


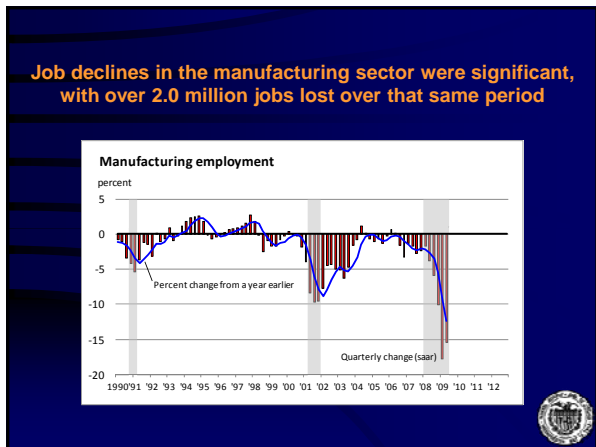
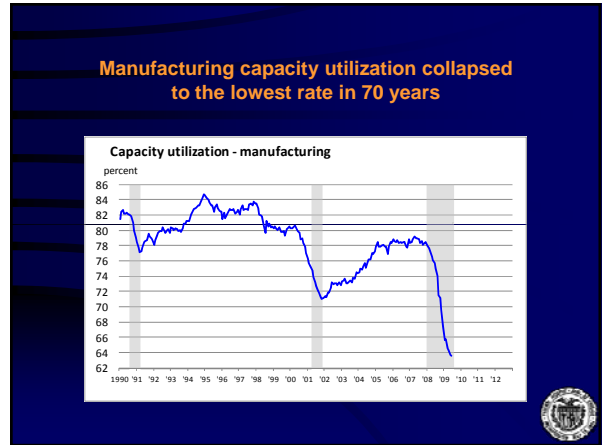

Is the U.S. Losing Its Manufacturing Base?

Drexel University
Philadelphia, PA
May 18, 2012


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



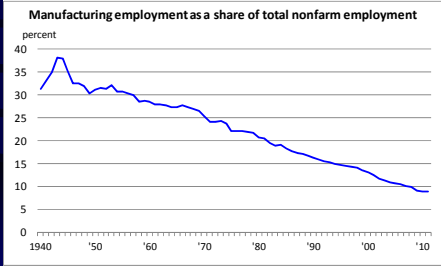
The Setup



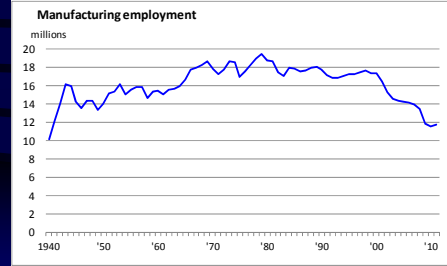
Is the U.S. Losing Its Manufacturing Base?



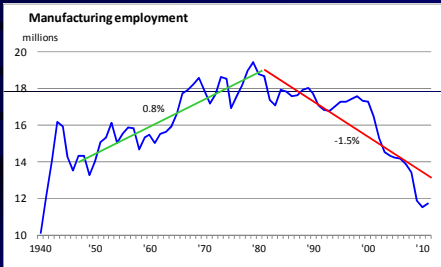
Manufacturing employment as a share of national employment has been declining for over 50 years



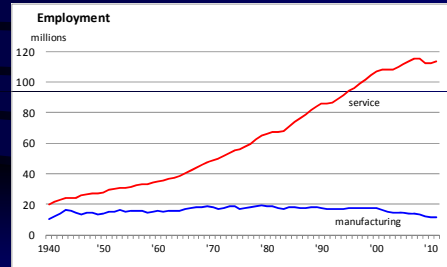
The number of jobs in manufacturing has been relatively stable over this period, edging lower on average by -0.3% per year since 1947



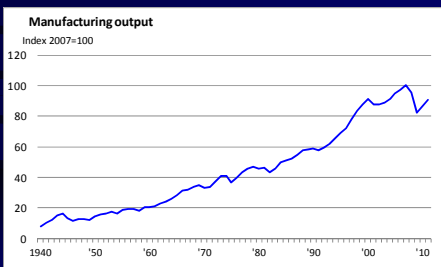
Not to make a mountain out of a molehill, but manufacturing employment was increasing up until 1979 and has been moving lower over the past 30 years



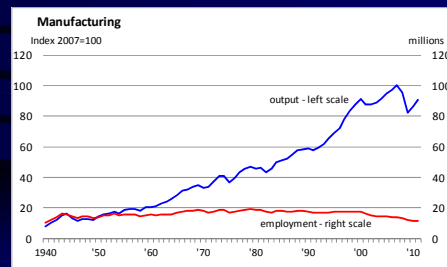
However, service sector employment has grown more than fourfold over this period, averaging growth of 2.3% per year since 1947



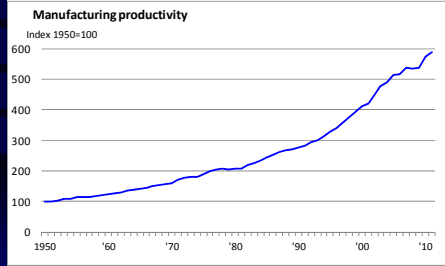
While manufacturing employment growth has been edging lower over the past 63 years, manufacturing output increased by 3.1% per year



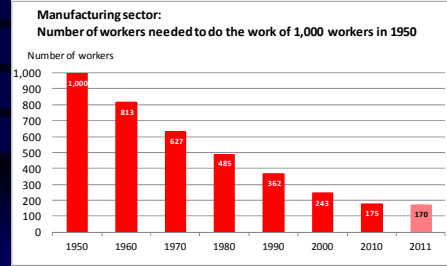
This translated into an almost 600 percent increase in manufacturing output over this time period



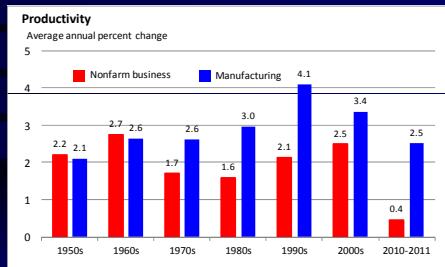
The increase in output can be attributed to strong productivity growth experienced by the manufacturing sector



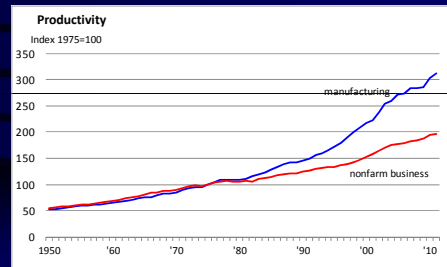
What took 1,000 workers to produce in 1950 takes 170 workers today



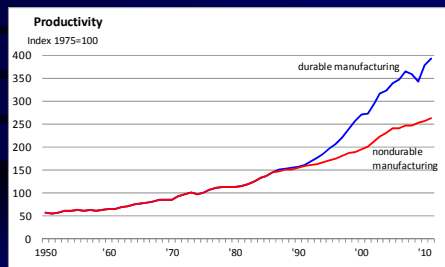
Manufacturing productivity growing faster over the past 40 years



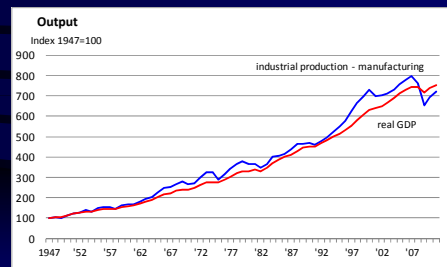
The divergence in productivity appears to have occurred around the mid-1970s

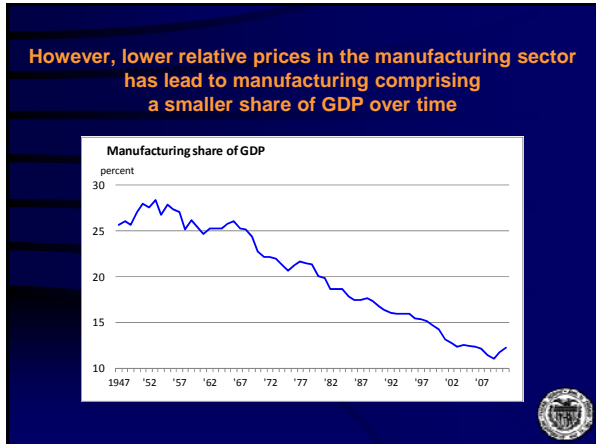


This divergence is especially apparent in durable manufacturing

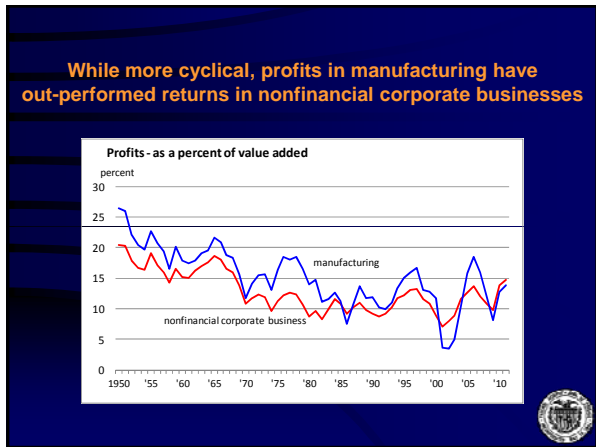


Strong productivity growth had allowed the manufacturing sector to grow faster than the overall economy

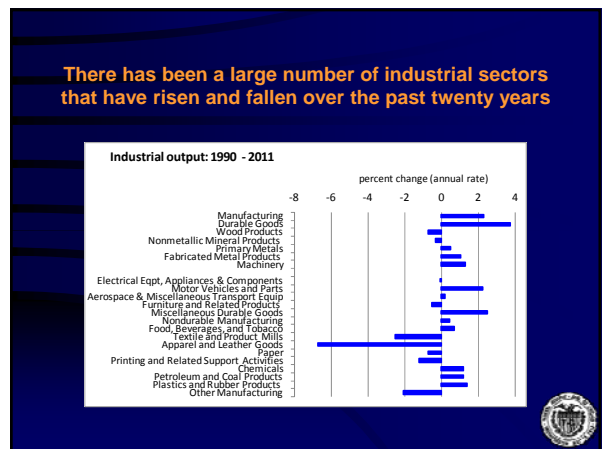
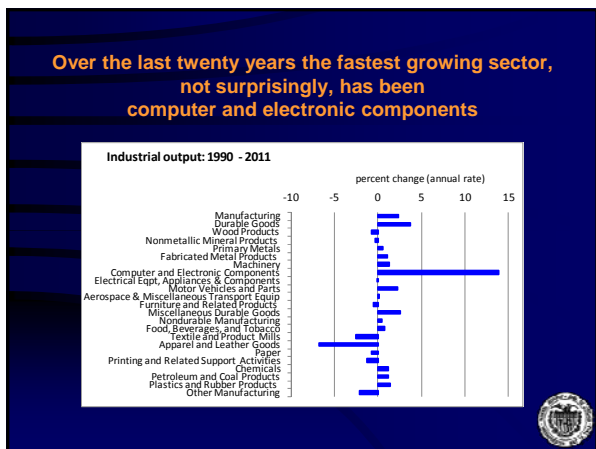





How profitable is manufacturing?



The Manufacturing Sector Continues to Re-invent Itself

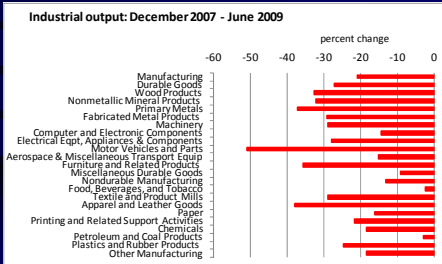


The collapse in manufacturing experienced in 2008-2009 is closely linked with the economic recession




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

Industrial output: December 2007 - June 2009

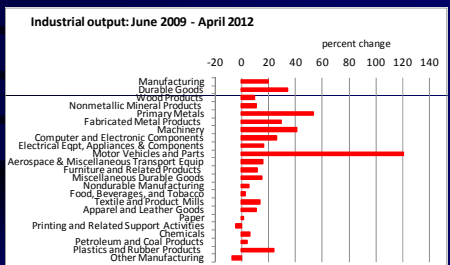


Sector	Percent Change
Manufacturing	-15
Durable Goods	-25
Wood Products	-10
Nonmetallic Mineral Products	-10
Fabricated Metal Products	-20
Primary Metals	-45
Machinery	-15
Computer and Electronic Components	-10
Electrical Eqpt, Appliances & Components	-15
Motor Vehicles and Parts	-55
Aerospace & Miscellaneous Transport Equip	-15
Furniture and Related Products	-10
Miscellaneous Durable Goods	-15
Nondurable Manufacturing	-10
Food, Beverages, and Tobacco	-10
Textile and Product Mills	-10
Apparel and Leather Goods	-10
Printing and Related Support Activities	-10
Paper	-10
Chemicals	-10
Petroleum and Coal Products	-10
Plastics and Rubber Products	-10
Other Manufacturing	-10




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

Industrial output: June 2009 - April 2012



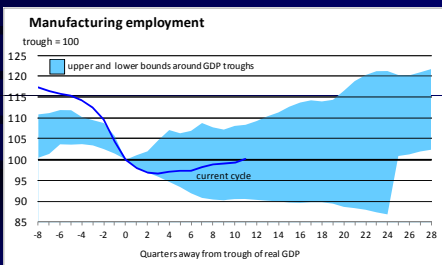
Sector	Percent Change
Manufacturing	40
Durable Goods	35
Wood Products	10
Nonmetallic Mineral Products	10
Fabricated Metal Products	20
Primary Metals	45
Machinery	15
Computer and Electronic Components	10
Electrical Eqpt, Appliances & Components	15
Motor Vehicles and Parts	120
Aerospace & Miscellaneous Transport Equip	15
Furniture and Related Products	10
Miscellaneous Durable Goods	15
Nondurable Manufacturing	10
Food, Beverages, and Tobacco	10
Textile and Product Mills	10
Apparel and Leather Goods	10
Printing and Related Support Activities	10
Paper	10
Chemicals	10
Petroleum and Coal Products	10
Plastics and Rubber Products	10
Other Manufacturing	10




Manufacturing workers have suffered steep employment declines over the current cycle

Manufacturing employment

trough = 100



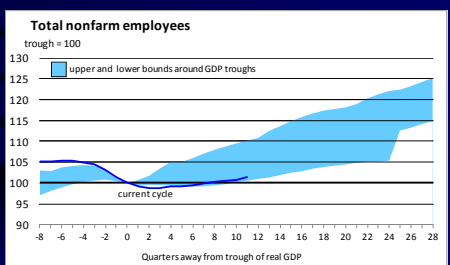
Legend: upper and lower bounds around GDP troughs, current cycle




But the overall economy's employment growth also struggled

Total nonfarm employees

trough = 100



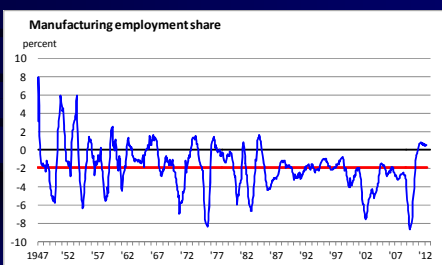
Legend: upper and lower bounds around GDP troughs, current cycle




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

Manufacturing employment share

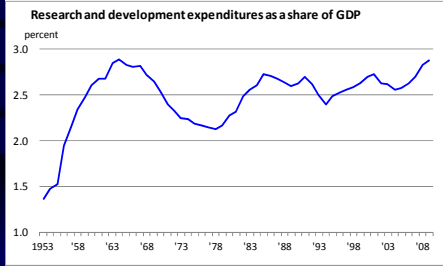
percent



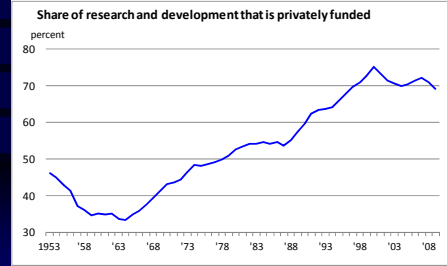
Legend: 1947 '52 '57 '62 '67 '72 '77 '82 '87 '92 '97 '02 '07 '12



U.S. maintaining its commitment to research and development

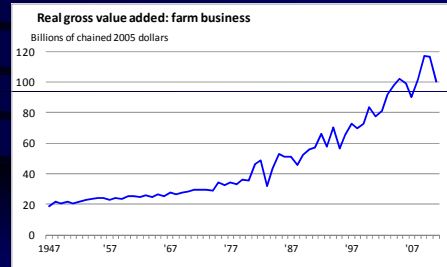


The vast majority of U.S. research and development is being privately funded

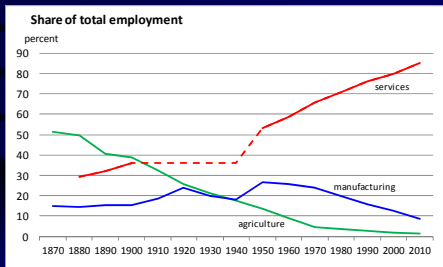


Lessons from the farm sector

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

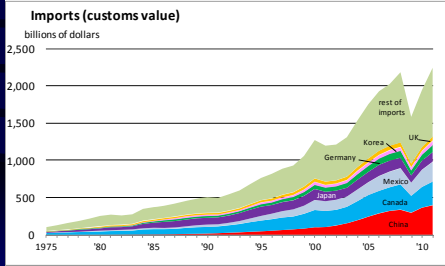


And we are accomplished this remarkable feat with less than 2.0% of our employment devoted to farming

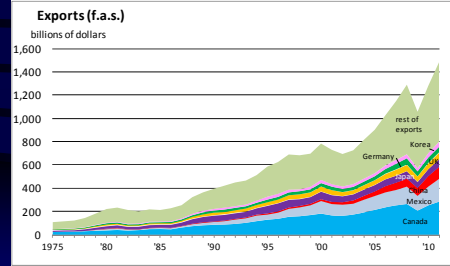


Trade with China

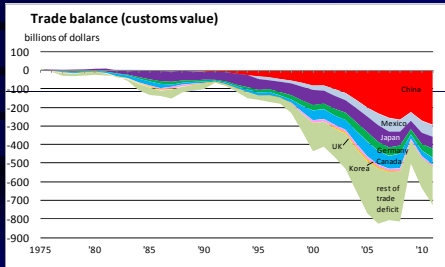
China has risen to number one in terms of U.S. imports, representing 18.1% of all imports in 2011



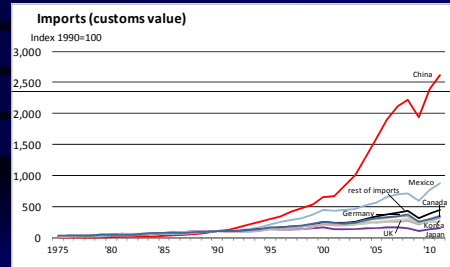
While China has risen to be our third largest export country, it represents only 7.0% of U.S. exports



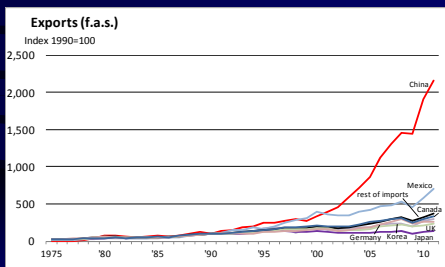
This difference has led to China having the largest trade deficit with the U.S.



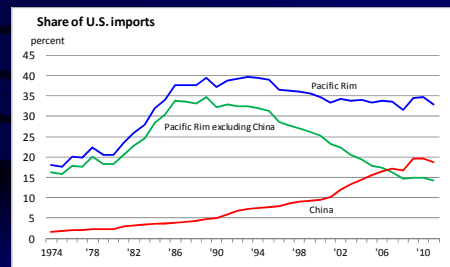
China has certainly increased the amount of goods flowing into the U.S.



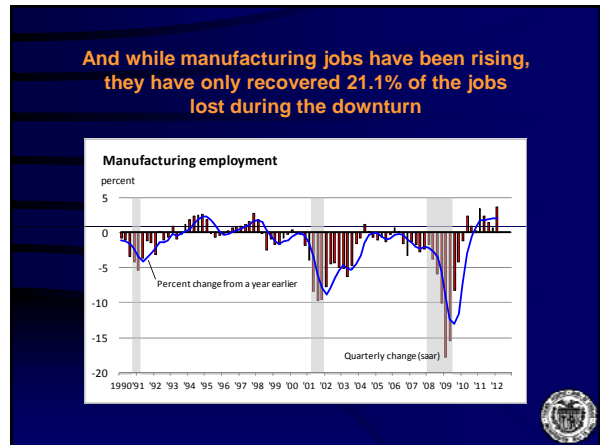
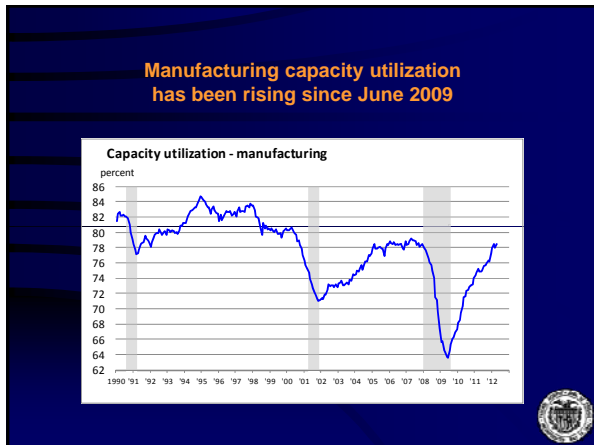
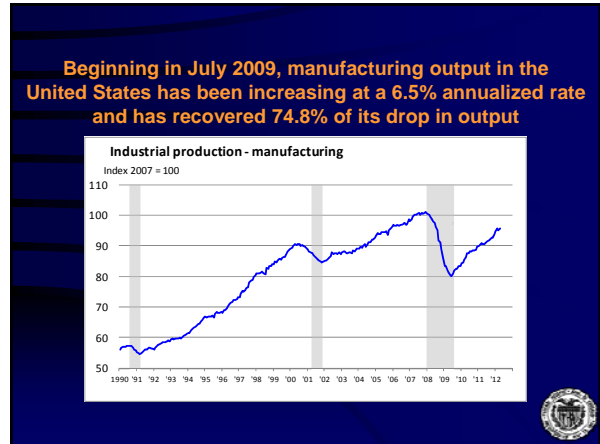
They have also represented the largest gain for exports from the U.S.



While China has increased its share of imports to the U.S., the Pacific Rim as a whole has had a declining share since the mid-90s



The Current Expansion



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

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