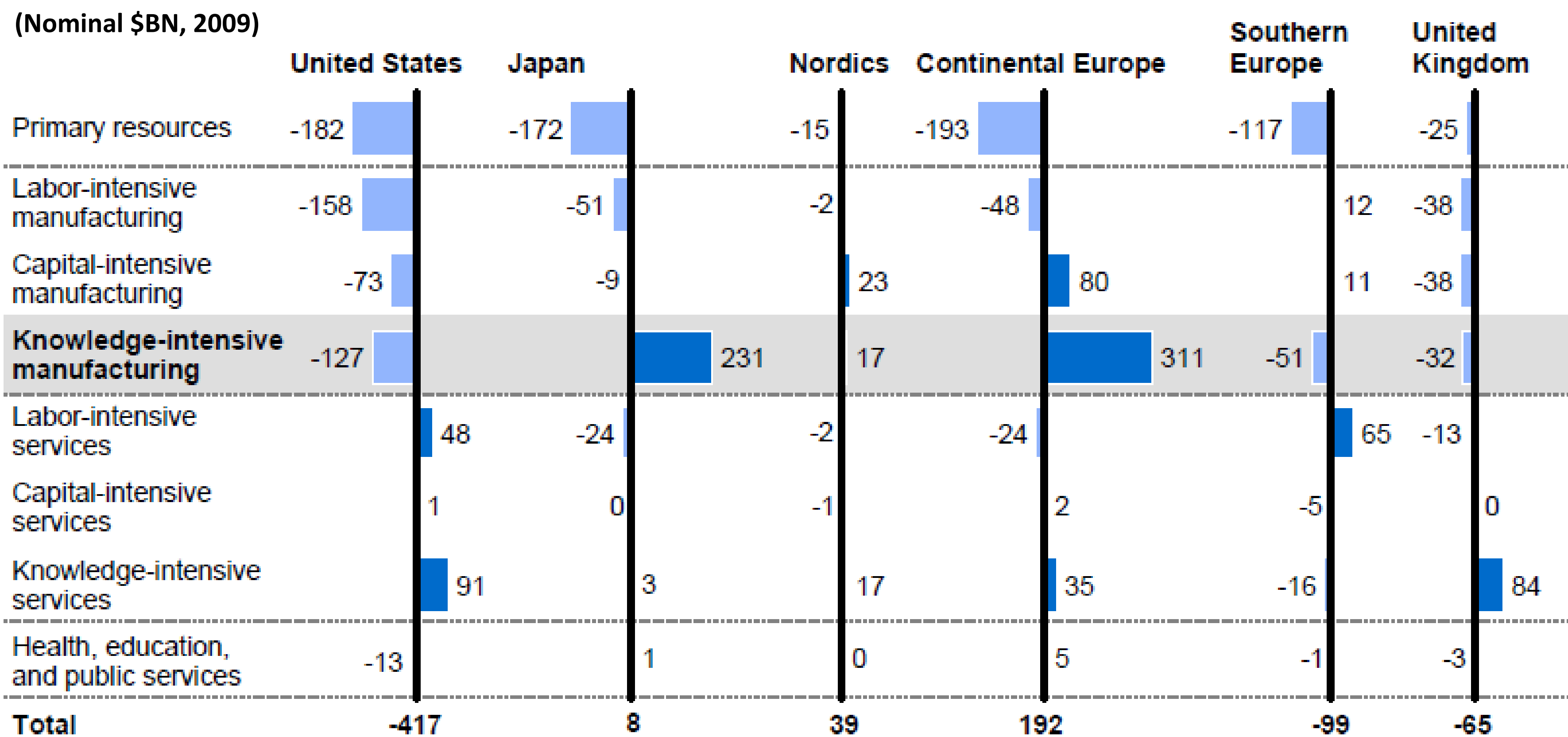
As both education quality and skill to job ratios worsen, the polarization between the upper and lower income levels becomes increasing disparaging



Prime-age workers dropping out of LF graph explanation (Slide 23-Wells Fargo)

The blue bars were calculated by holding each cohort's LFPR constant at its 2007 value and allowed the cohort's population share to change between 2007 and 2013. The summation of the blue bars in Figure 5 is equal to the blue bar for the United States in Figure 2, which is equivalent to the change in the blue line between 2007 and 2013 in Figure 1. To calculate the red bars in Figure 5 each cohort's LFPR was allowed to vary between 2007 and 2013 but the cohort's population share was held constant at its 2007 value. The summation of these bars is equivalent to the U.S. red bar in Figure 2 as well as to the difference in 2013 between the blue line and the dark line in Figure 1.

Expansion of U.S. net exports by sector full graph (slide 42)



Source 75: McKinsey

Apart from the United States, Southern Europe, and the United Kingdom , mature economies have surpluses in knowledge-intensive manufacturing

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