

The Renaissance in Manufacturing - Job Savior?

Georgia State University
Atlanta, GA
May 23, 2012

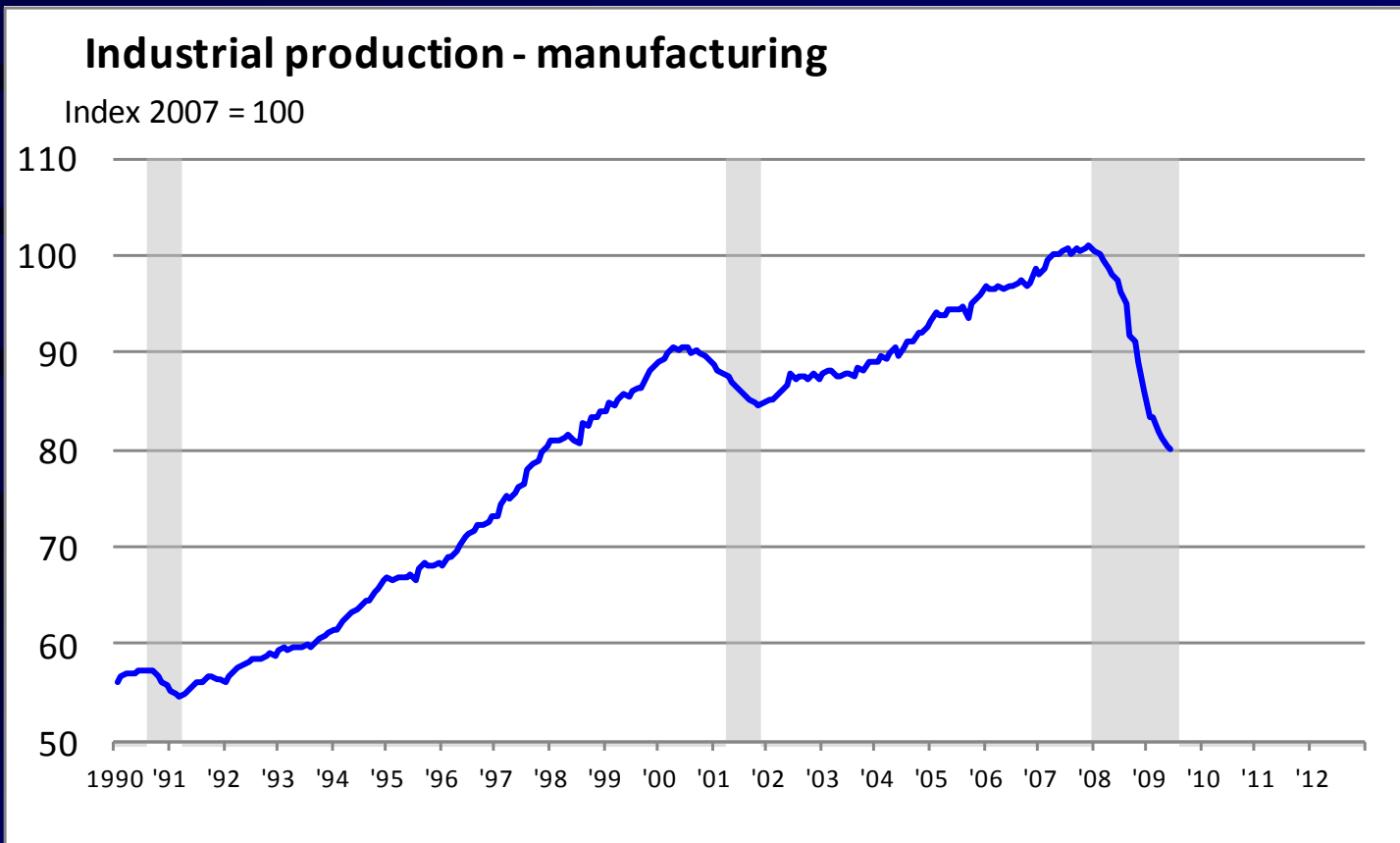
William Strauss
Senior Economist
and Economic Advisor
Federal Reserve Bank of Chicago



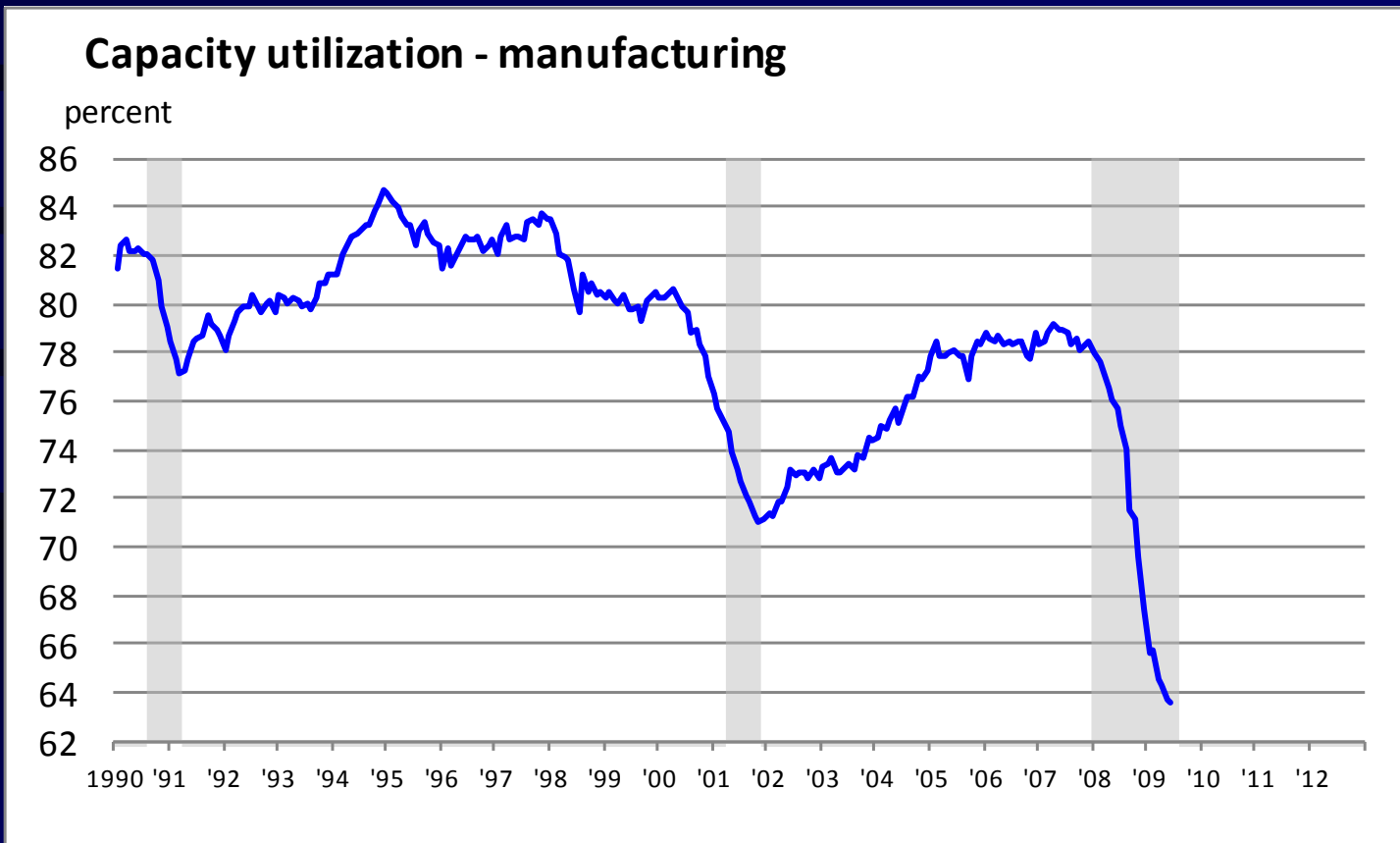
The Setup



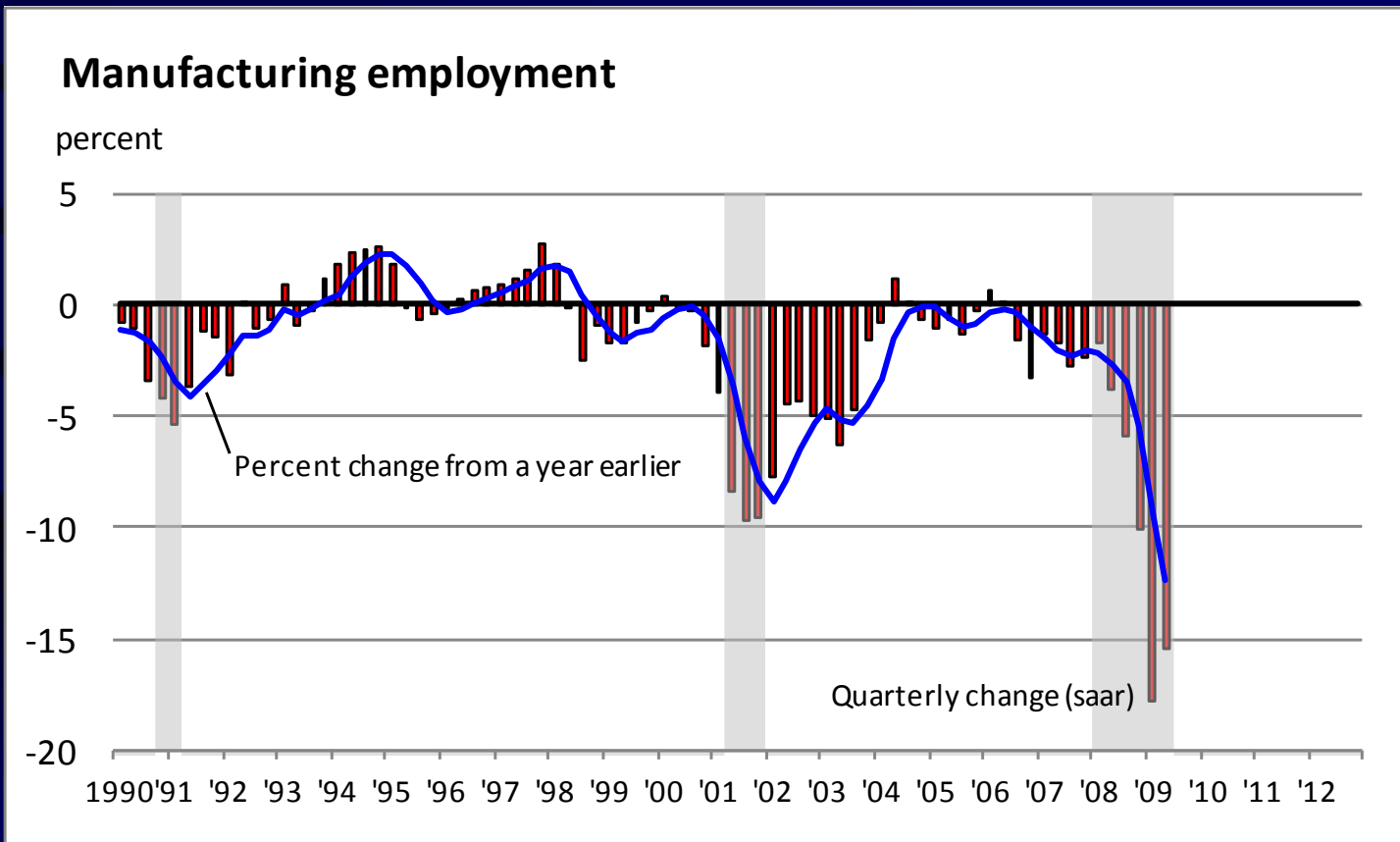
Manufacturing output peaked in December 2007 and fell 20.4% over the following 18 months



Manufacturing capacity utilization collapsed to the lowest rate in 70 years



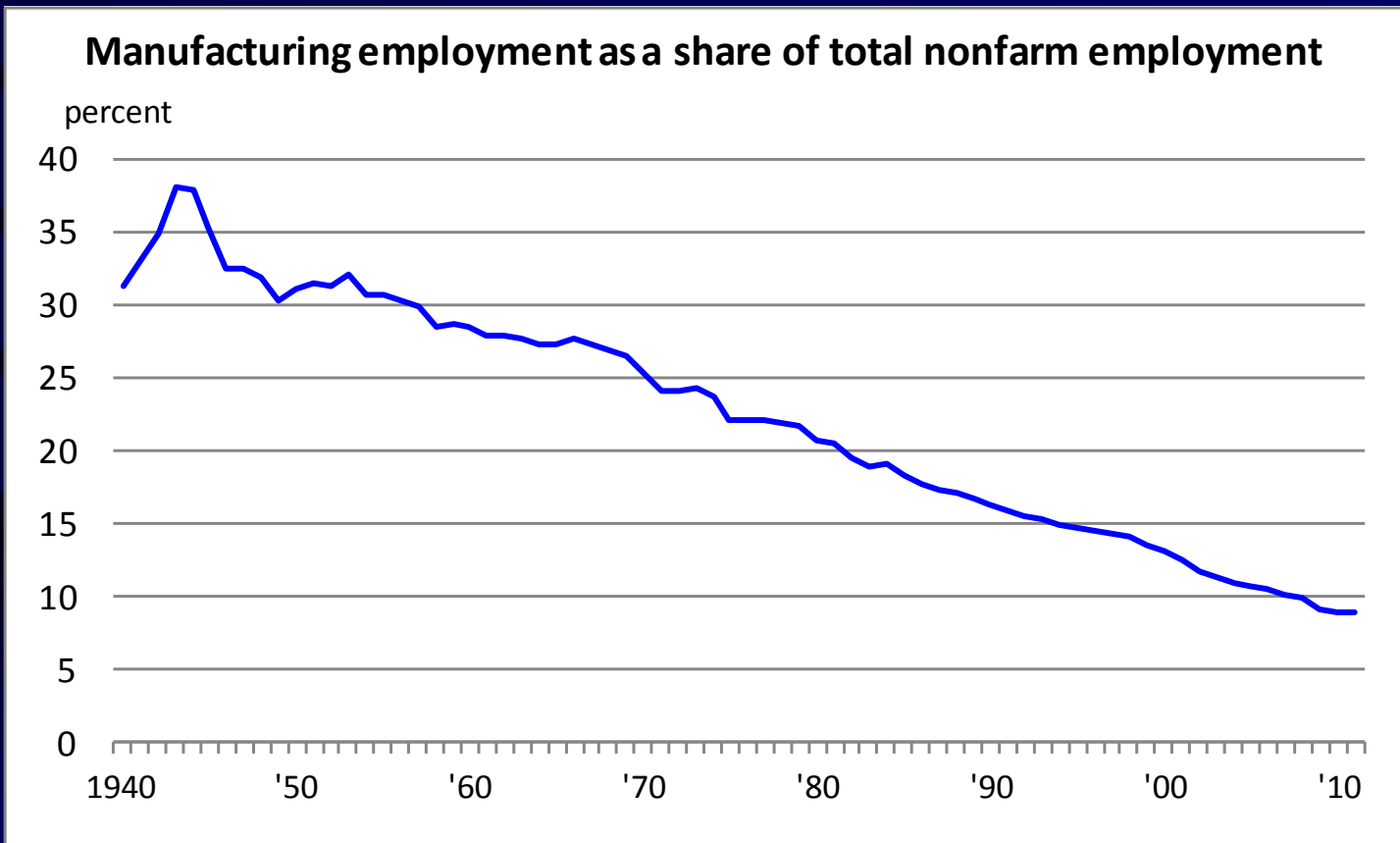
Job declines in the manufacturing sector were significant, with over 2.0 million jobs lost over that same period



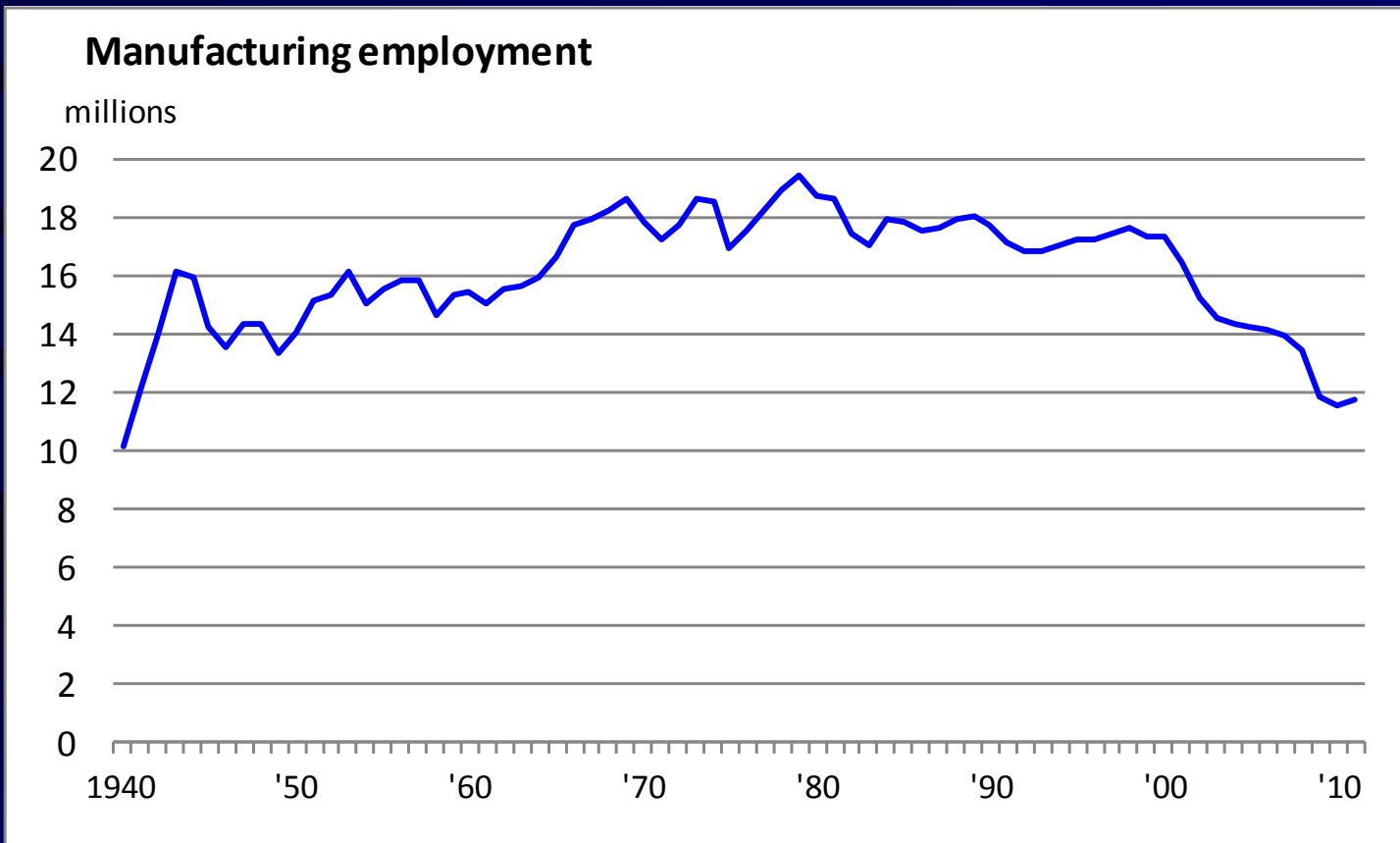
Is the U.S. Losing Its Manufacturing Base?



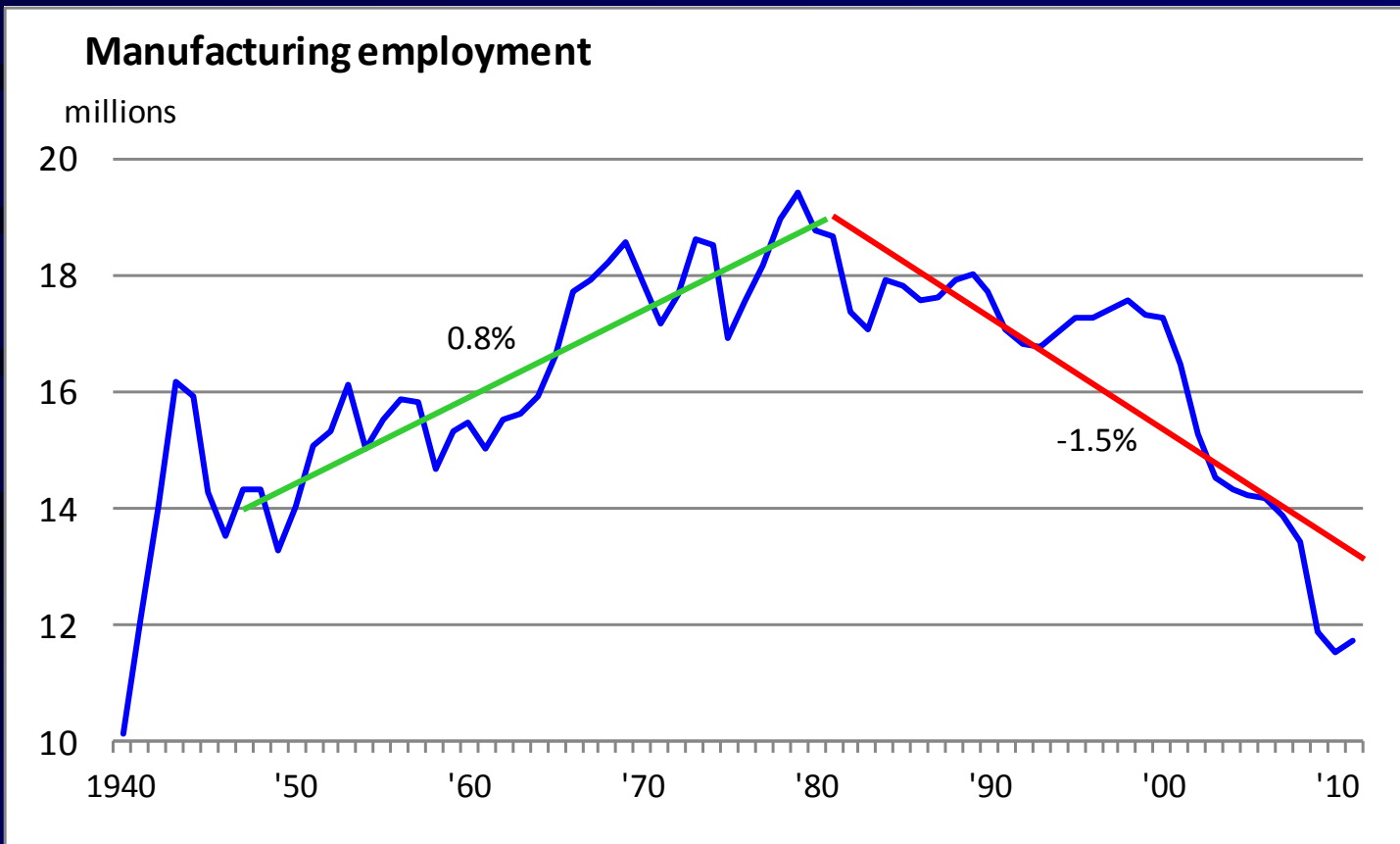
Manufacturing employment as a share of national employment has been declining for over 50 years



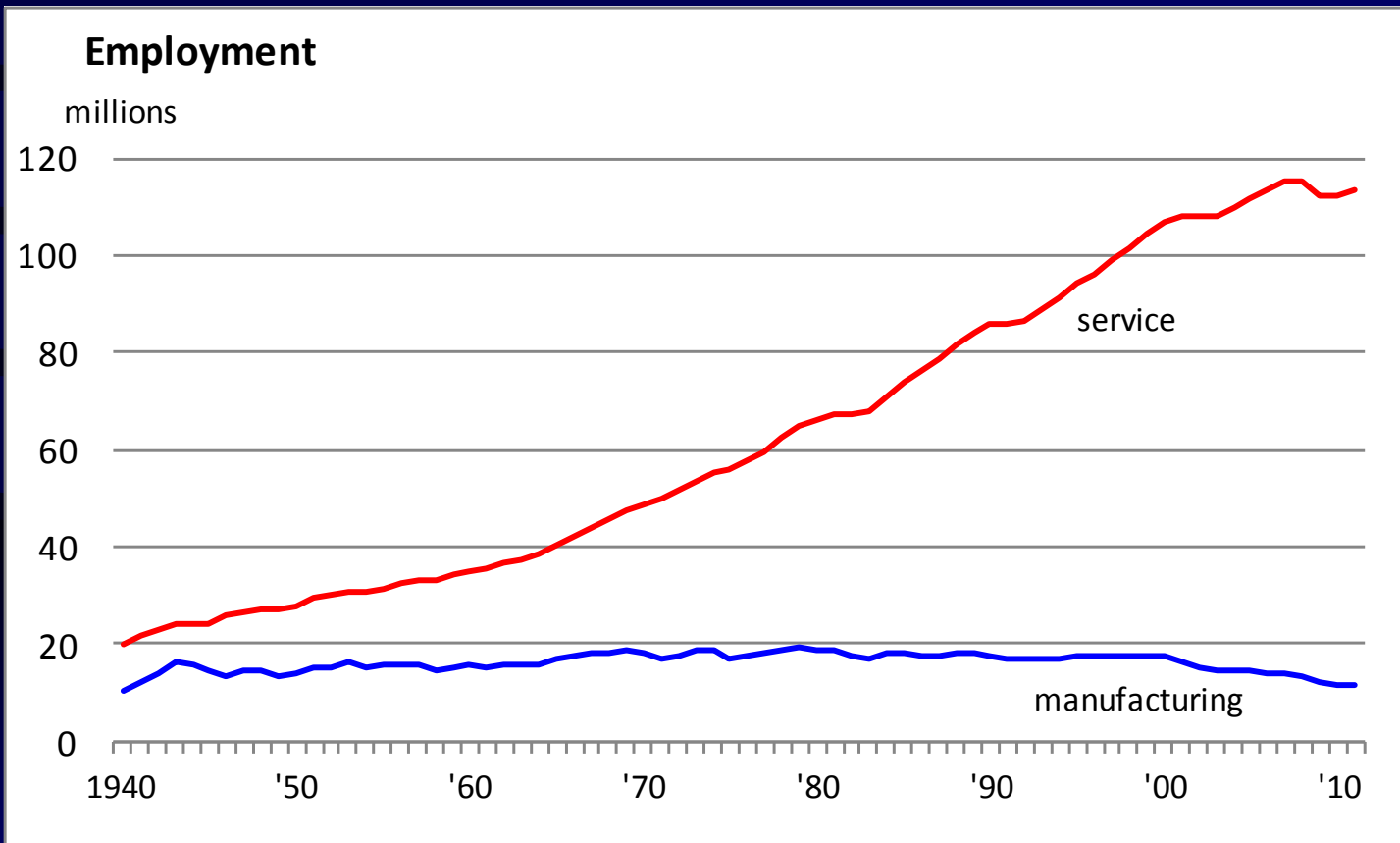
The number of jobs in manufacturing has been relatively stable over this period, edging lower on average by -0.3% per year since 1947



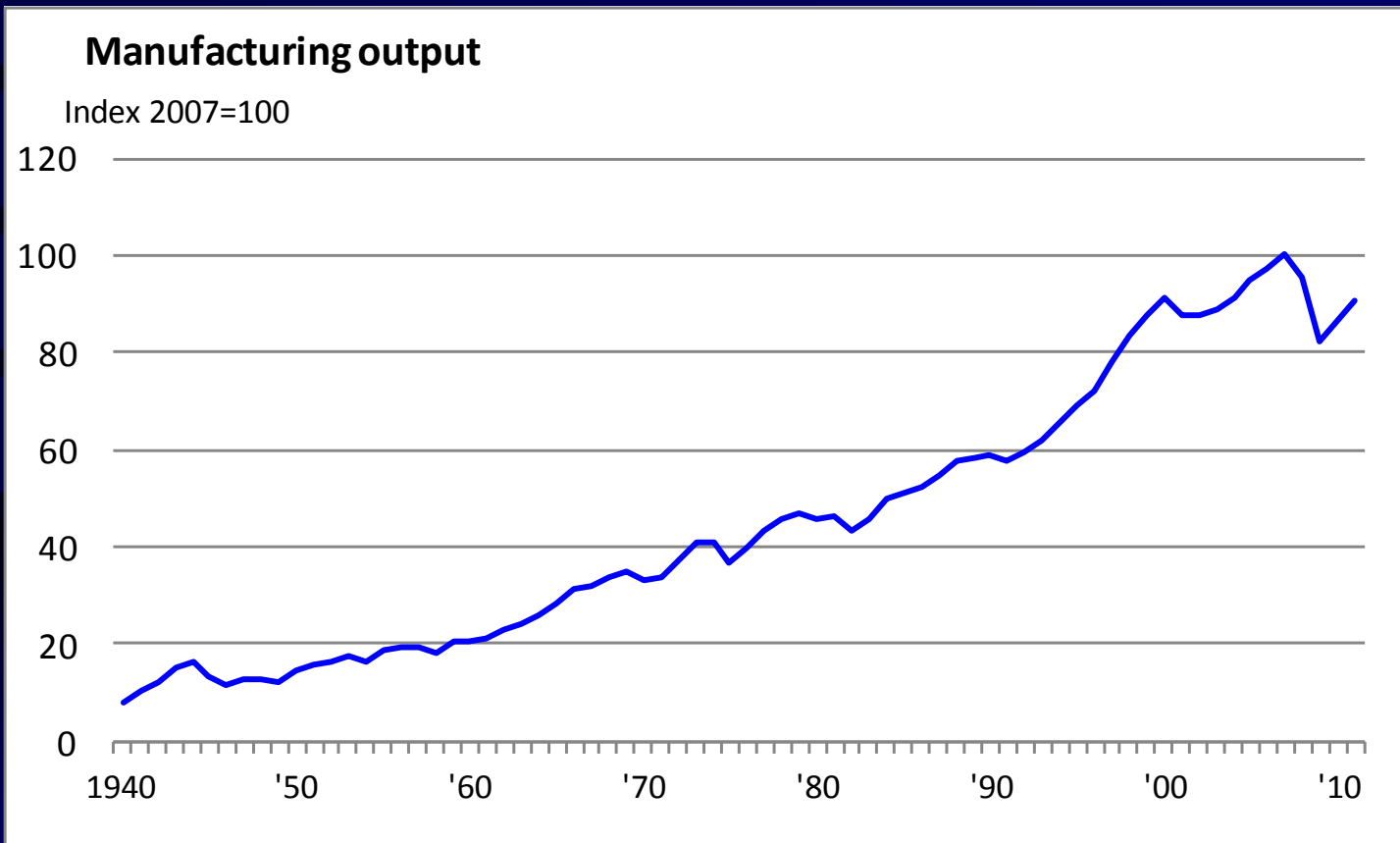
**Not to make a mountain out of a molehill,
but manufacturing employment was increasing up until 1979
and has been moving lower over the past 30 years**



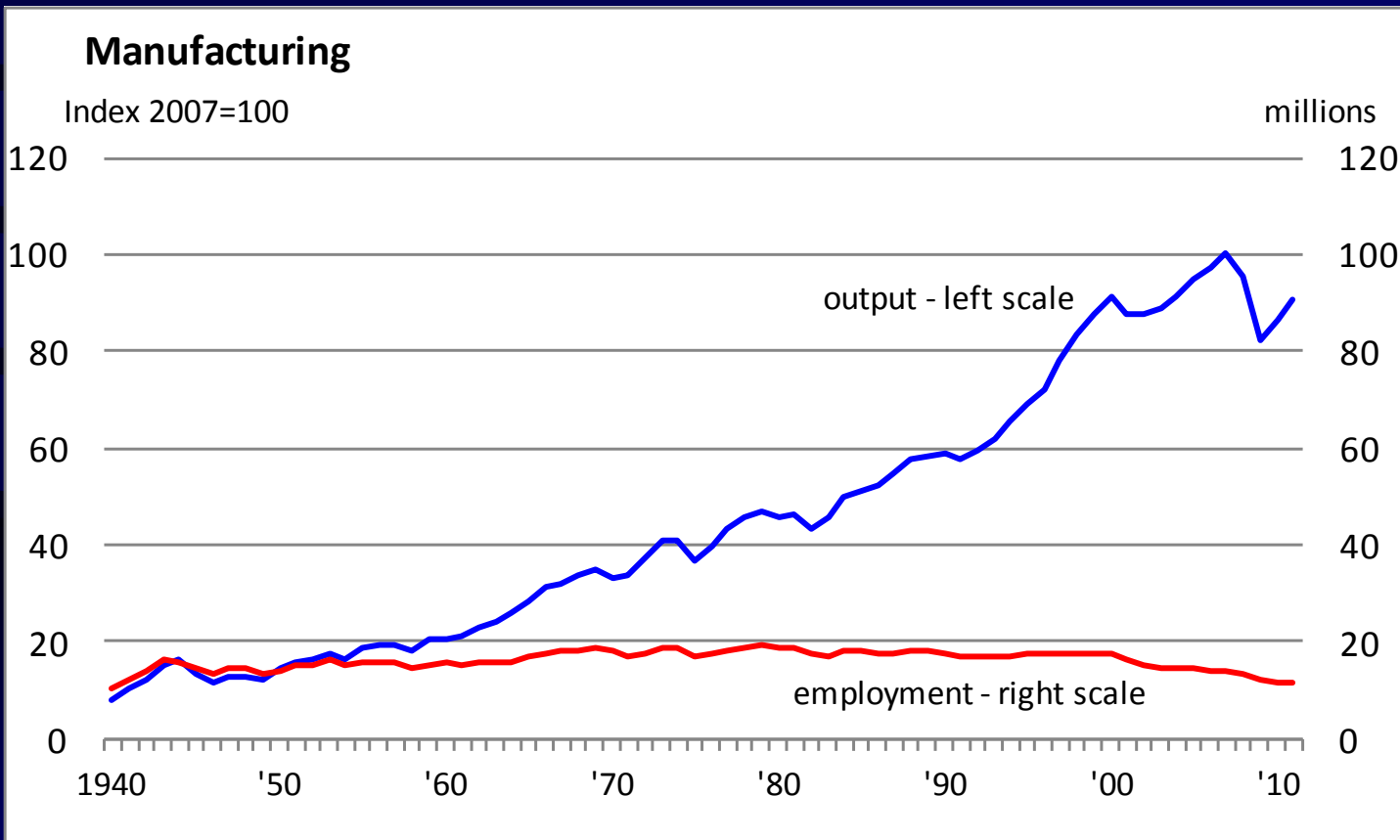
However, service sector employment has grown more than fourfold over this period, averaging growth of 2.3% per year since 1947



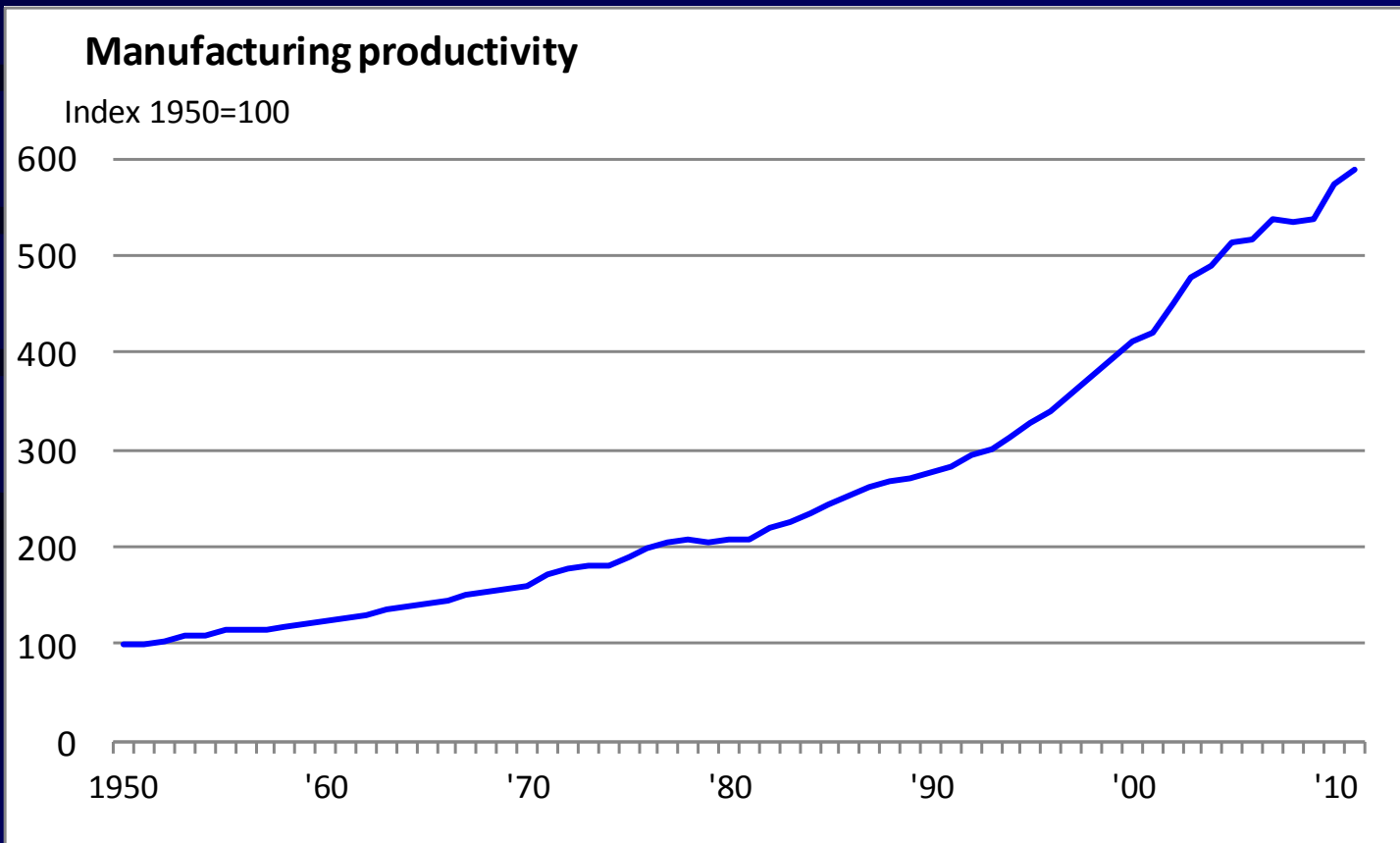
While manufacturing employment growth has been edging lower over the past 63 years, manufacturing output increased by 3.1% per year



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



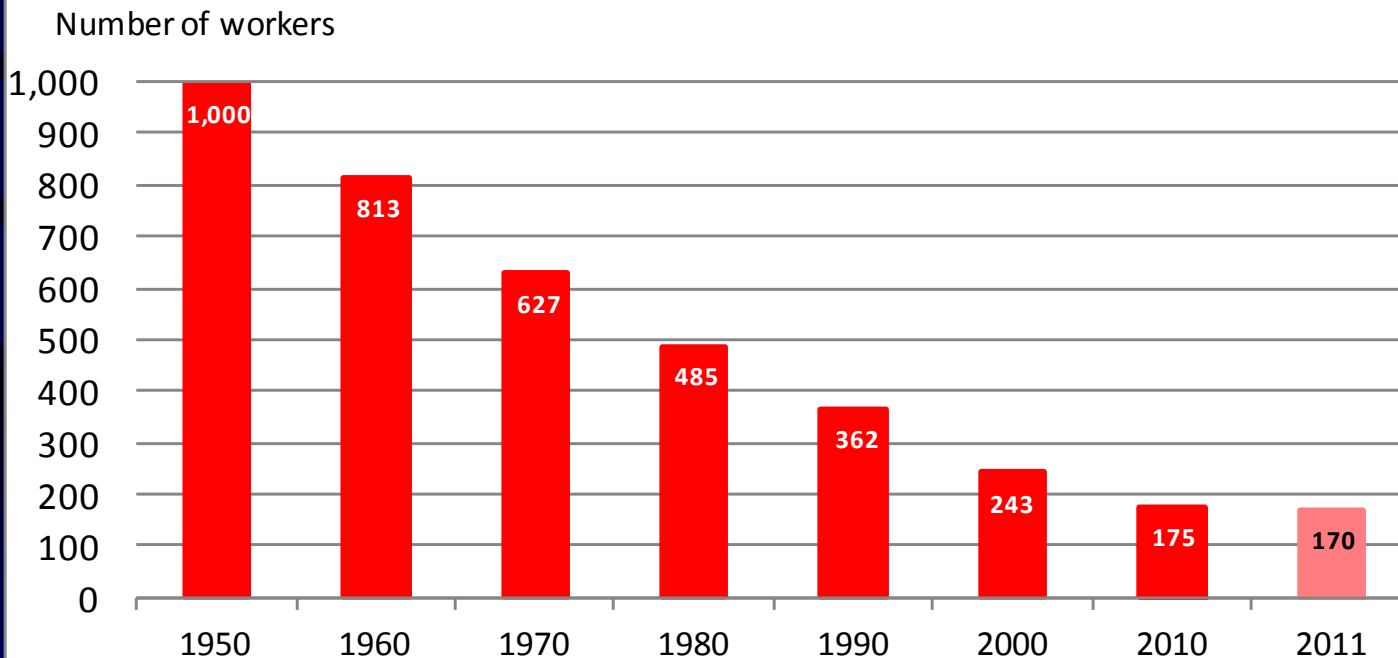
The increase in output can be attributed to strong productivity growth experienced by the manufacturing sector



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

Manufacturing sector:

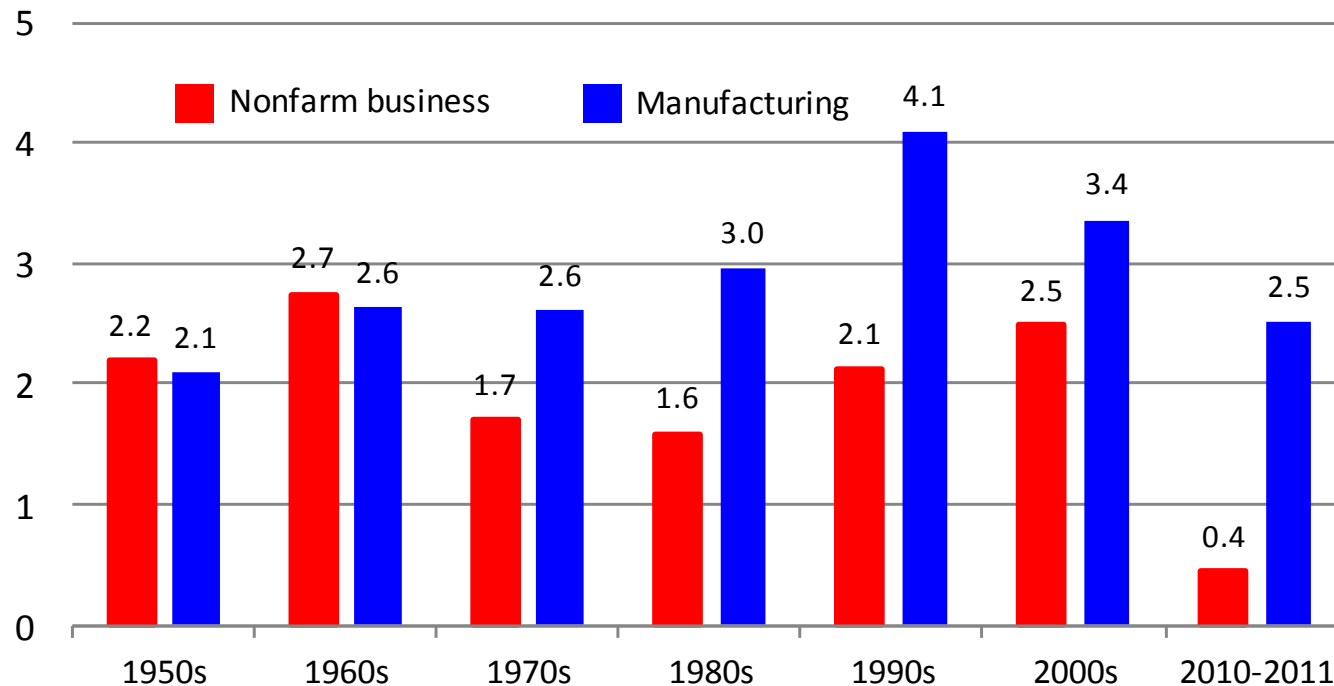
Number of workers needed to do the work of 1,000 workers in 1950



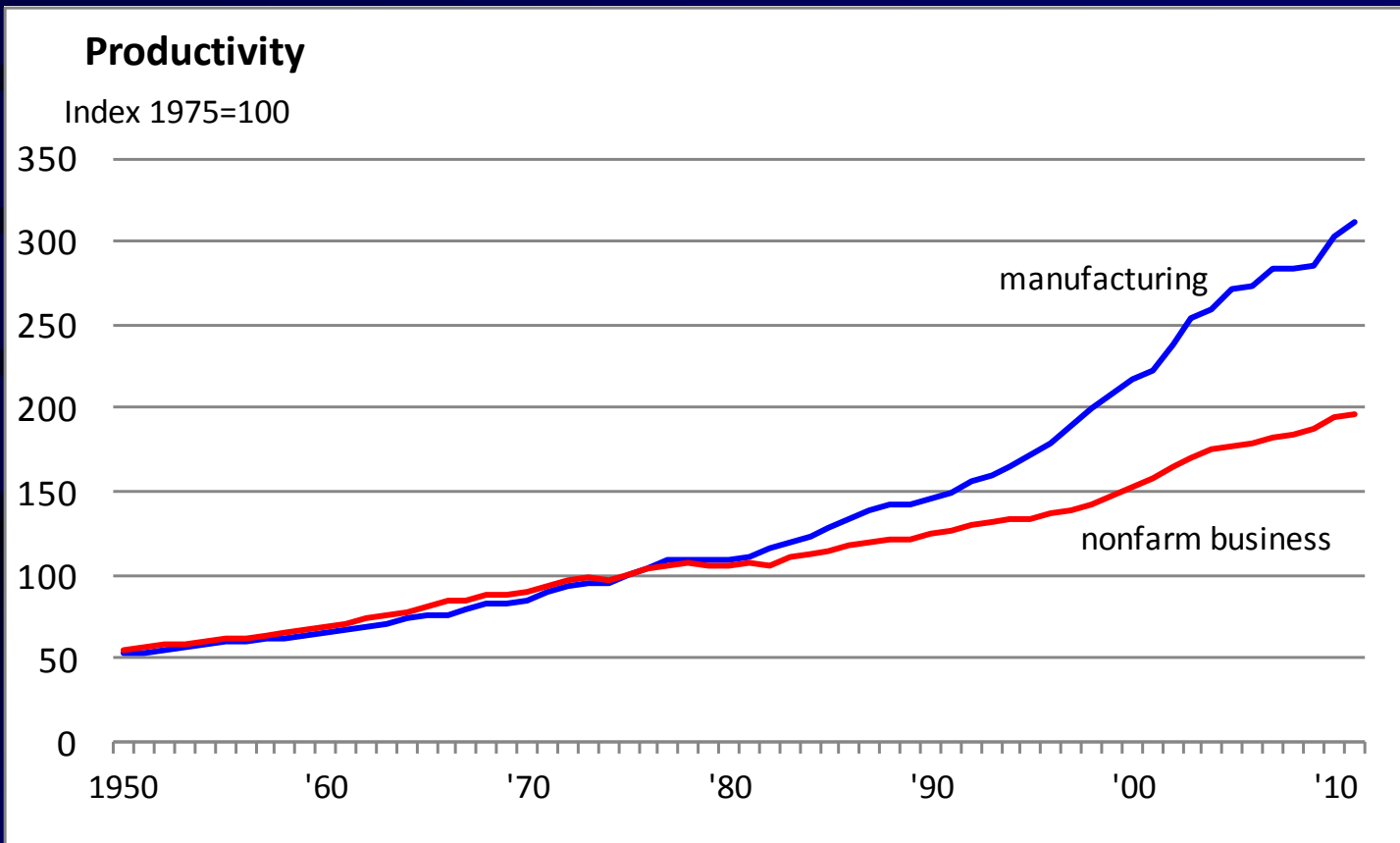
Manufacturing productivity growing faster over the past 40 years

Productivity

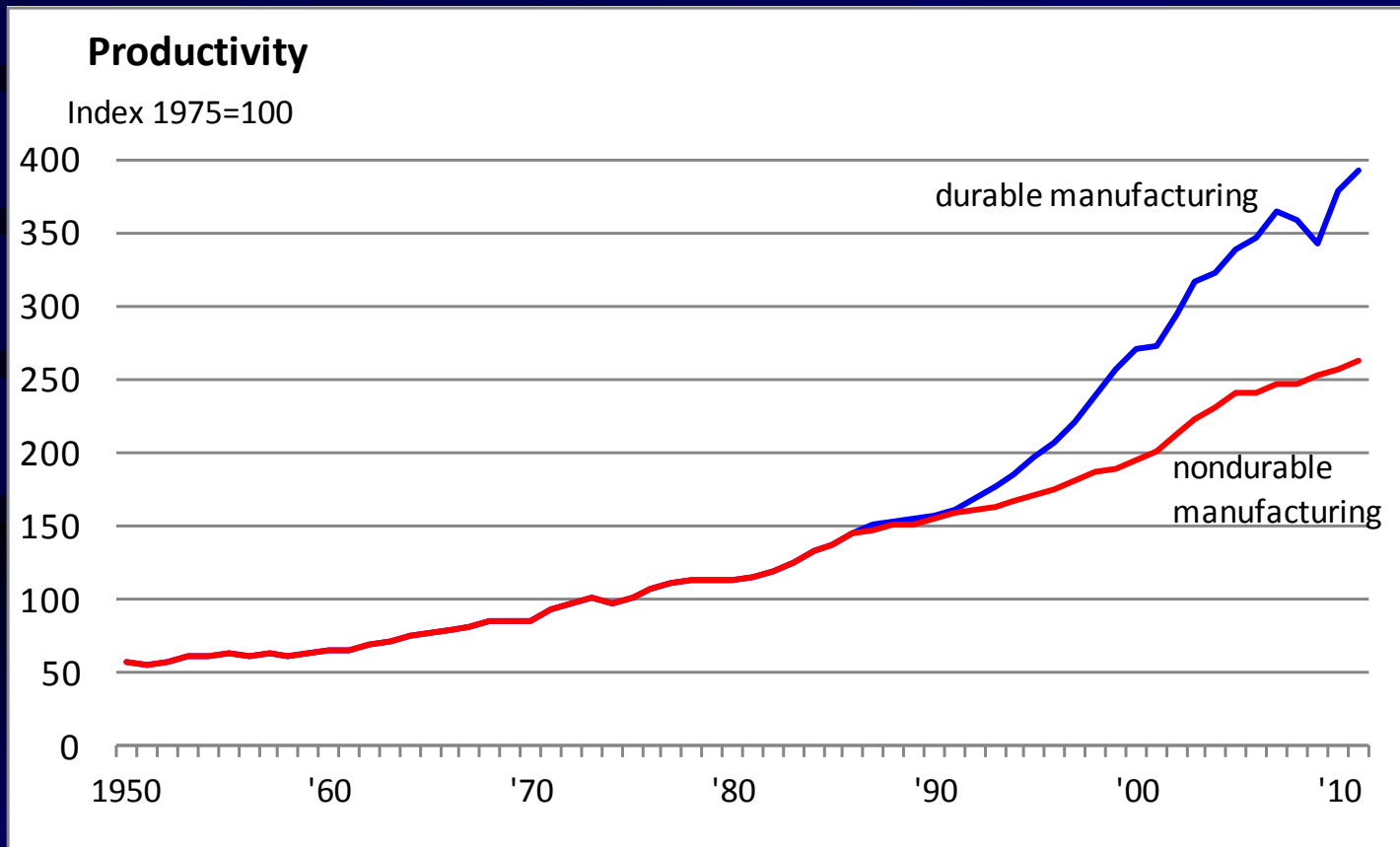
Average annual percent change



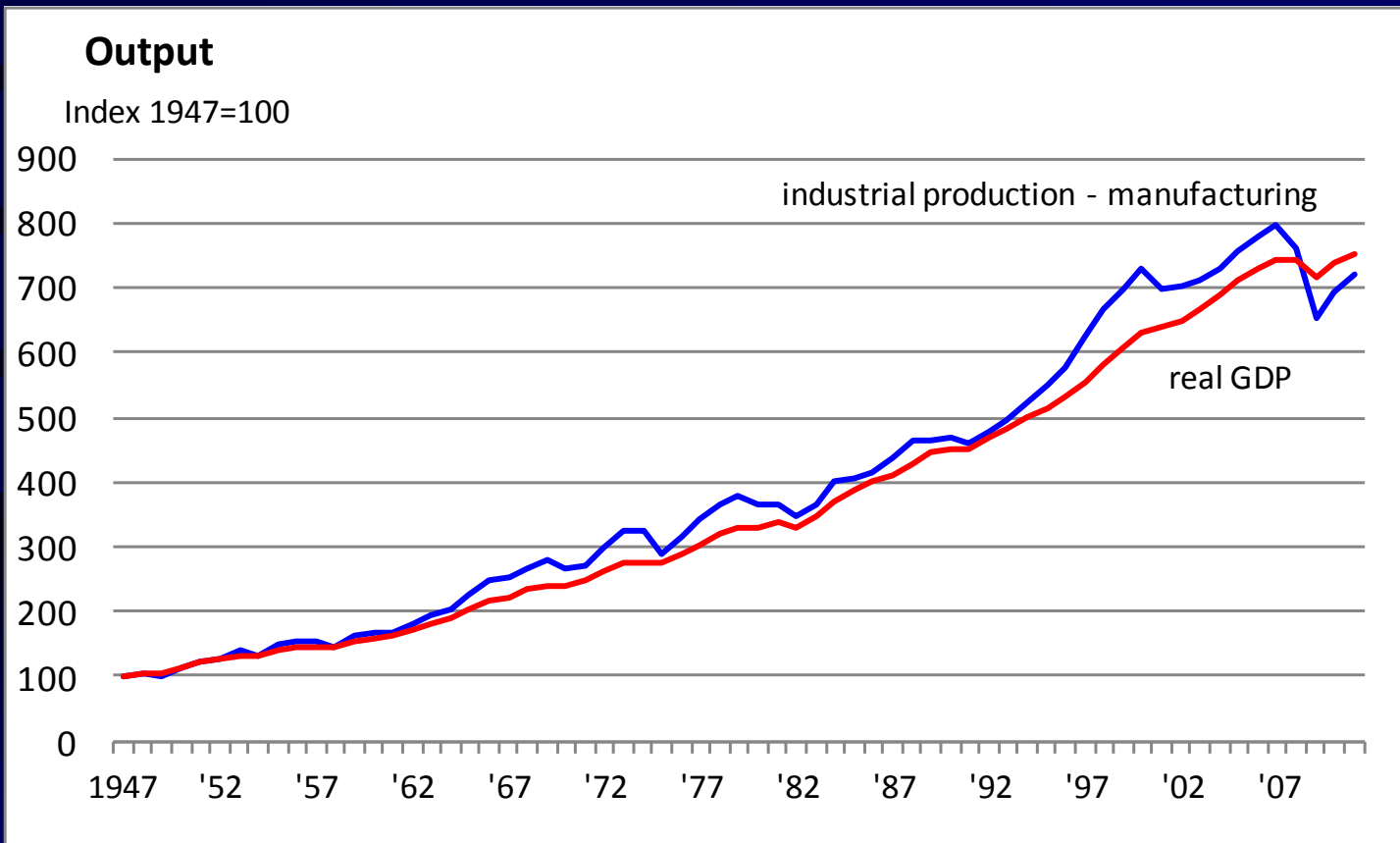
The divergence in productivity appears to have occurred around the mid-1970s



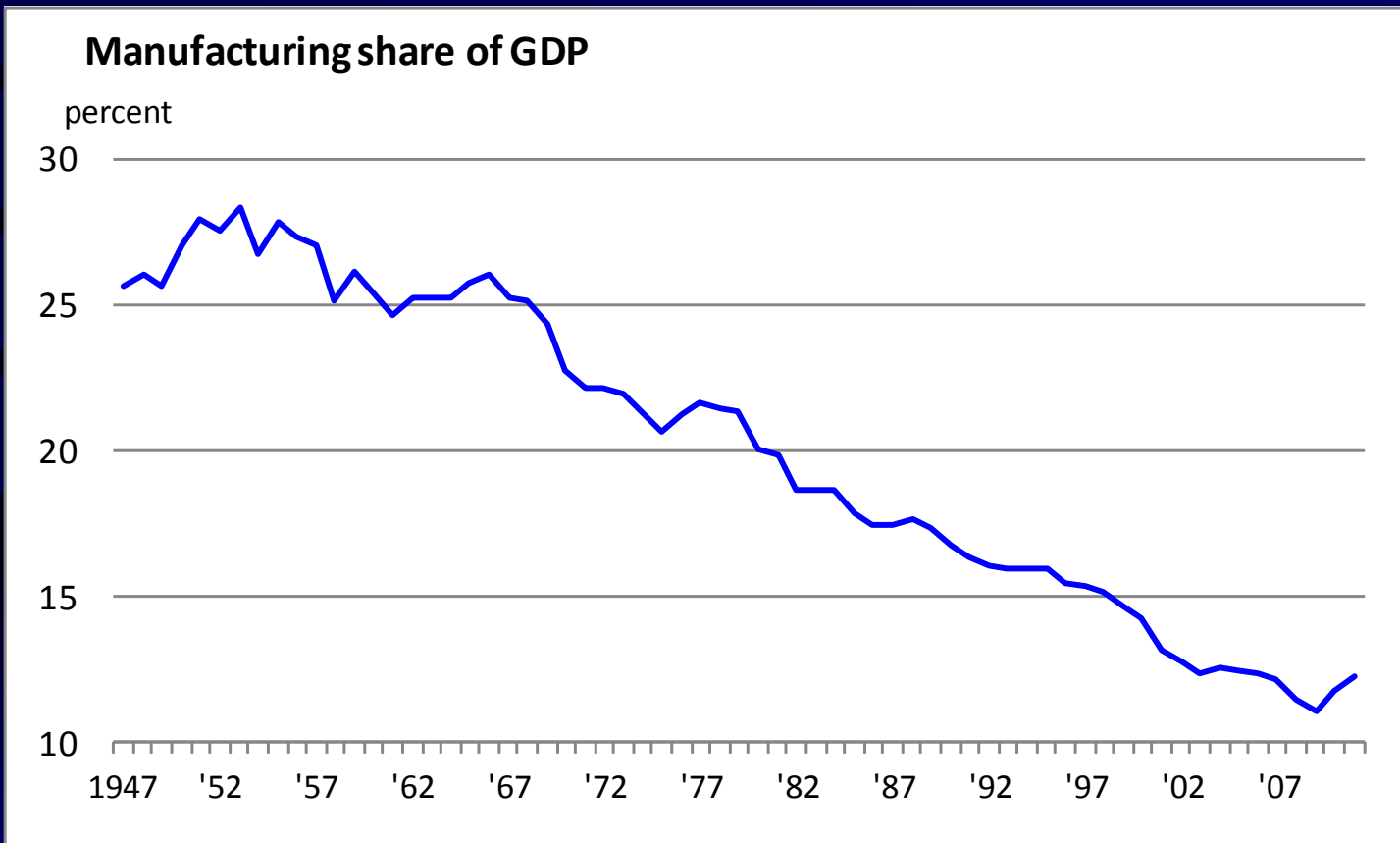
This divergence is especially apparent in durable manufacturing



Strong productivity growth had allowed the manufacturing sector to grow faster than the overall economy



**However, lower relative prices in the manufacturing sector
has lead to manufacturing comprising
a smaller share of GDP over time**

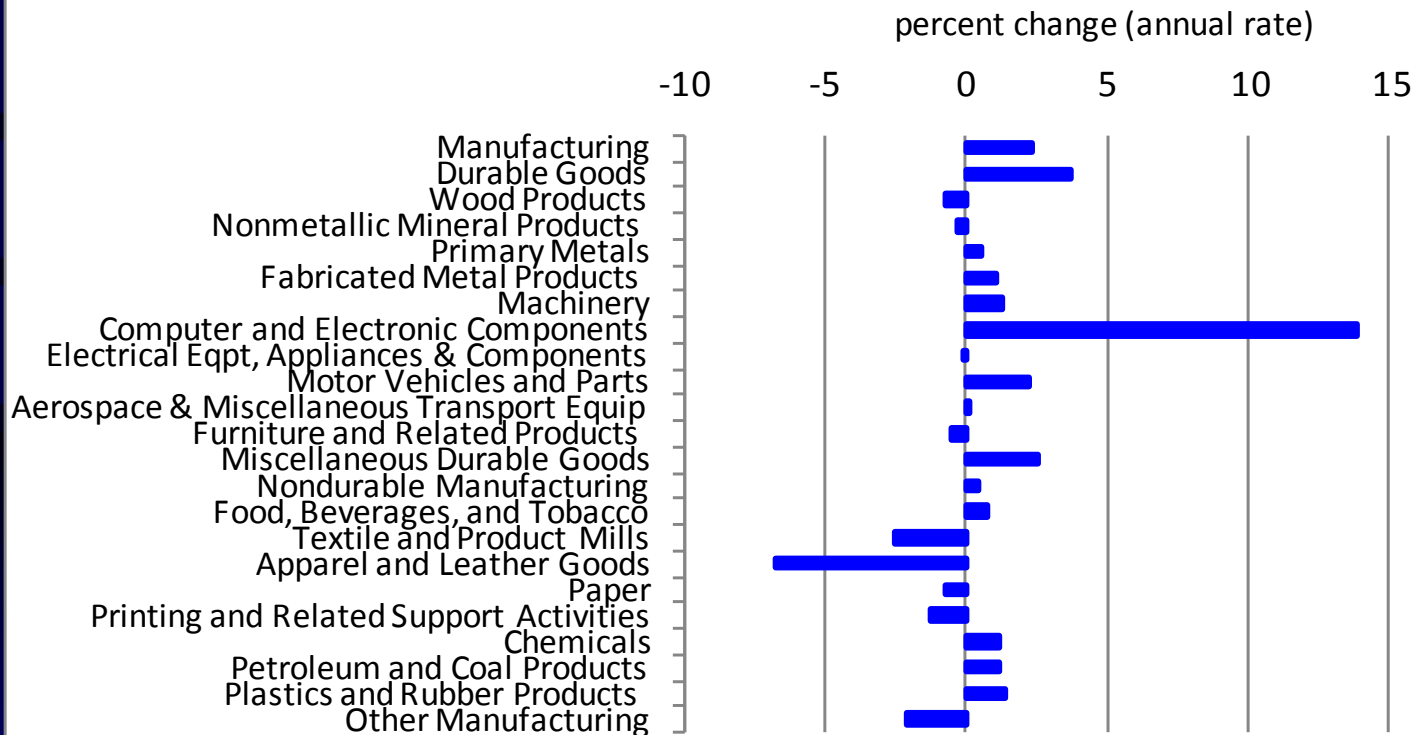


The Manufacturing Sector Continues to Re-invent Itself

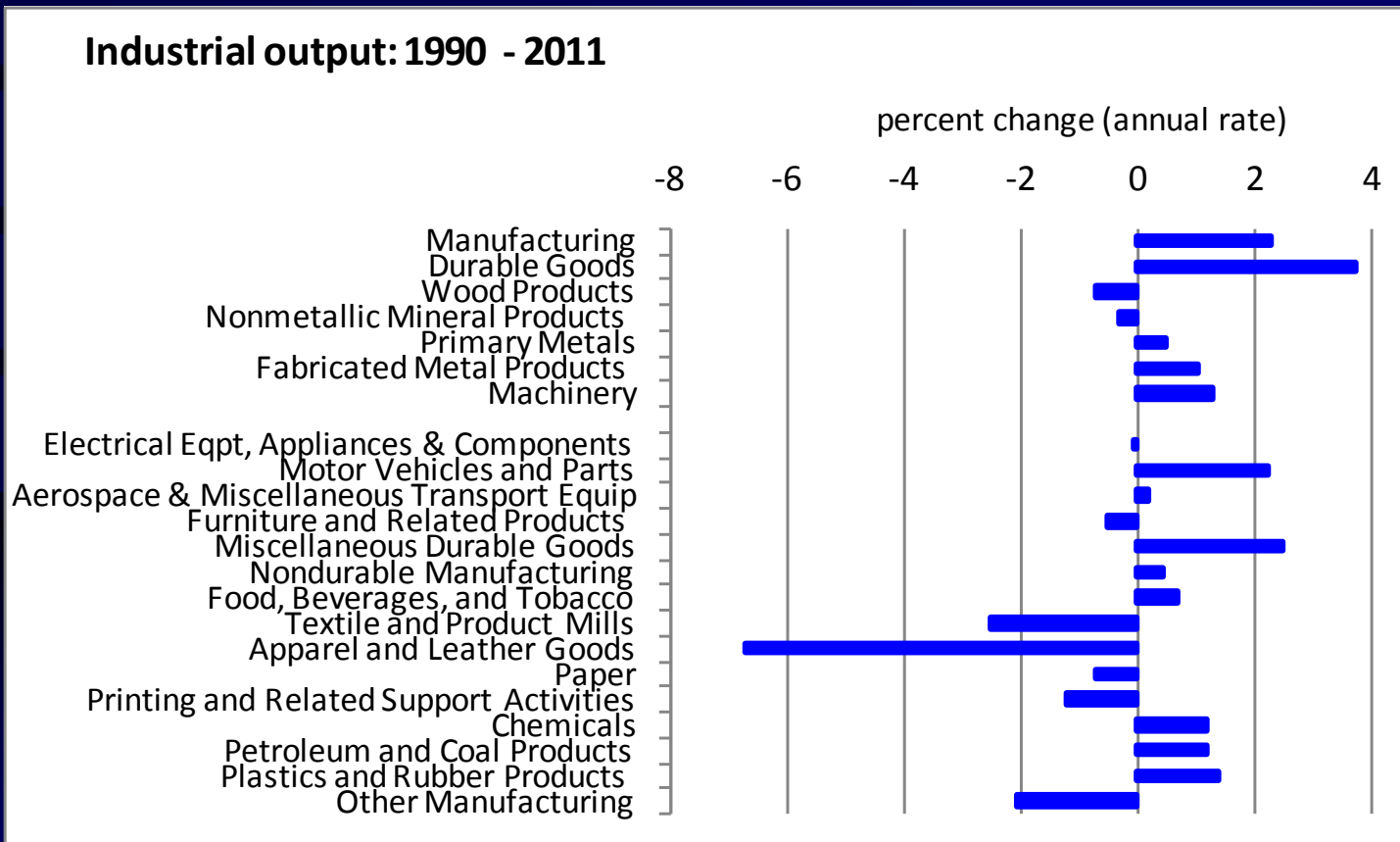


Over the last twenty years the fastest growing sector, not surprisingly, has been computer and electronic components

Industrial output: 1990 - 2011



There has been a large number of industrial sectors that have risen and fallen over the past twenty years

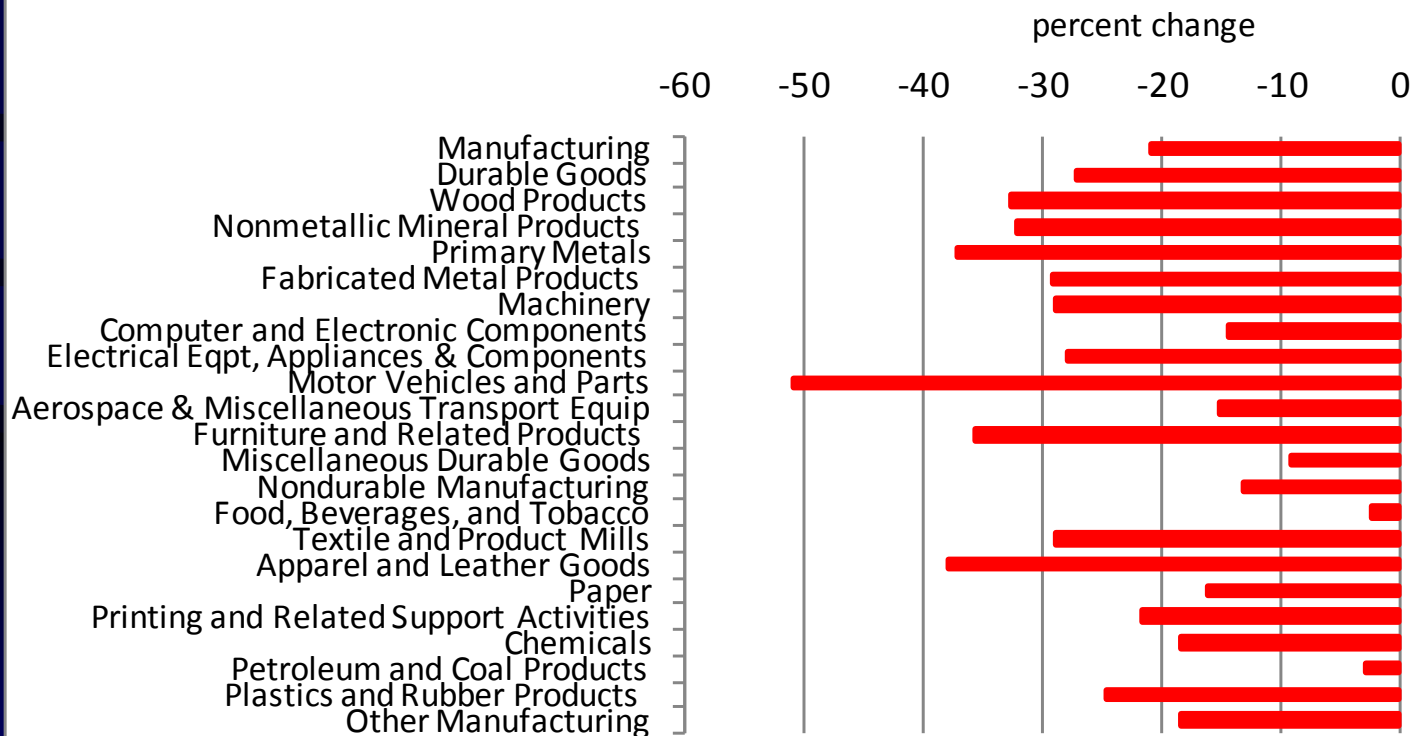


**The collapse in manufacturing
experienced in 2008-2009
is closely linked with
the economic recession**

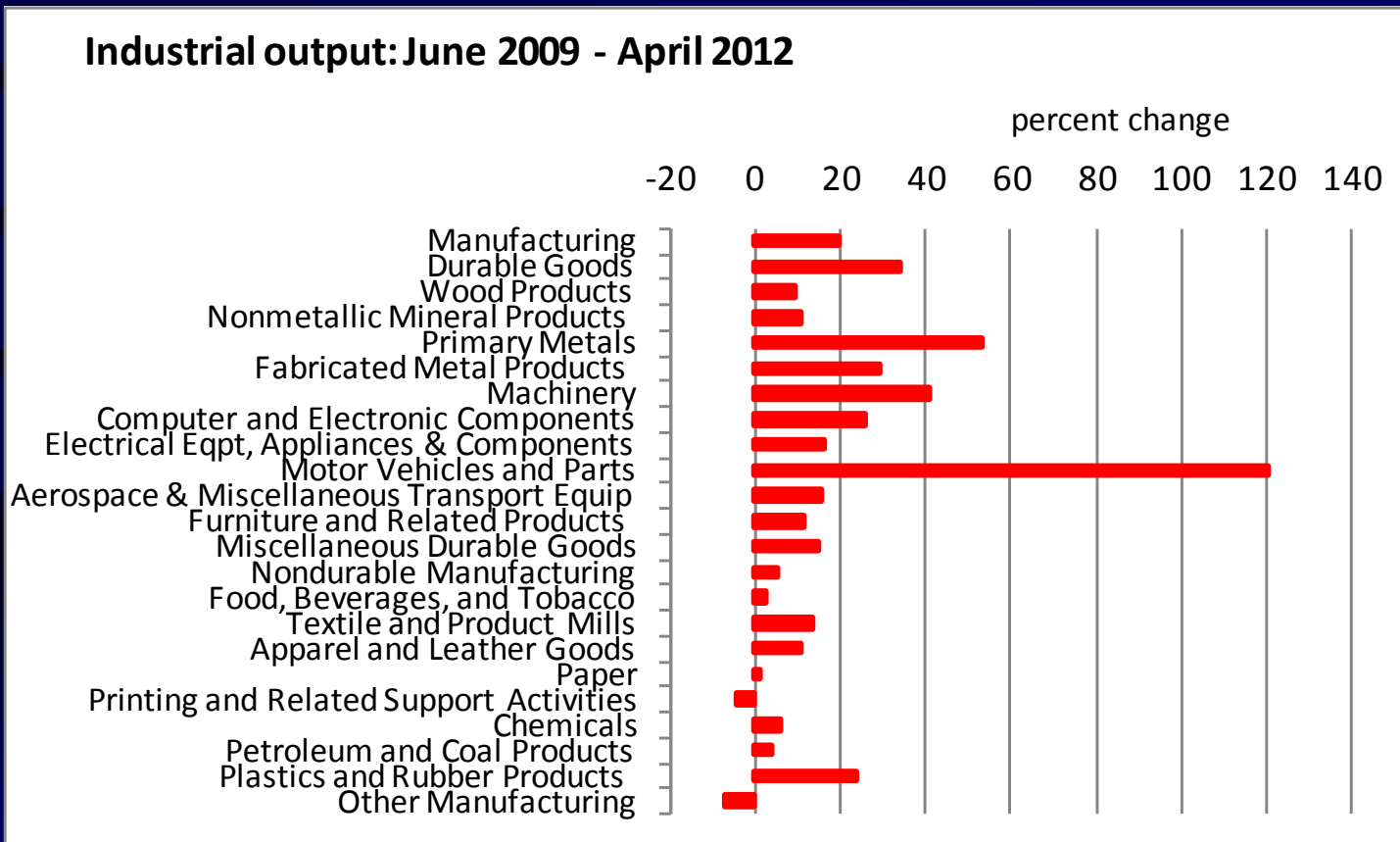


Declines in manufacturing output were broad-based during the Great Recession – especially in vehicle and primary metals manufacturing

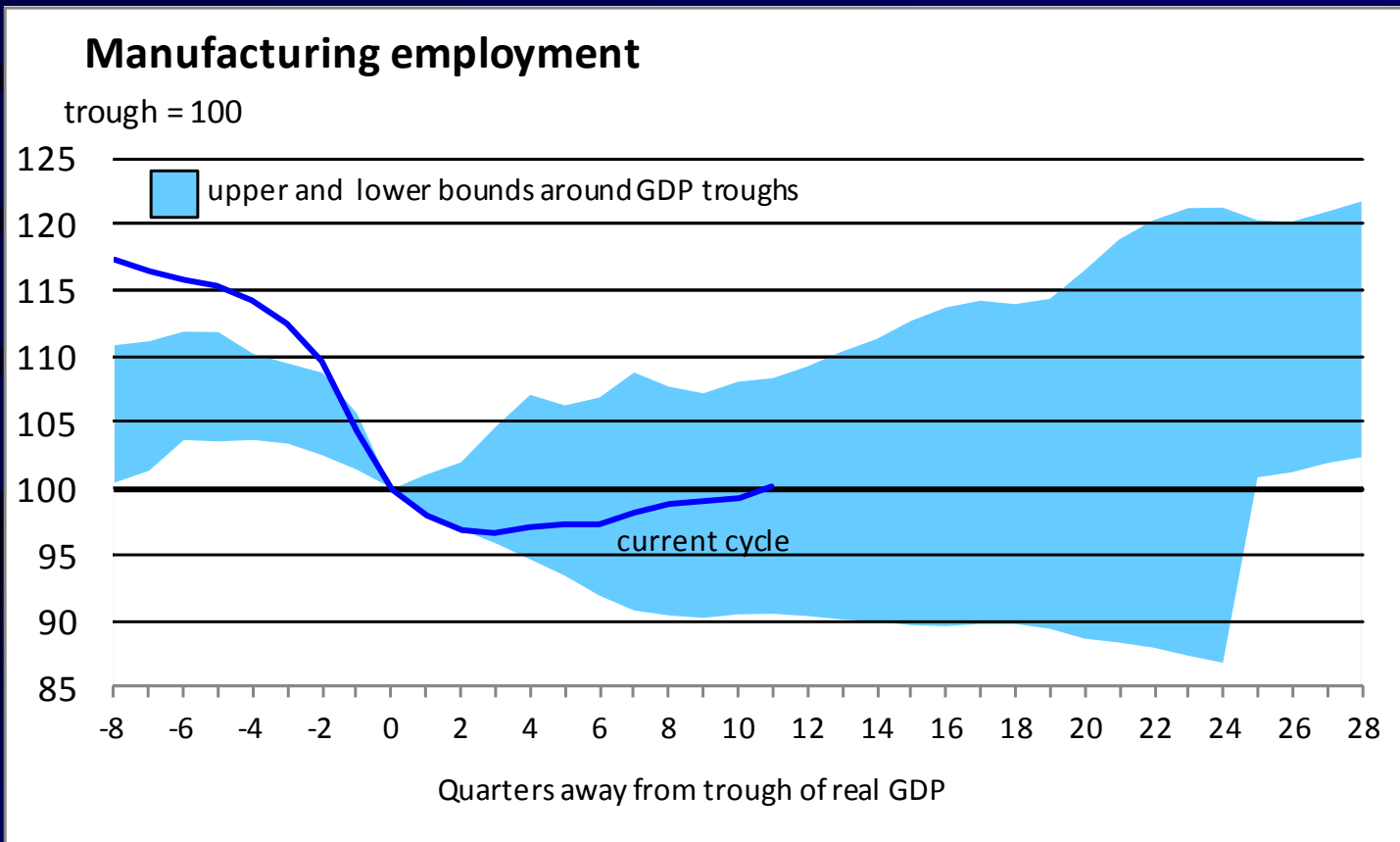
Industrial output: December 2007 - June 2009



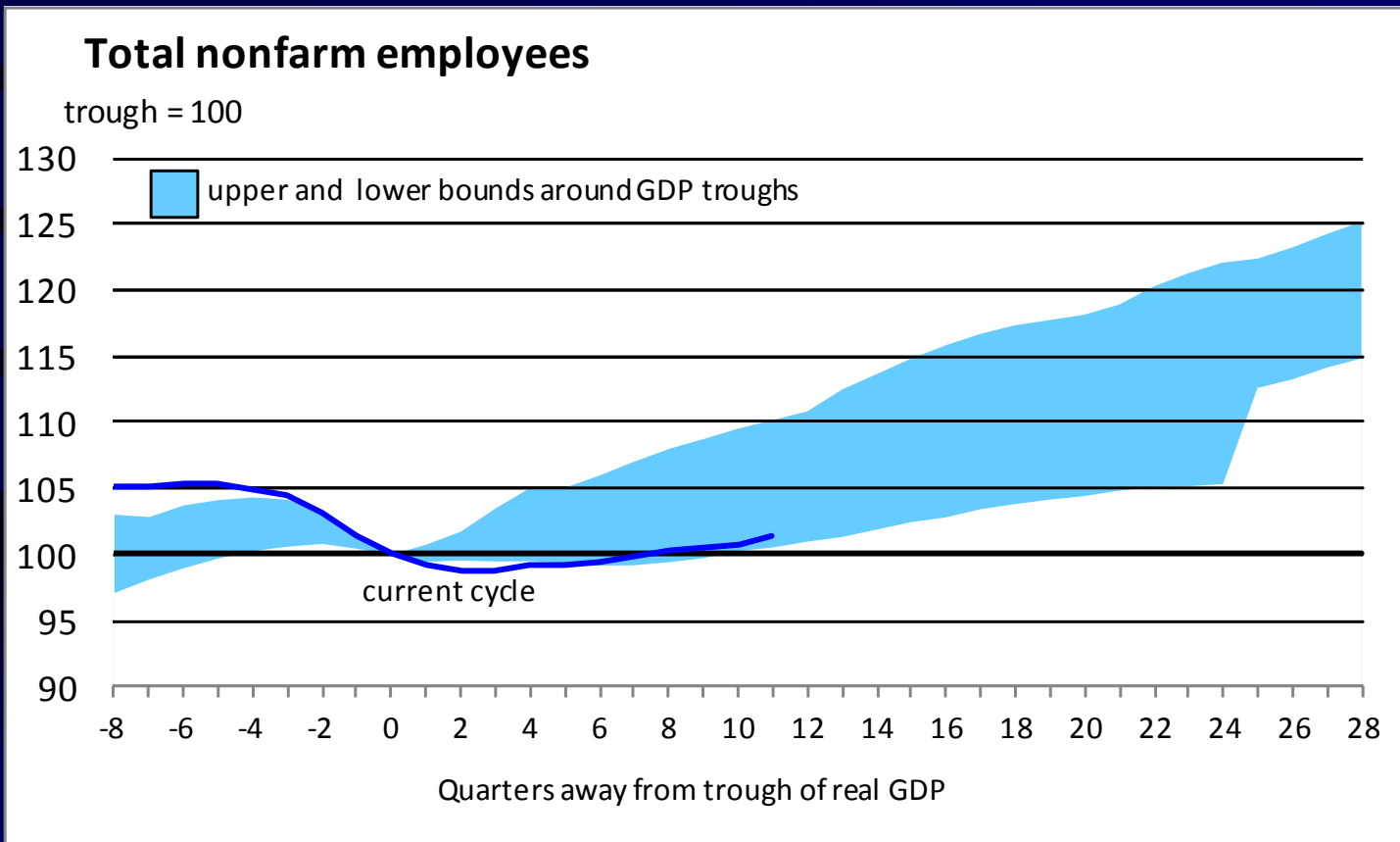
The recovery has also been broad-based with motor vehicles and primary metals manufacturing leading the way



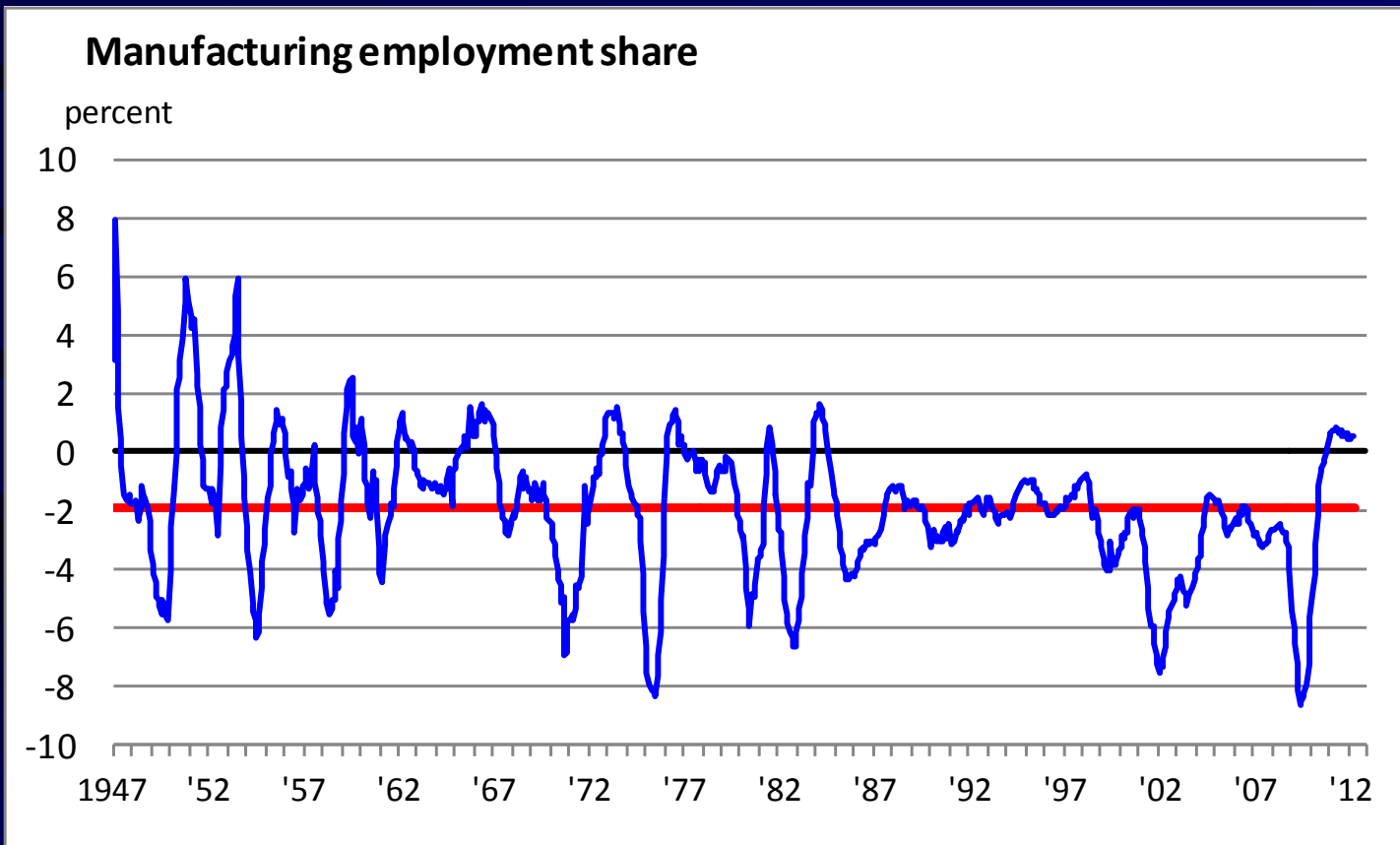
Manufacturing workers have suffered steep employment declines over the current cycle



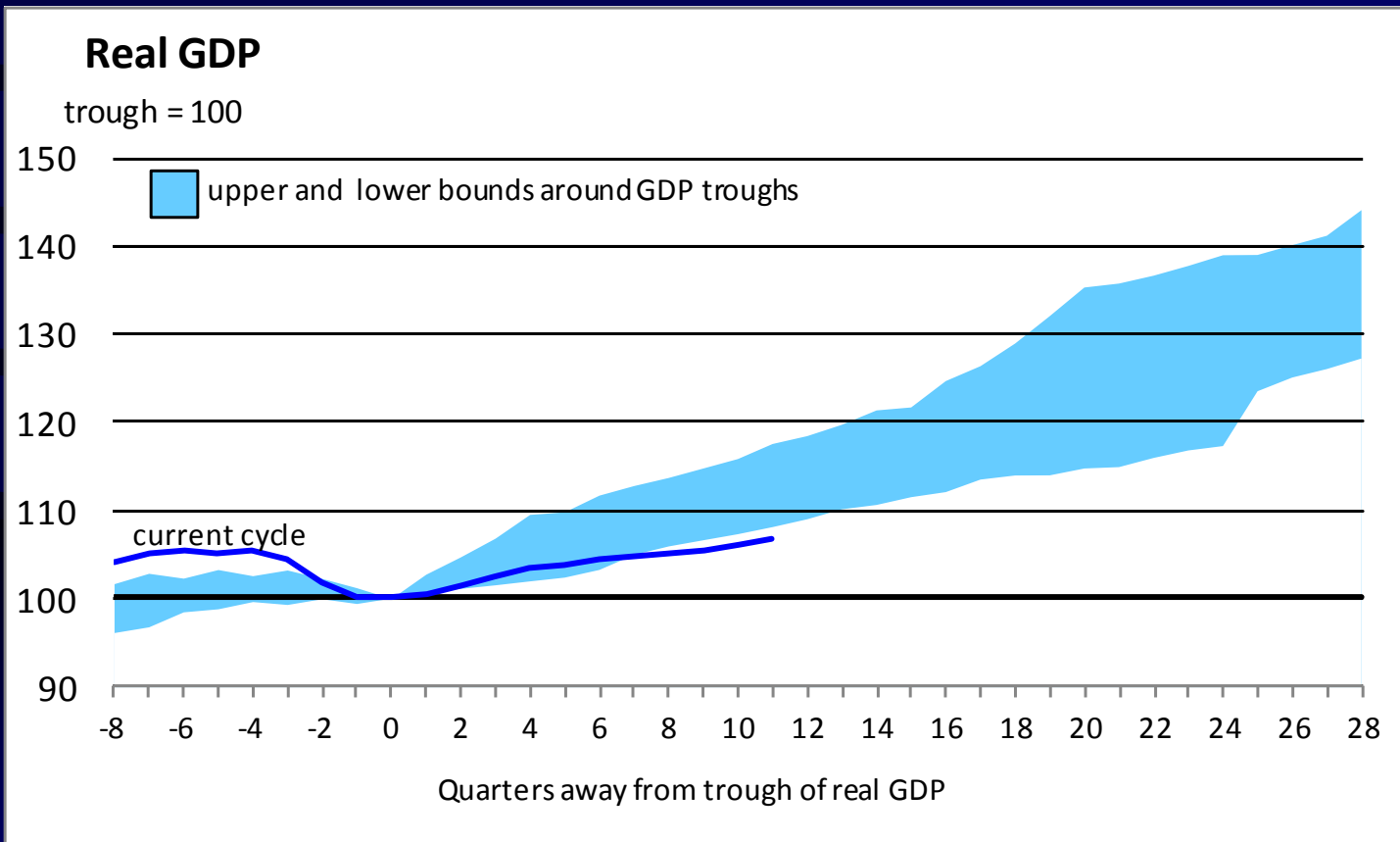
But the overall economy's employment growth also struggled



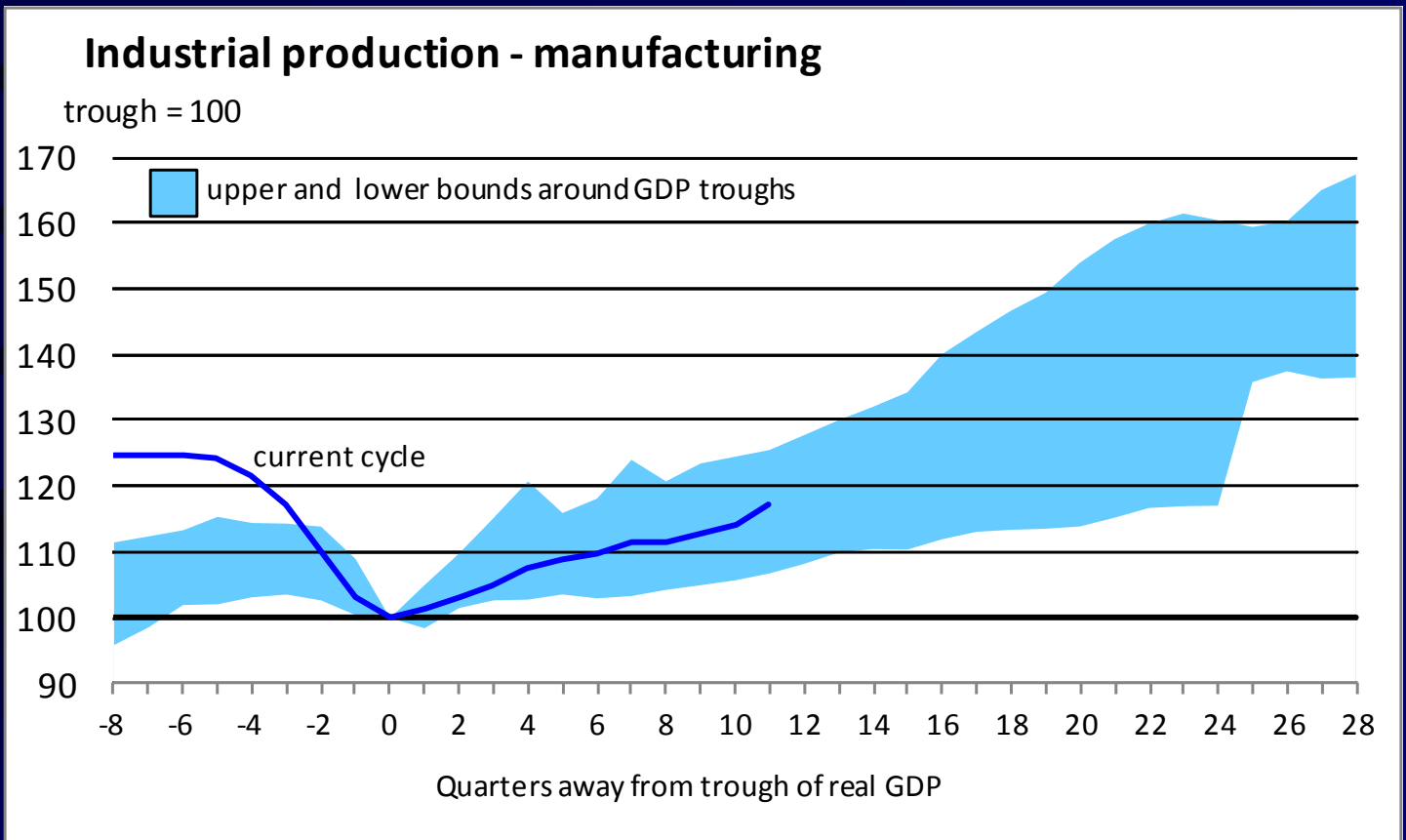
When changes in nonfarm employment are considered, the most recent manufacturing employment downturn is not unprecedented



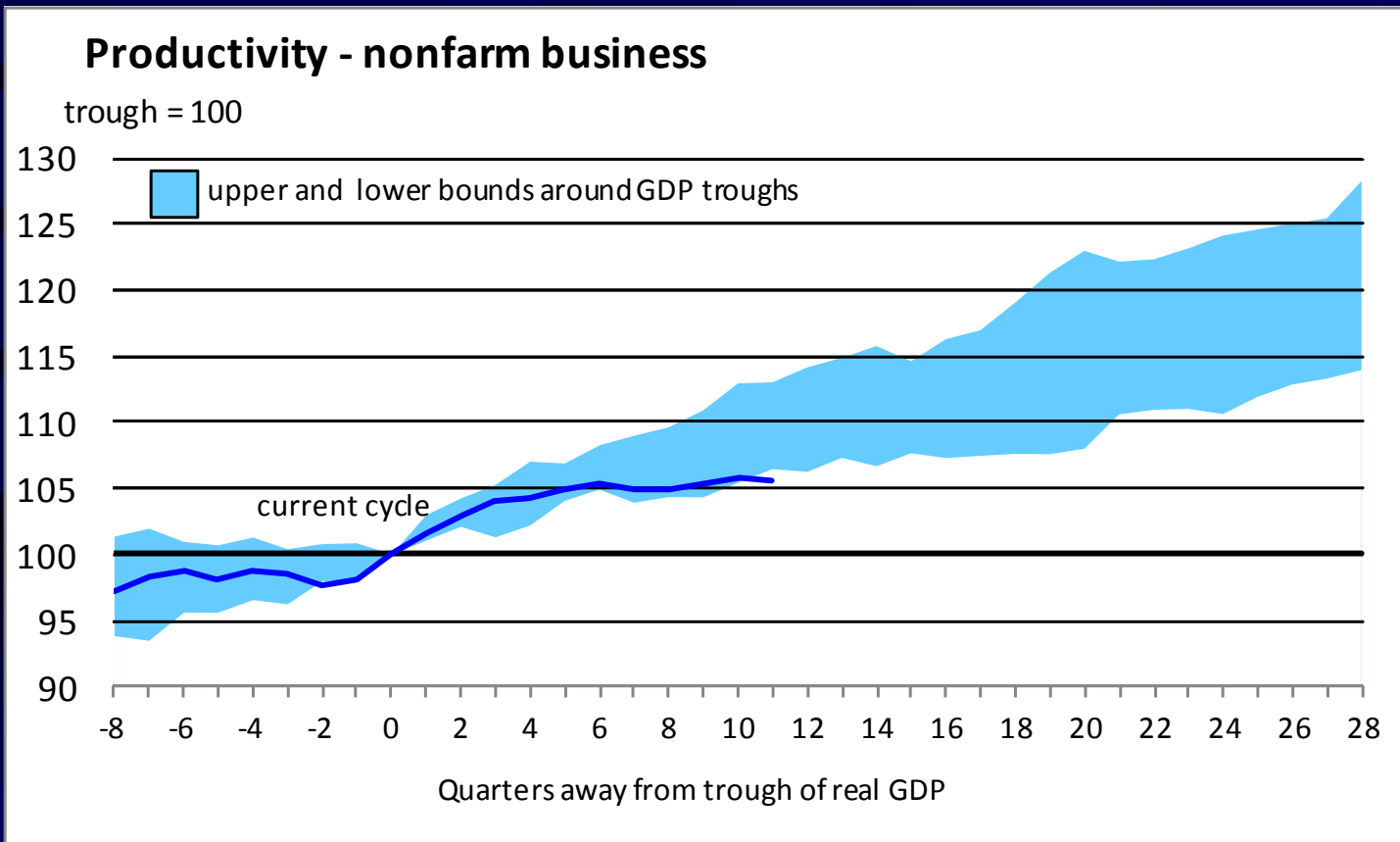
The financial crisis and its aftermath has hampered the current economic expansion



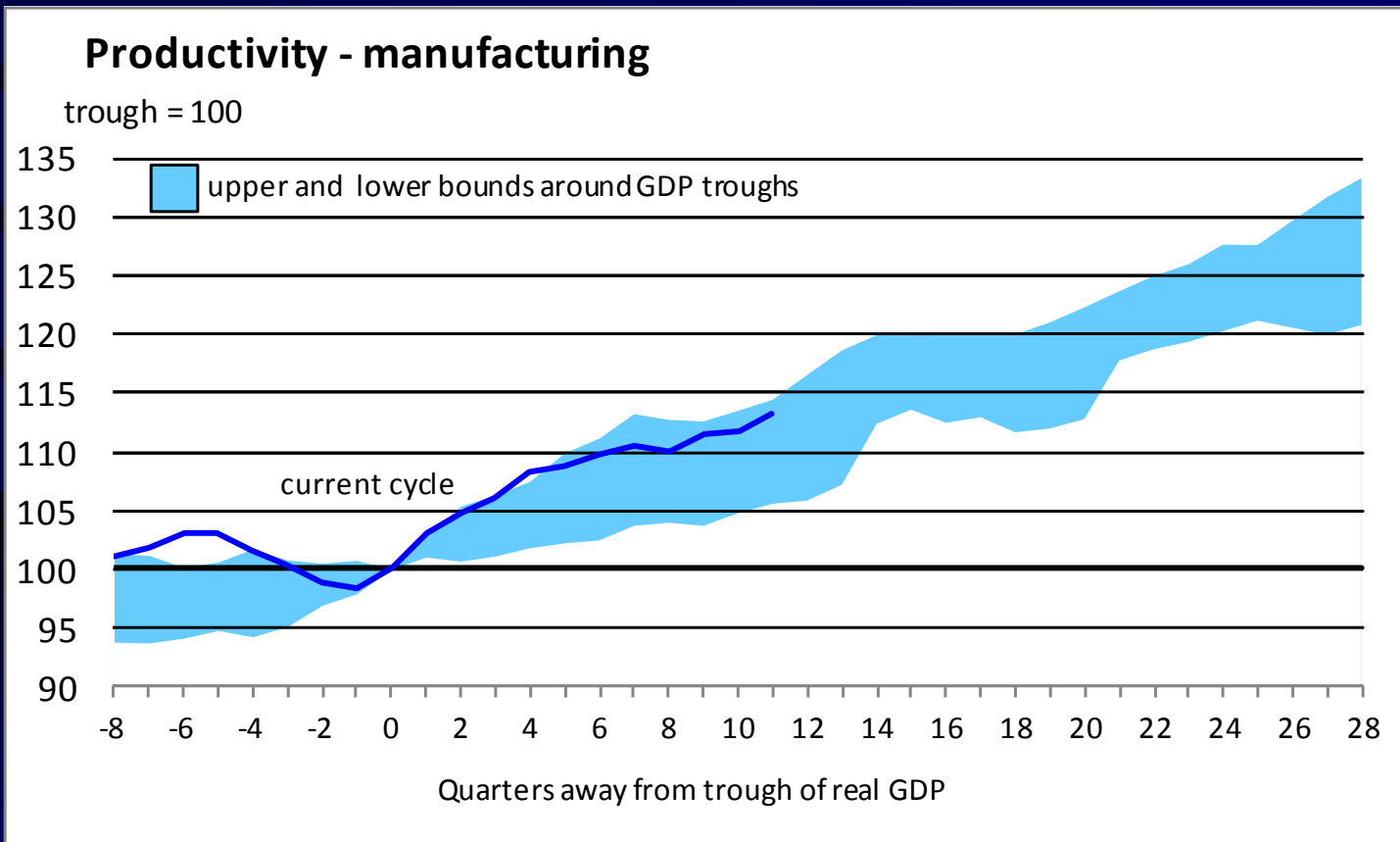
The recovery in manufacturing output is in-line with past industrial recoveries



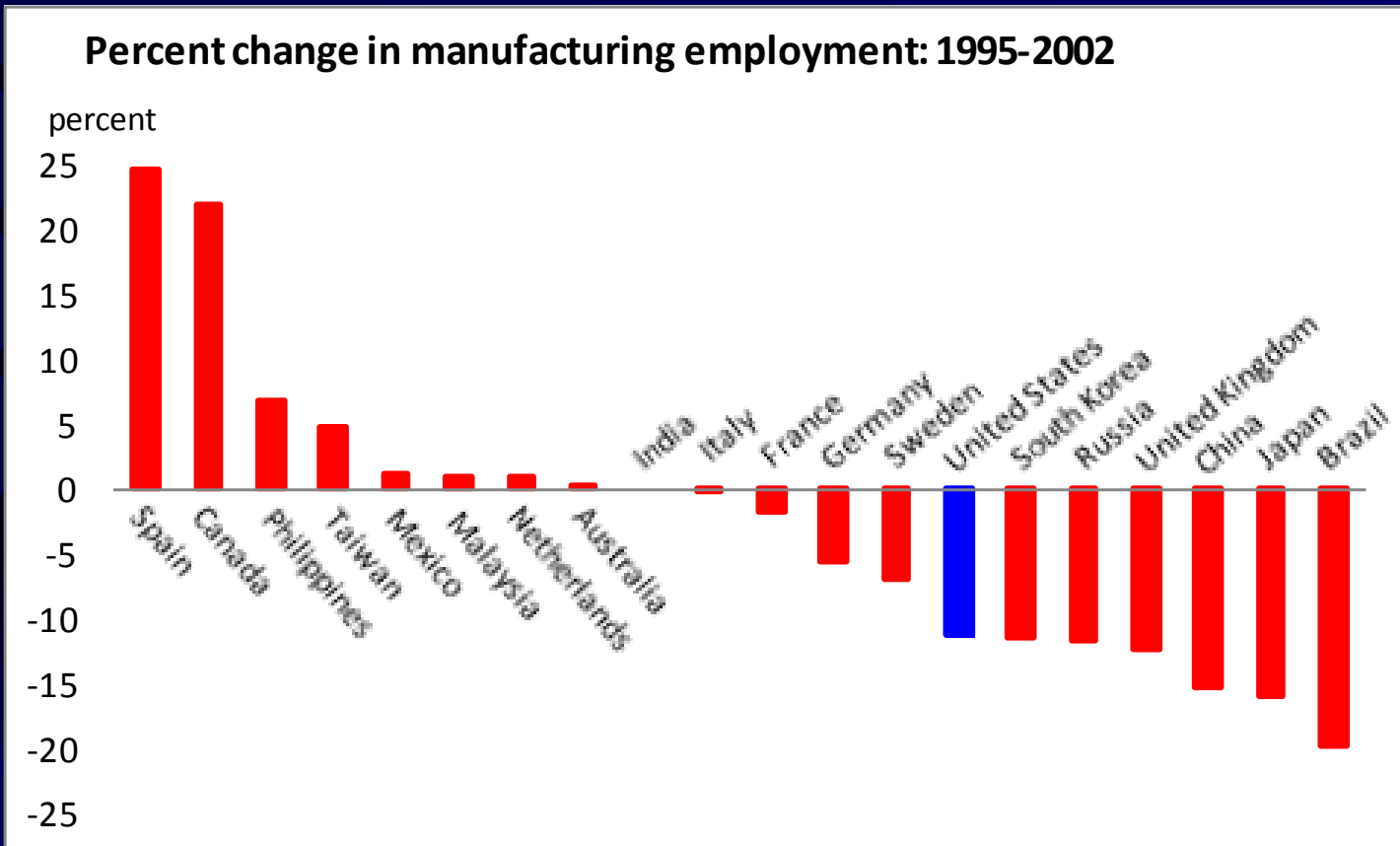
Productivity in the overall economy has grown at a rate near the low-end of previous expansions



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



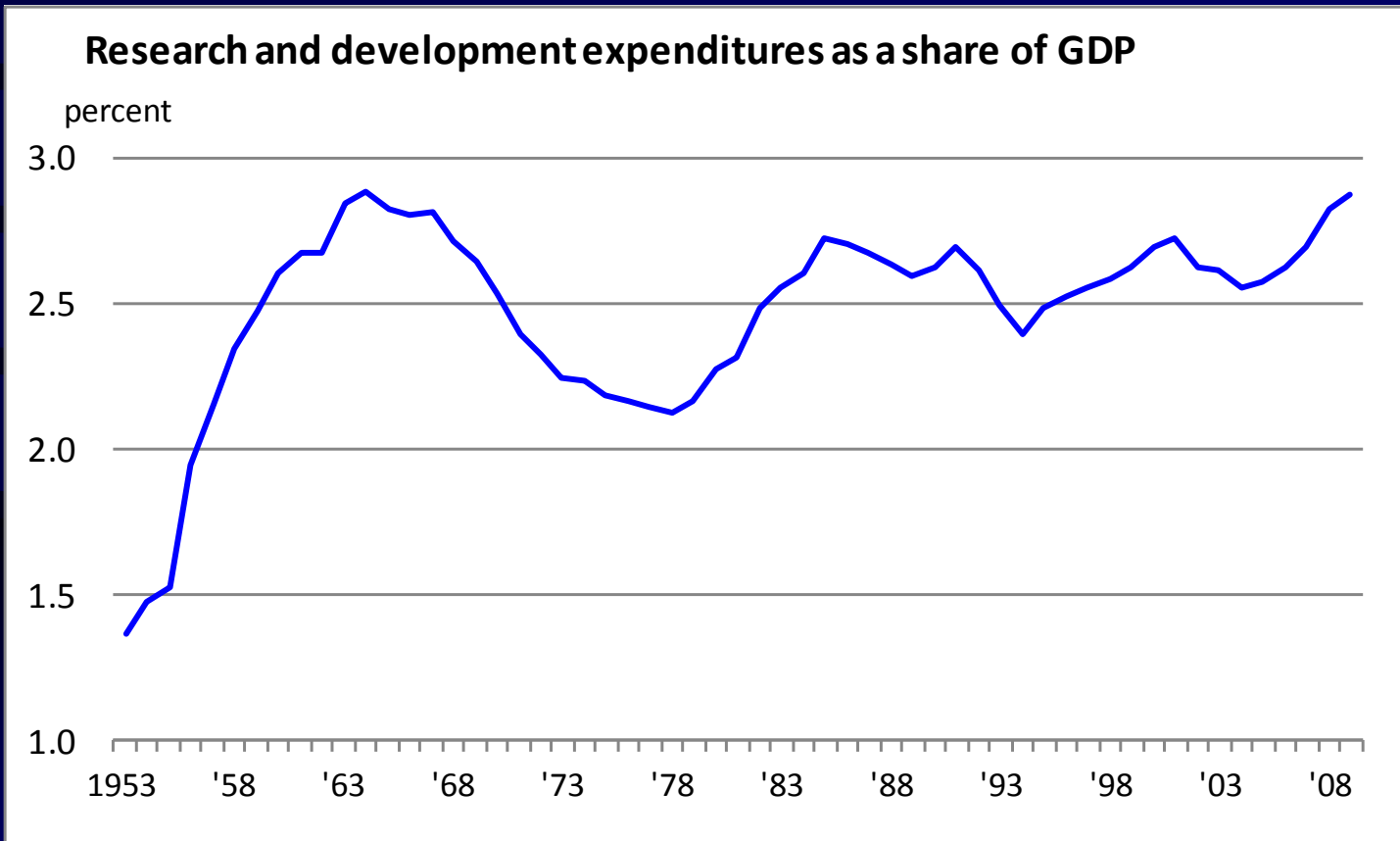
Manufacturing employment losses have occurred across numerous countries – among 20 big economies, 22 million jobs were lost



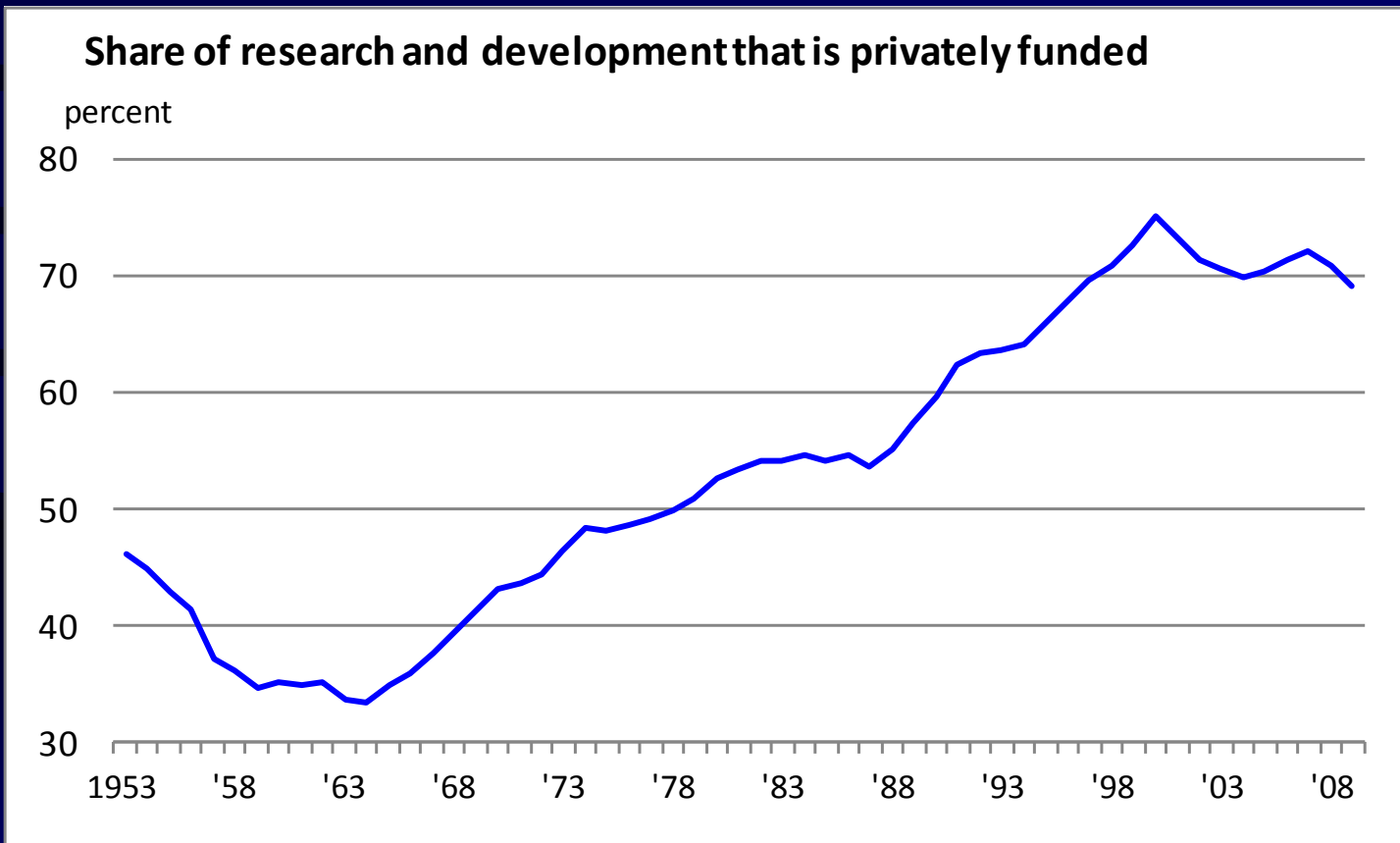
**Is the U.S. positioned to
continue its strong
productivity gains?**



U.S. maintaining its commitment to research and development



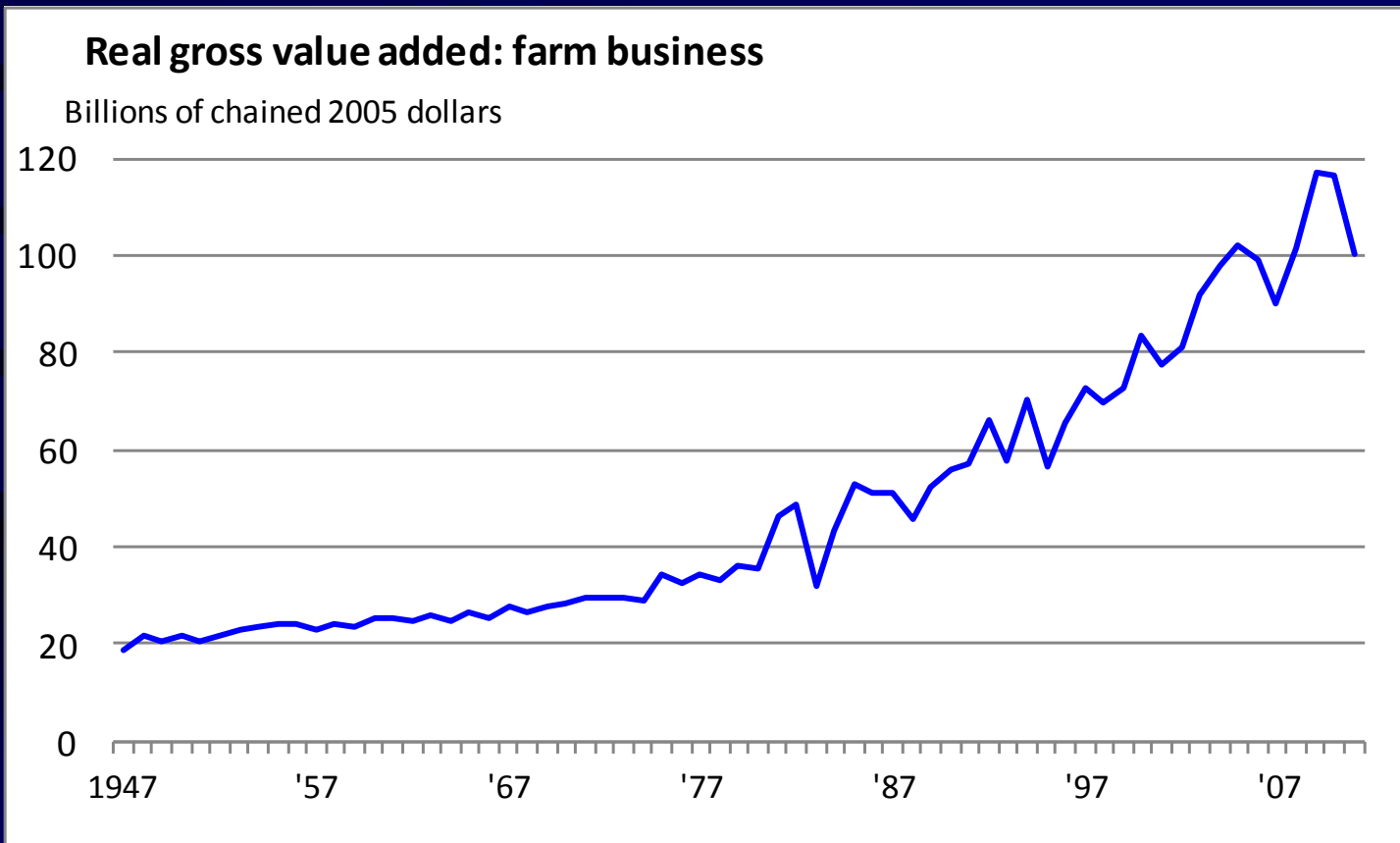
The vast majority of U.S. research and development is being privately funded



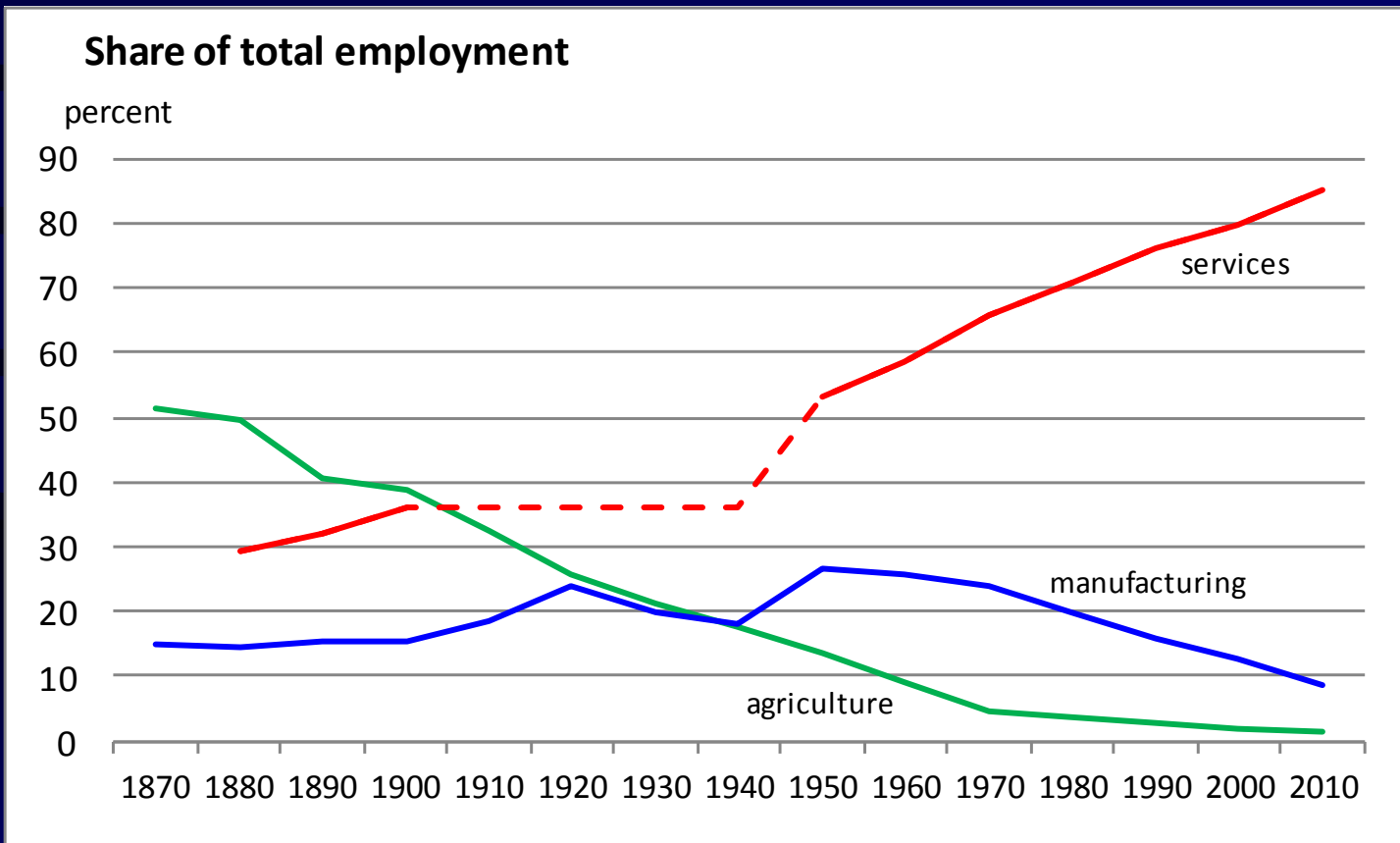
Lessons from the farm sector



We are producing more in our farm sector than at any time in our history



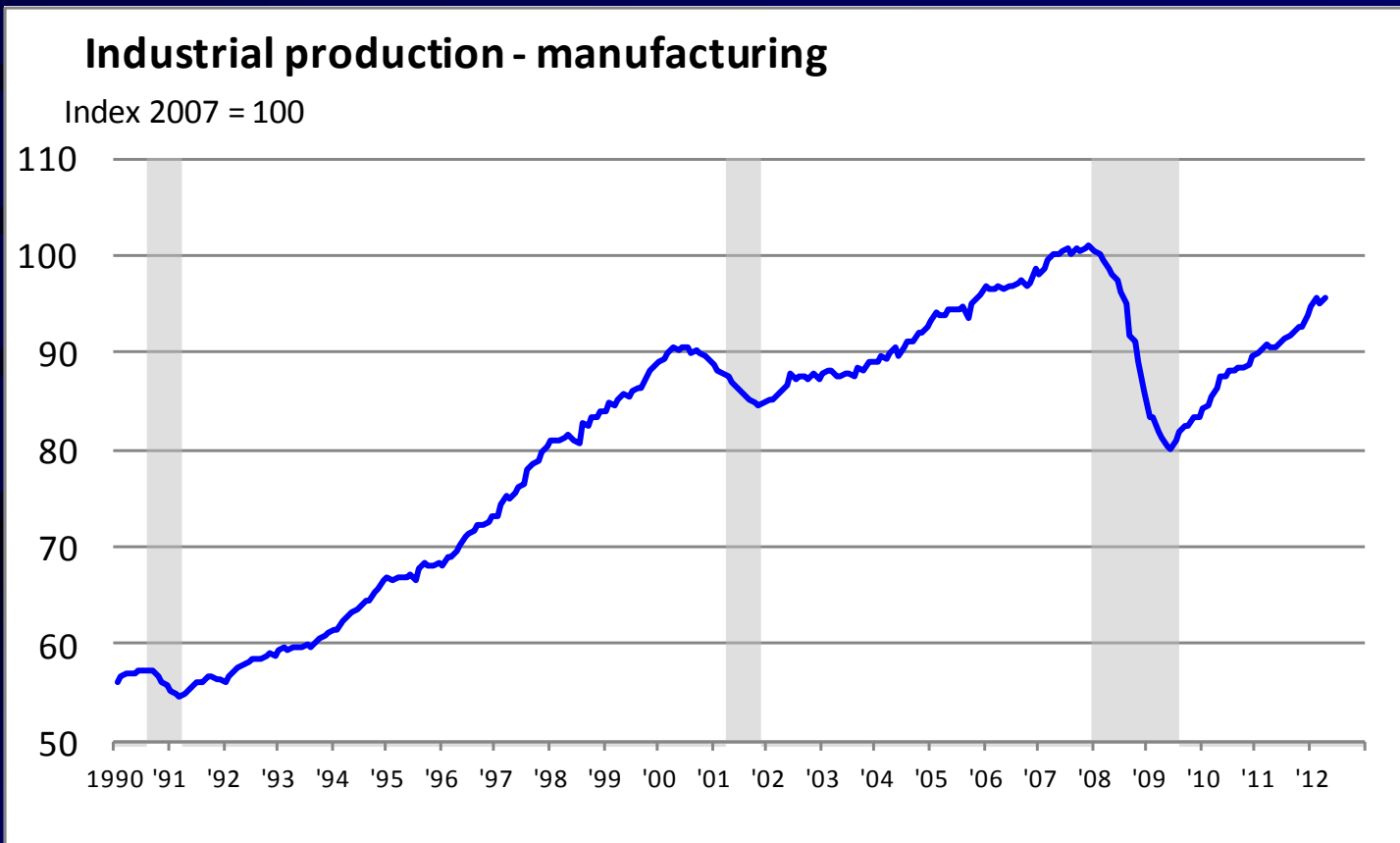
And we are accomplished this remarkable feat with less than 2.0% of our employment devoted to farming



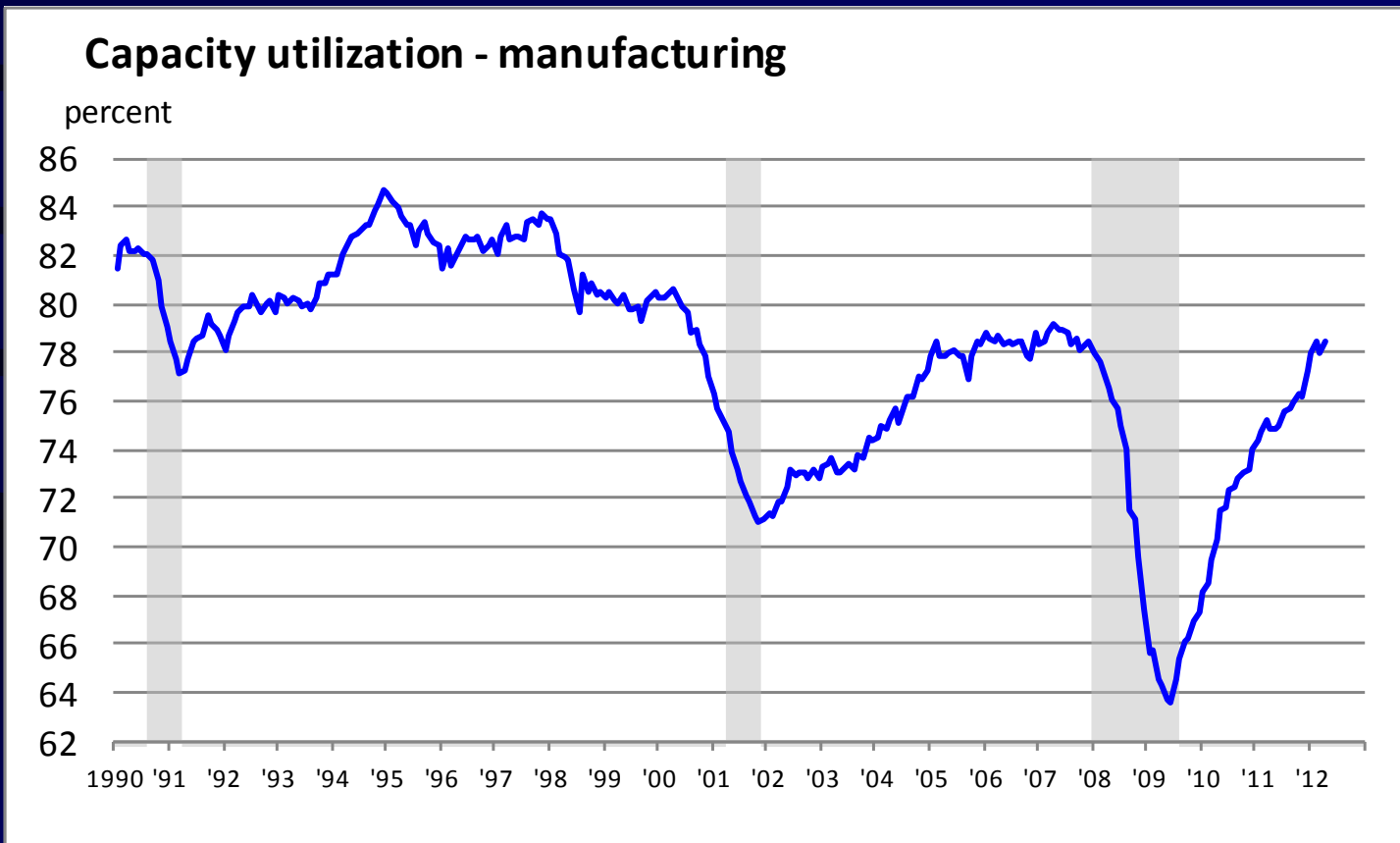
The Current Expansion



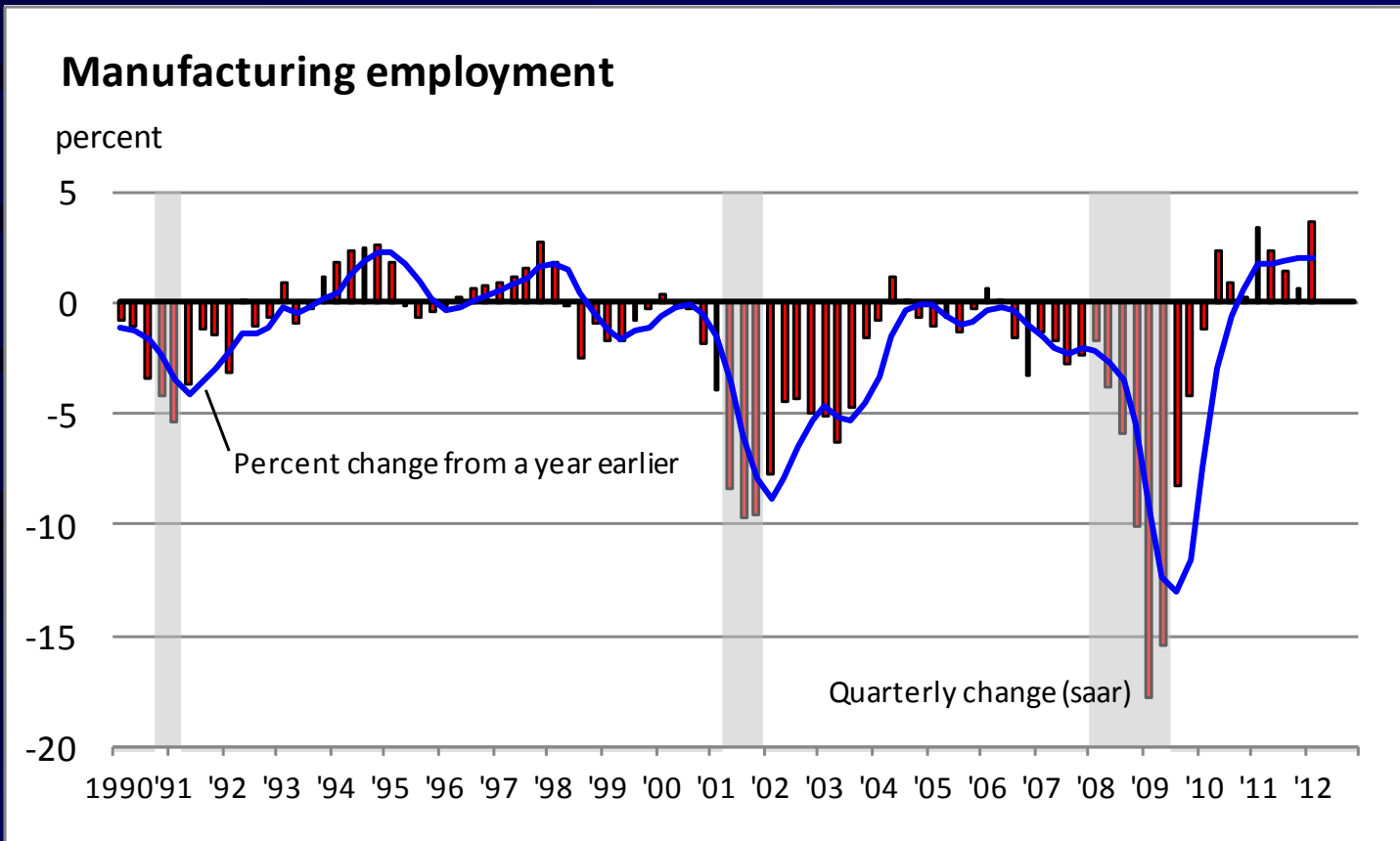
Beginning in July 2009, manufacturing output in the United States has been increasing at a 6.5% annualized rate and has recovered 74.8% of its drop in output



Manufacturing capacity utilization has been rising since June 2009



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



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

www.chicagofed.org

