


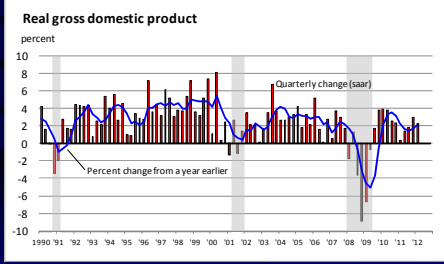
Economic and Manufacturing Outlook

Kentwood-Wyoming Business Forum
 Grand Rapids, MI
 May 11, 2012

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 Senior Economist
 and Economic Advisor
 Federal Reserve Bank of Chicago



The "Great Recession" ended in June 2009, but the economy expanded by just 2.1% over the past year




Real gross domestic product

percent

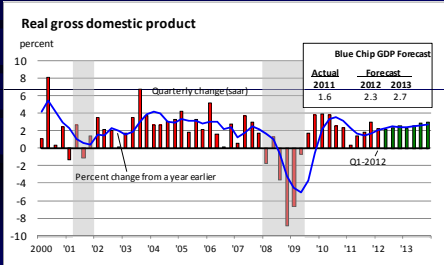
Quarterly change (saar)

Percent change from a year earlier

1990 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12



GDP is forecast to grow near trend in 2012 and slightly above trend in 2013



Real gross domestic product

percent


Quarterly change (saar)

Percent change from a year earlier

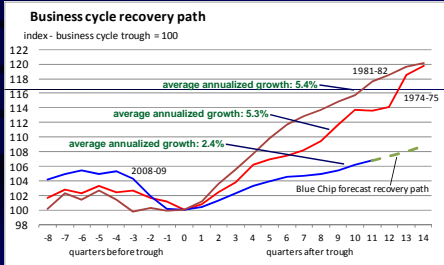
Blue Chip GDP Forecast		
Actual	Forecast	
2011	2012	2013
1.6	2.3	2.7

Q1-2012

2000 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13



The forecast path of the current recovery is relatively muted compared with past deep recession recovery cycles



Business cycle recovery path

Index - business cycle trough = 100

average annualized growth: 5.4% — 1981-82


average annualized growth: 5.3% — 1974-75

average annualized growth: 2.4% — 2008-09

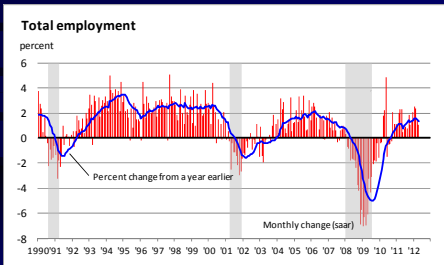
Blue Chip forecast recovery path

quarters before trough

quarters after trough



Employment fell by over 8.7 million jobs between December 2007 and February 2010, but began to rise and has added 1.8 million jobs over the past 12 months




Total employment

percent

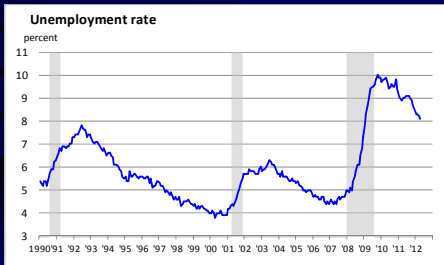
Percent change from a year earlier

Monthly change (saar)

1990'91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12




After peaking in October 2009, the unemployment rate has fallen by 1.9 percentage points

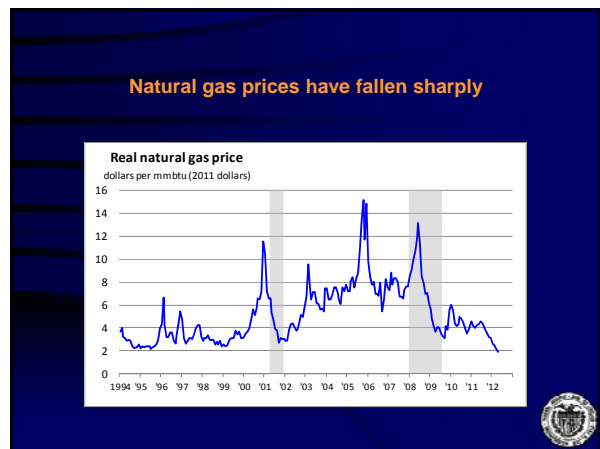
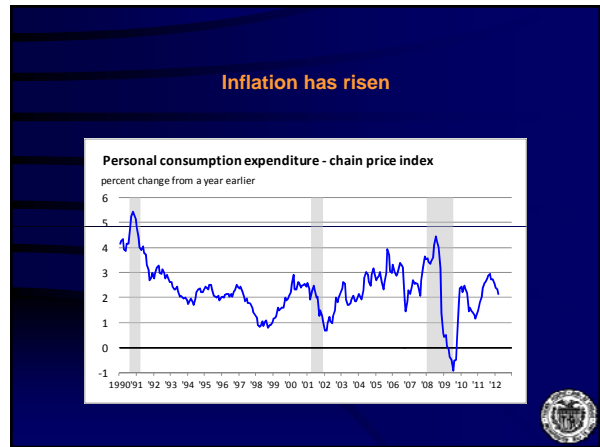
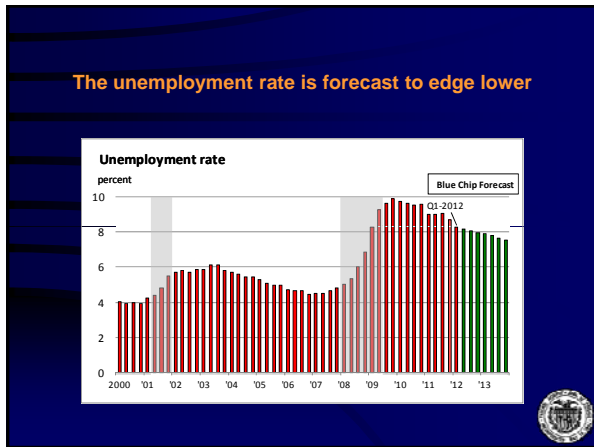
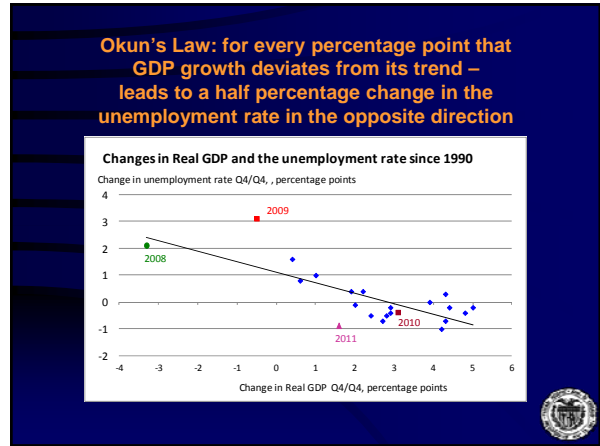
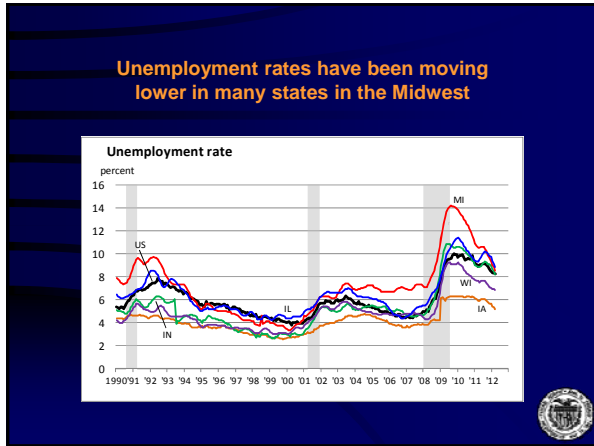


Unemployment rate

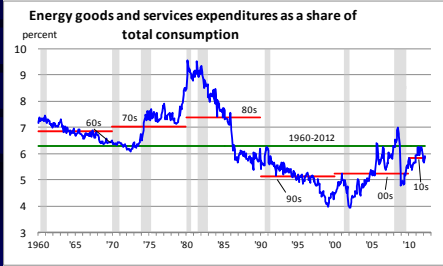
percent

1990'91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12

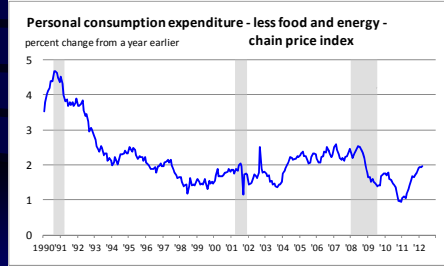




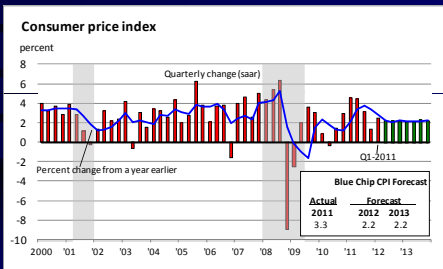
Expenditures on energy are below the historical average



Removing the volatile food and energy components from the PCE, "core" inflation remains contained



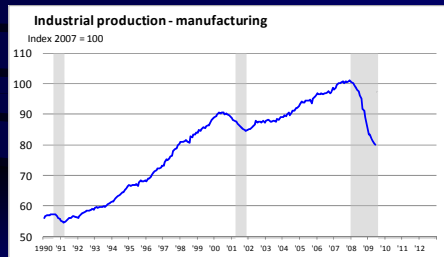
Inflation is anticipated to rise 2.2 percent this year and next year

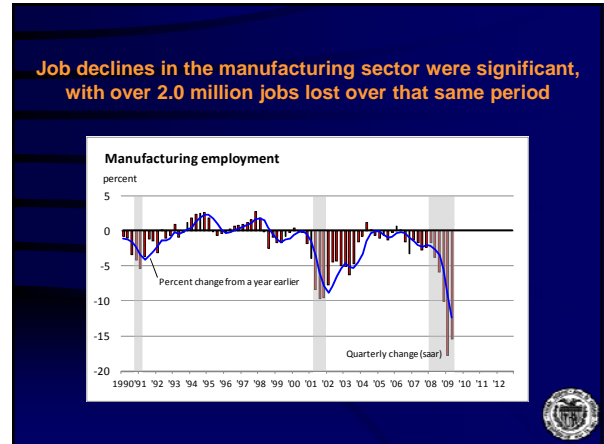
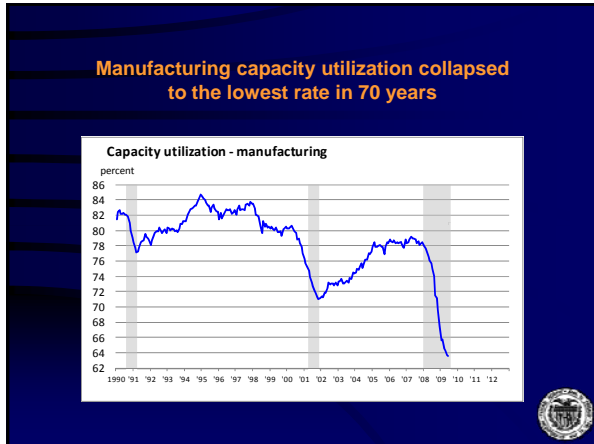


Is the U.S. Losing Its Manufacturing Base?

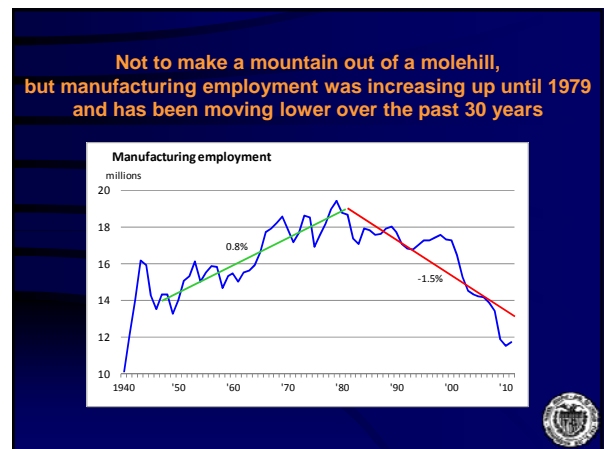
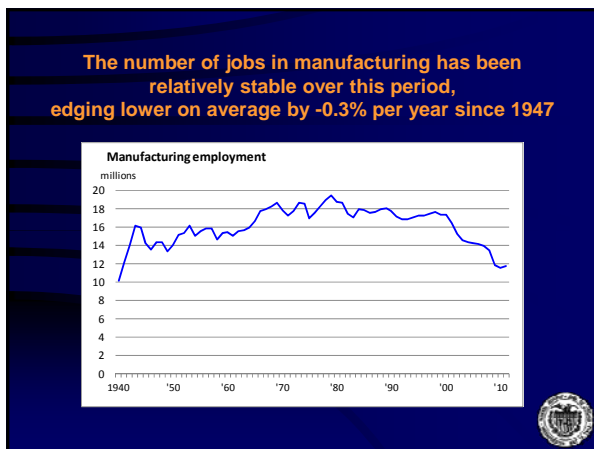
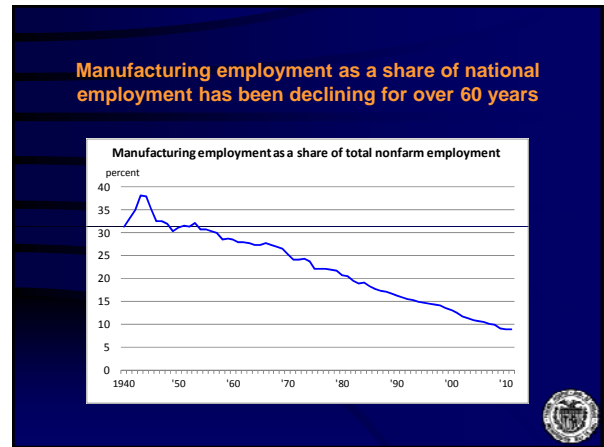
The Setup

Manufacturing output peaked in December 2007 and fell 20.4% over the following 18 months

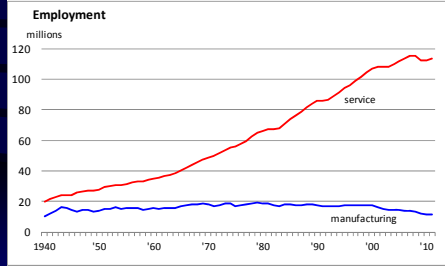




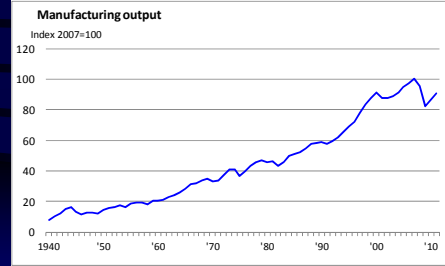
How has Manufacturing Performed Over the Past Sixty Years?



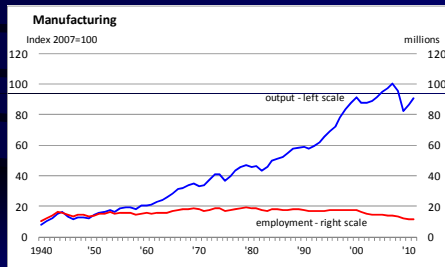
However, service sector employment has grown more than fourfold over this period, averaging growth of 2.3% per year since 1947



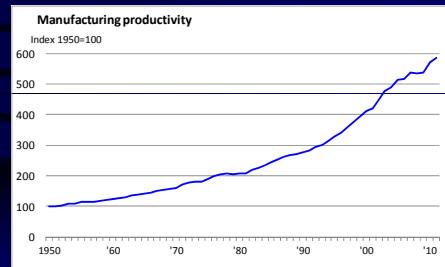
While manufacturing employment growth has been edging lower over the past 63 years, manufacturing output increased by 3.1% per year



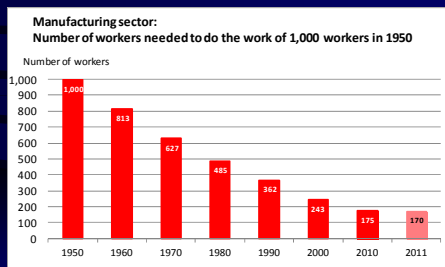
This translated into an almost 600 percent increase in manufacturing output over this time period



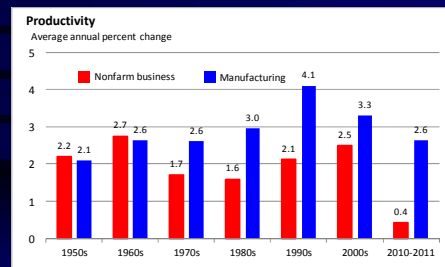
The increase in output can be attributed to strong productivity growth experienced by the manufacturing sector

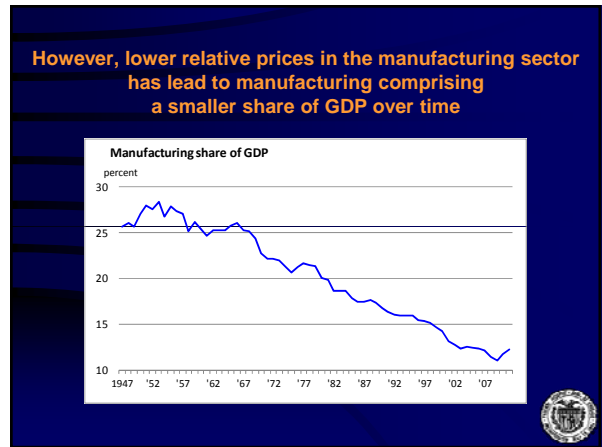
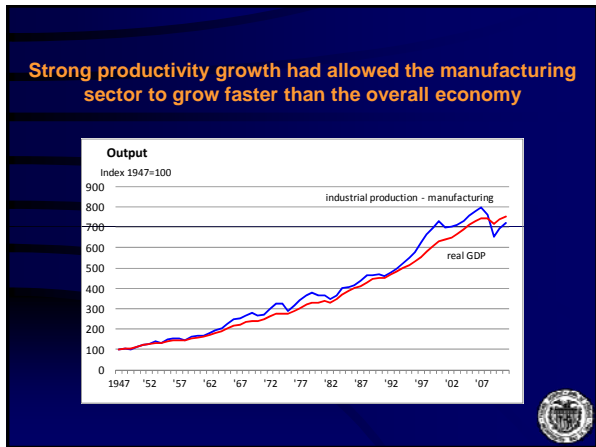
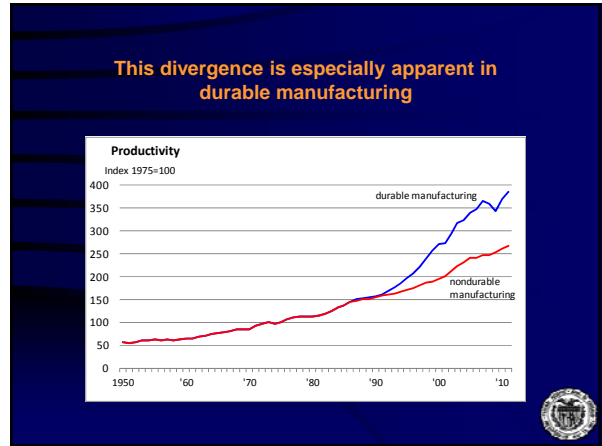
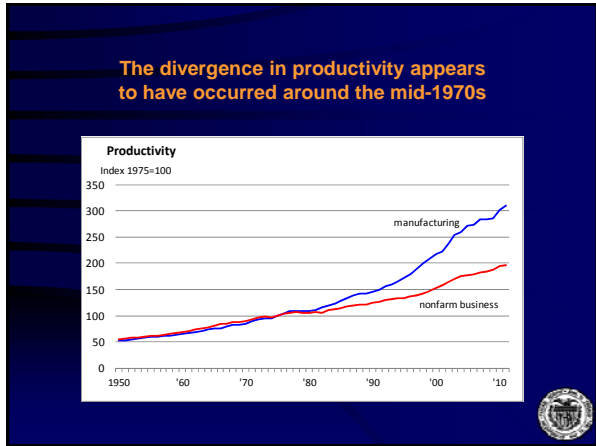


What took 1,000 workers to produce in 1950 takes 170 workers today

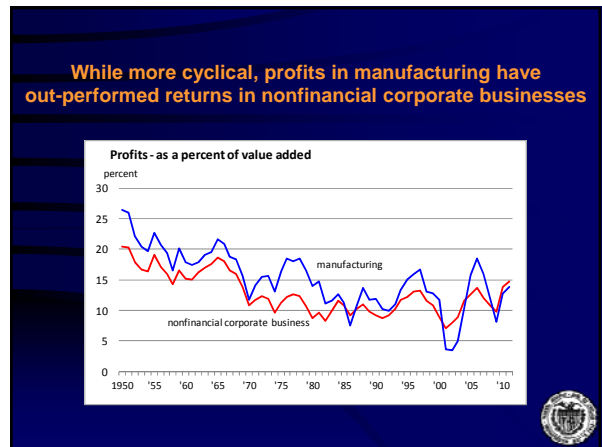


Manufacturing productivity growing faster over the past 40 years

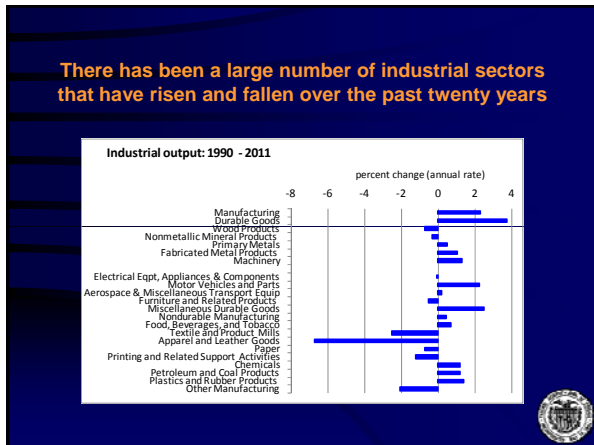
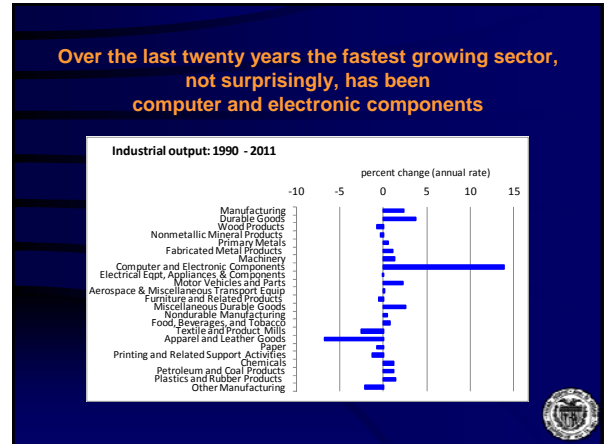




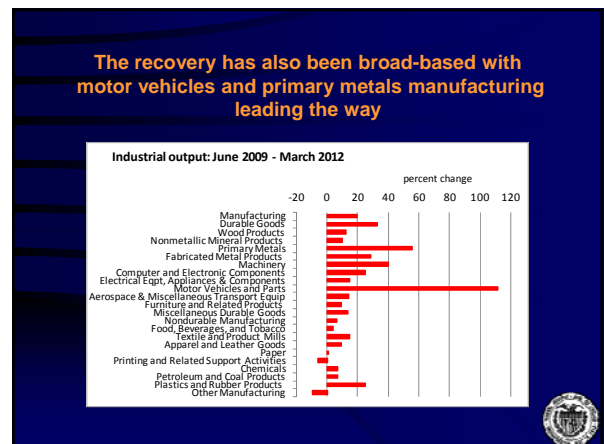
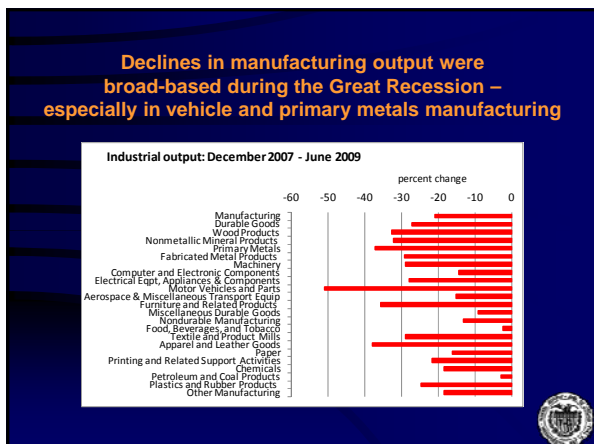
How profitable is manufacturing?



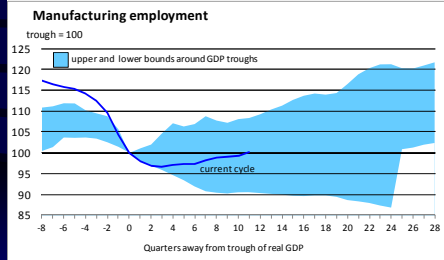
The Manufacturing Sector Continues to Re-invent Itself



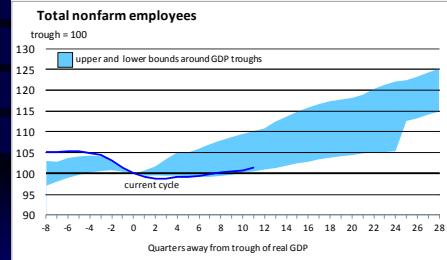
The collapse in manufacturing experienced in 2008-2009 is closely linked with the economic recession



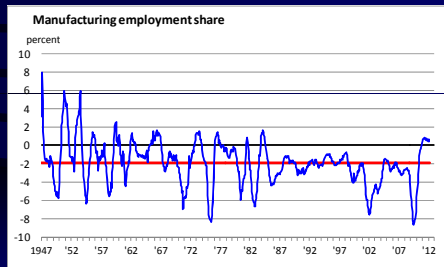
Manufacturing workers have suffered steep employment declines over the current cycle



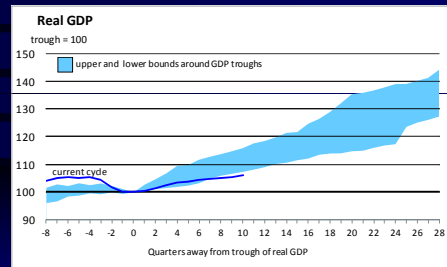
But the overall economy's employment growth also struggled



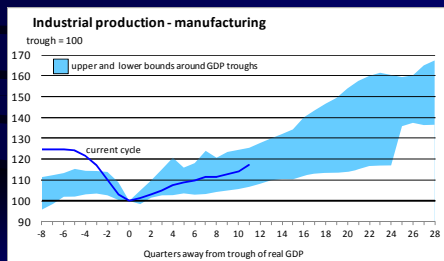
When changes in nonfarm employment are considered, the most recent manufacturing employment downturn is not unprecedented



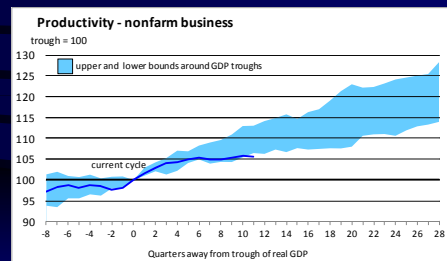
The financial crisis and its aftermath has hampered the current economic expansion



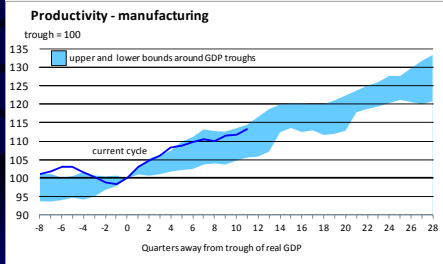
The recovery in manufacturing output is in-line with past industrial recoveries



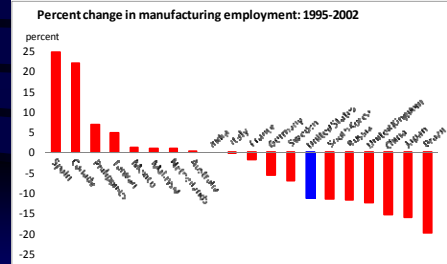
Productivity in the overall economy has grown at a rate near the low-end of previous expansions



However, productivity within the manufacturing sector has grown at a much faster pace

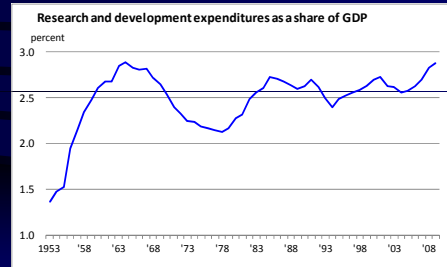


Manufacturing employment losses have occurred across numerous countries – among 20 big economies, 22 million jobs were lost

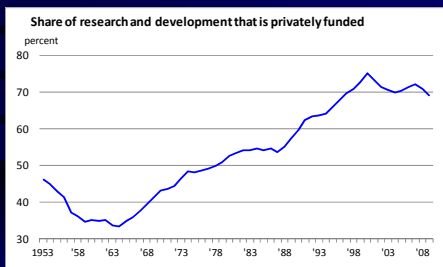


Is the U.S. positioned to continue its strong productivity gains?

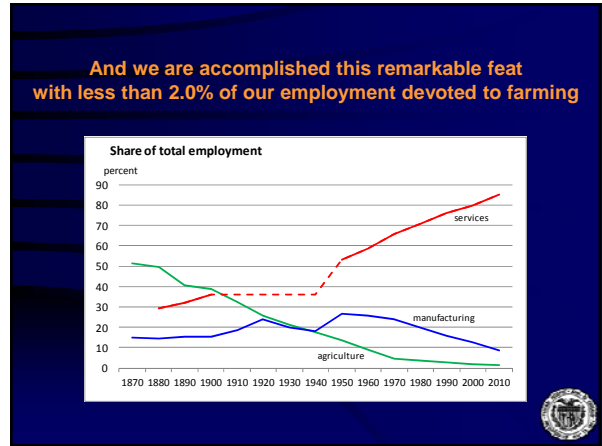
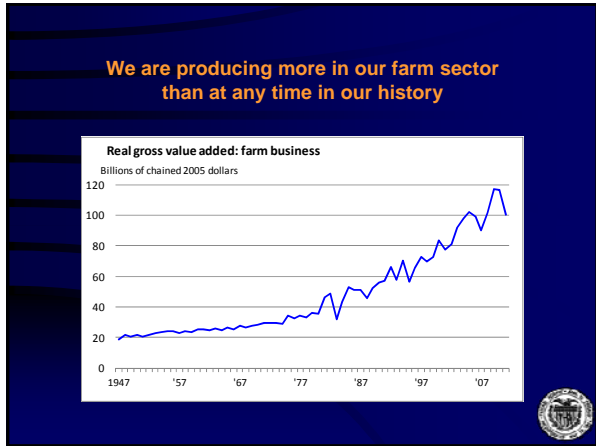
U.S. maintaining its commitment to research and development



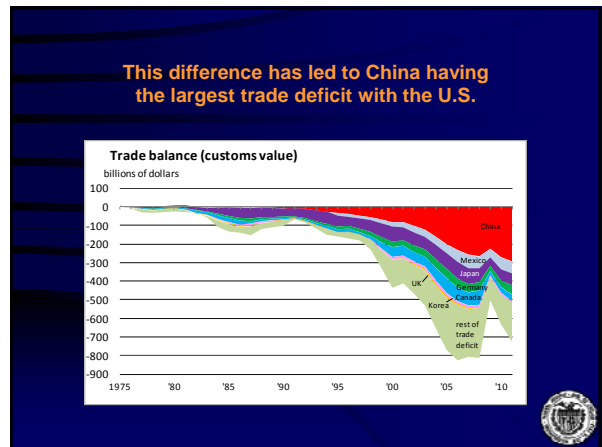
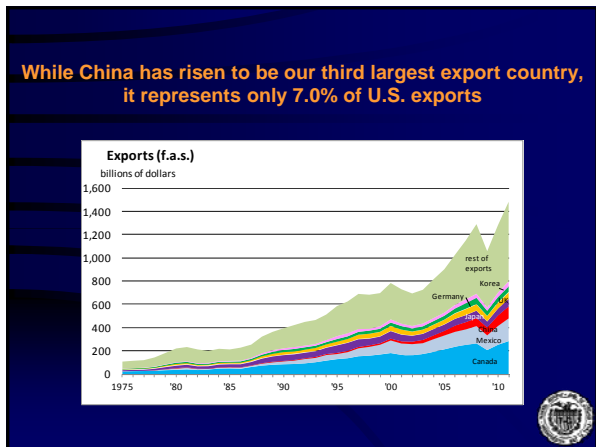
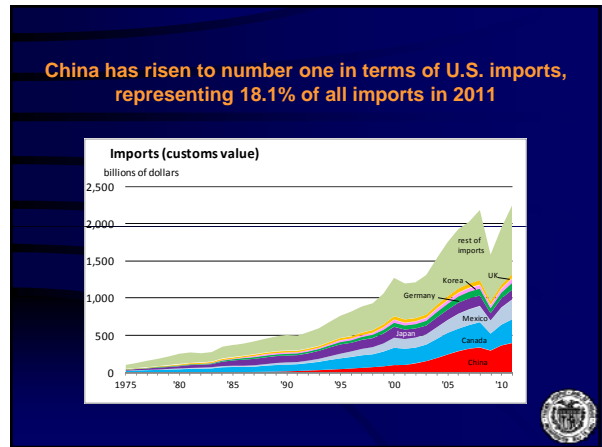
The vast majority of U.S. research and development is being privately funded

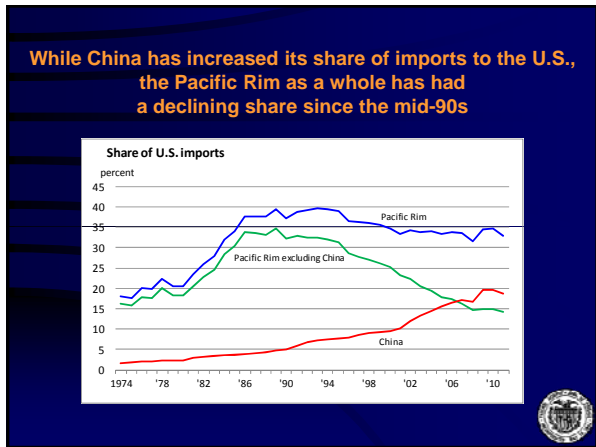
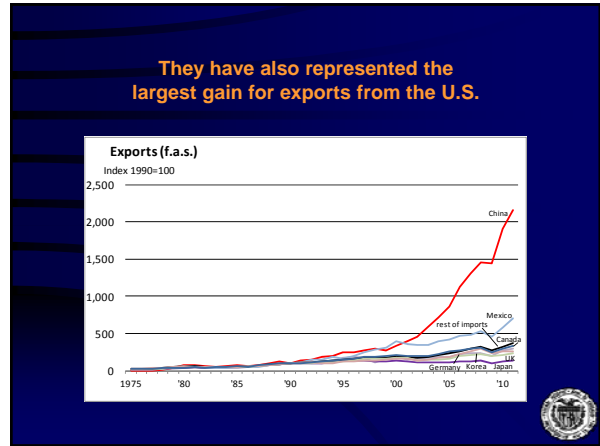
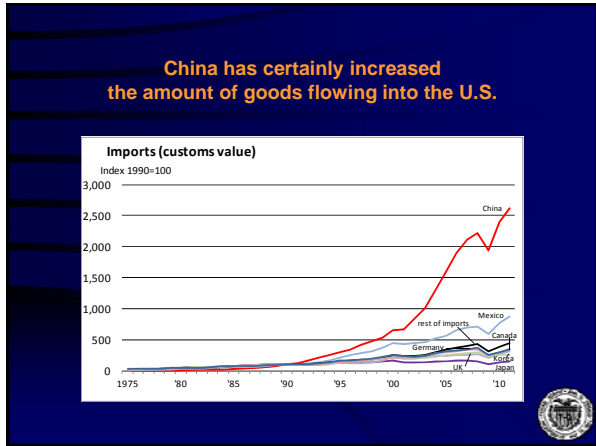


Lessons from the farm sector

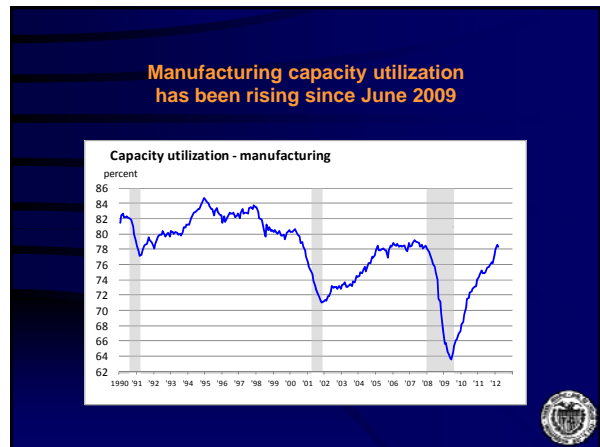
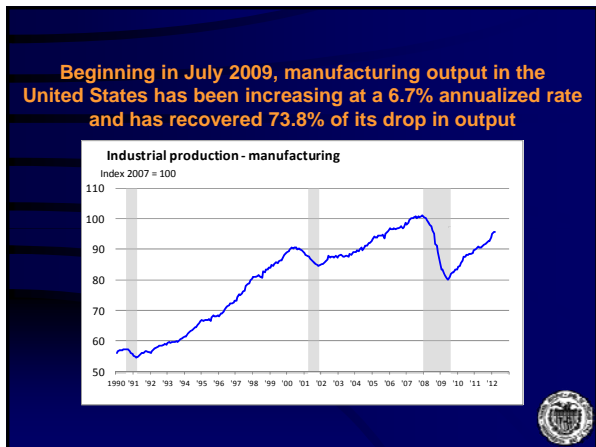


Trade with China

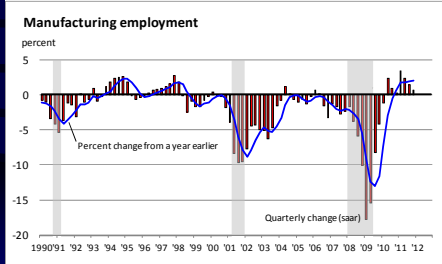




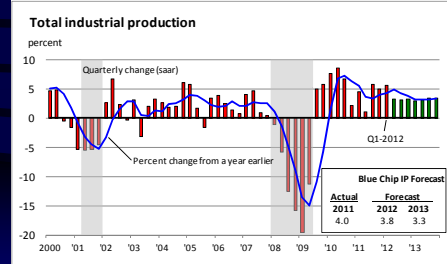
The Current Expansion



And while manufacturing jobs have been rising, they have only recovered 21.1% of the jobs lost during the downturn



Industrial production is forecast to rise at a solid pace



Summary

- Manufacturing output is in the process of recovering its losses
- The success of manufacturing has been driven by productivity
- Manufacturing employment has shown little change over the past 70 years – with a steady decline over the past 30 years
- The most recent decline in manufacturing was cyclical, not structural
- Profits in manufacturing have outperformed profits for the rest of the nation
- The trends that have dominated manufacturing for the past 70 years are suggestive of the future for U.S. manufacturing: ever increasing output with employment representing a smaller share of total employment

Chicago Fed Letter - June 2003
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