

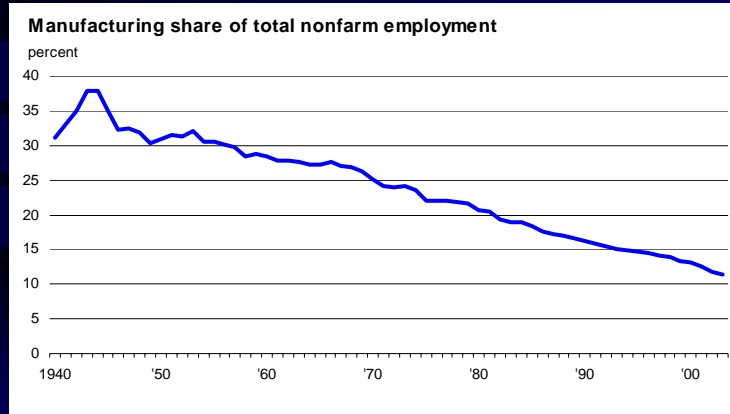
## **The Disappearance of Manufacturing?**

**Purdue University**  
West Lafayette, Indiana  
April 1, 2004

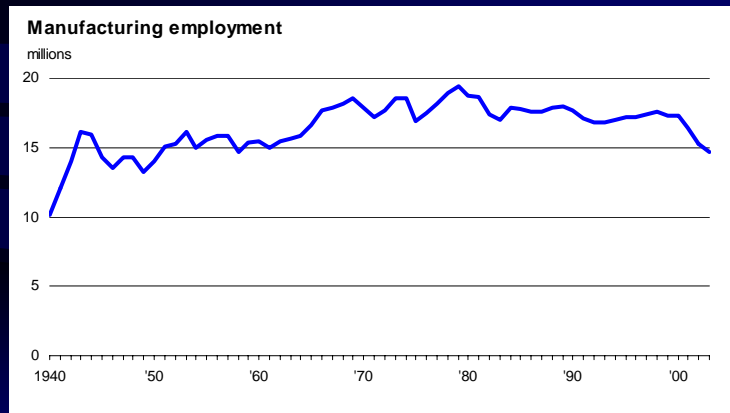
**William Strauss**  
Senior Economist  
and Economic Advisor  
Federal Reserve Bank of Chicago

**Fact?**  
**The United States is losing  
its manufacturing base**

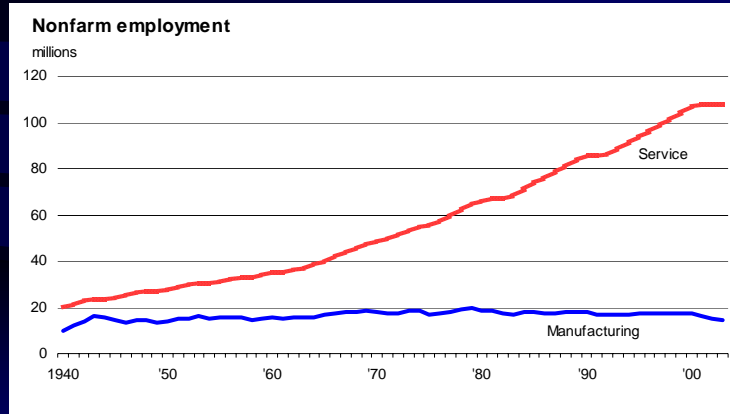
**Manufacturing employment as a share of national employment has been declining for over 50 years**



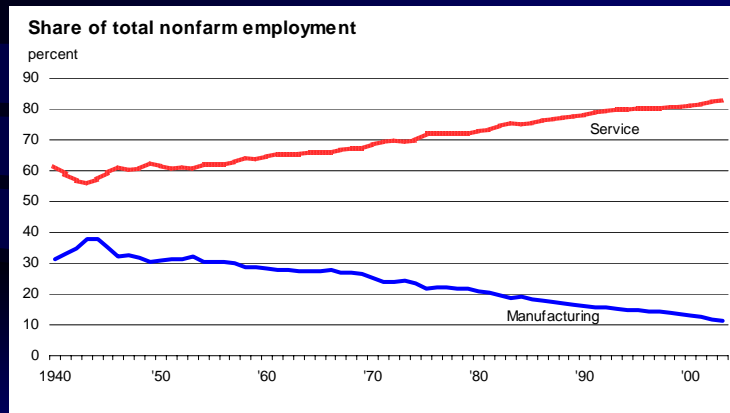
**The number of jobs in manufacturing has been relatively stable over this period, averaging 0.1% growth per year since 1947**



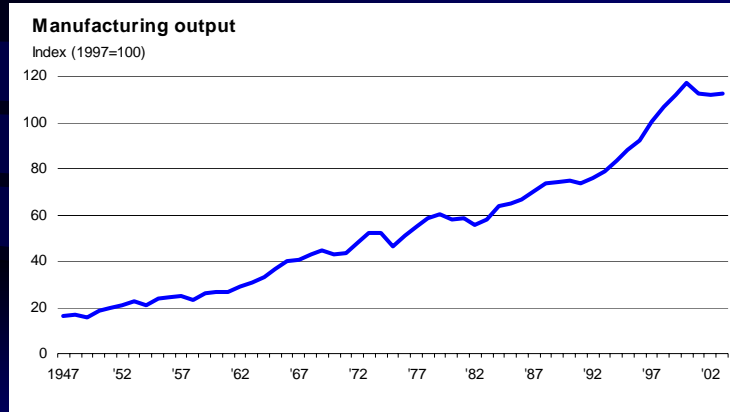
**The service sector has grown by more than fivefold over this period, averaging 2.5% growth per year since 1947**



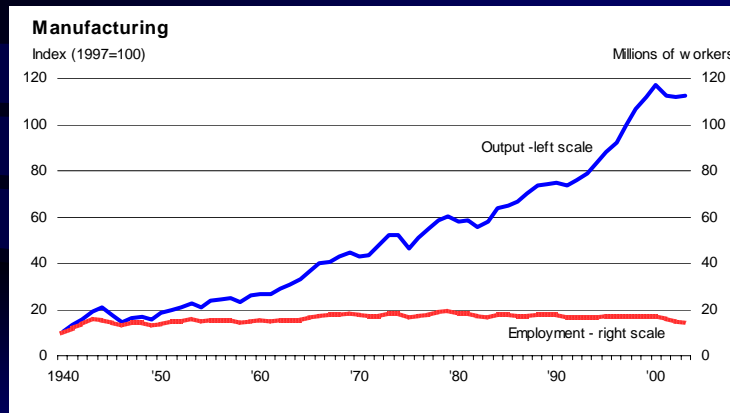
**This has decreased manufacturing's share of total jobs and increased the service sector's share**



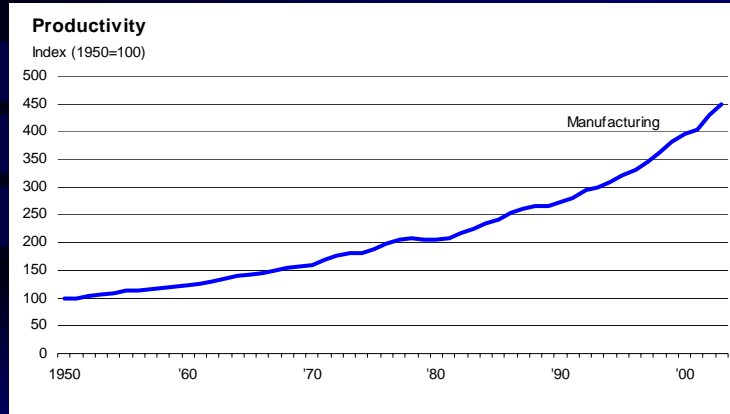
**While manufacturing employment was flat over the past 50 years, manufacturing output increased by 3.7% per year**



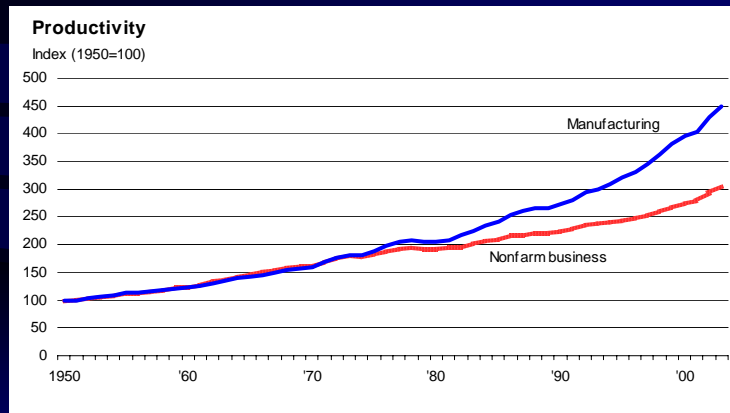
**This translated into nearly a 600 percent increase over this time period**



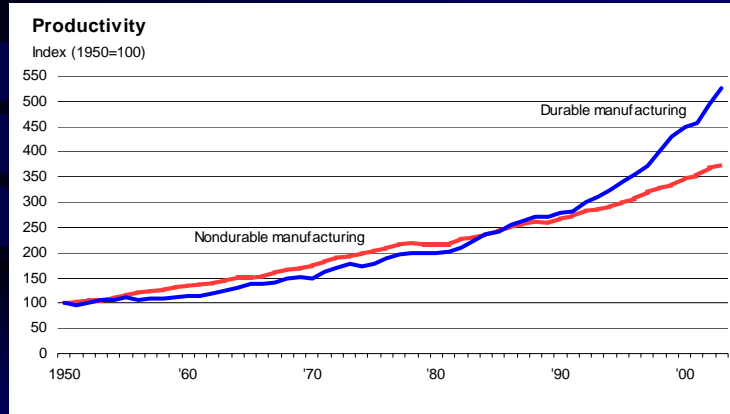
**The increase in output can be attributed to strong productivity growth experienced by the manufacturing sector**



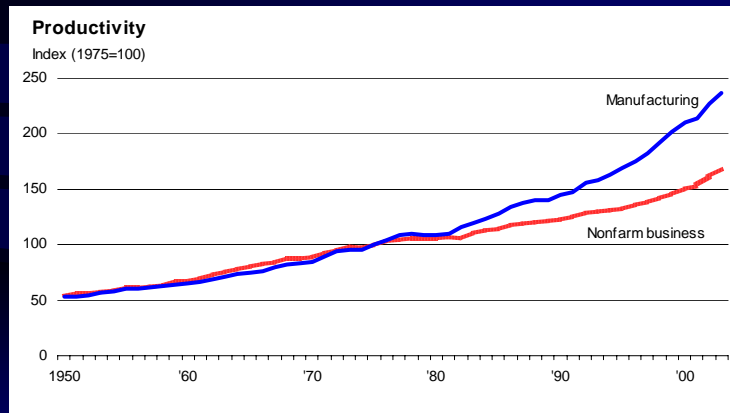
**Over the past 50 years productivity in the manufacturing sector increased 2.9% per year, more than the 2.3% for the nonfarm business sector**



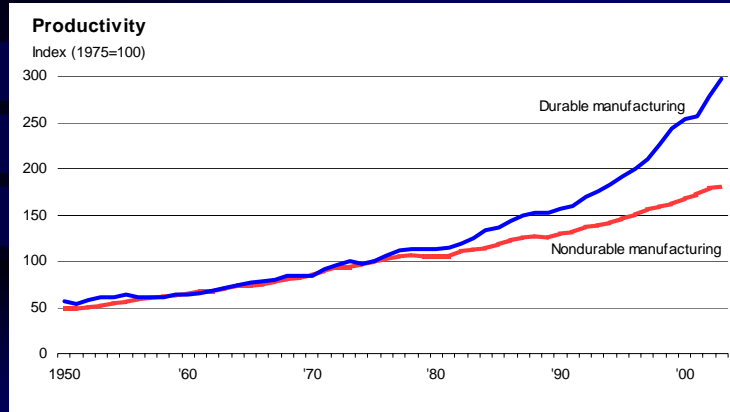
## Productivity in the durable manufacturing sector has been stronger than in nondurable manufacturing



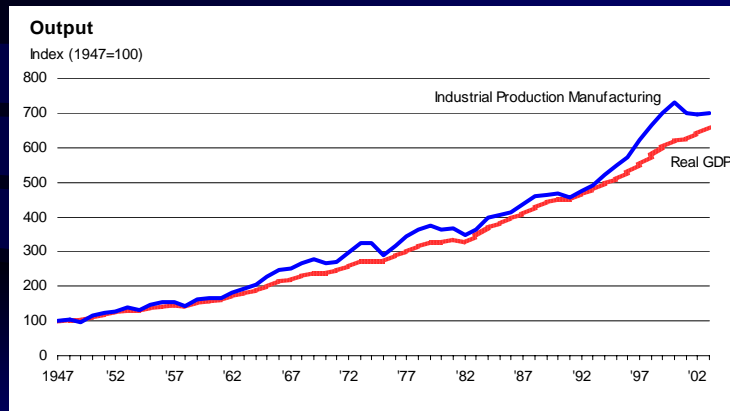
## The divergence in productivity appears to occur around the mid-70s



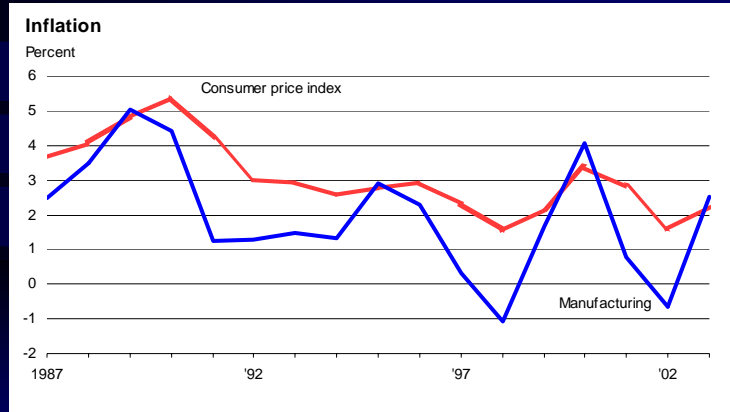
**This is especially apparent in durable manufacturing**



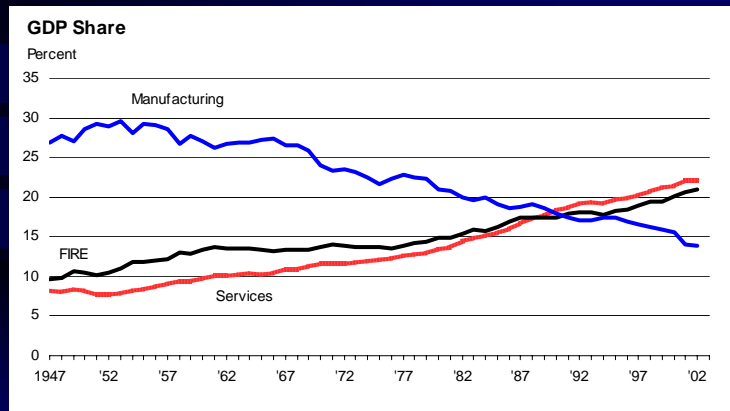
**Strong productivity growth has allowed the manufacturing sector of the U.S. economy to grow faster than the overall economy**



**Due to strong productivity growth,  
price increases in the manufacturing sector  
have been lower than overall price increases**



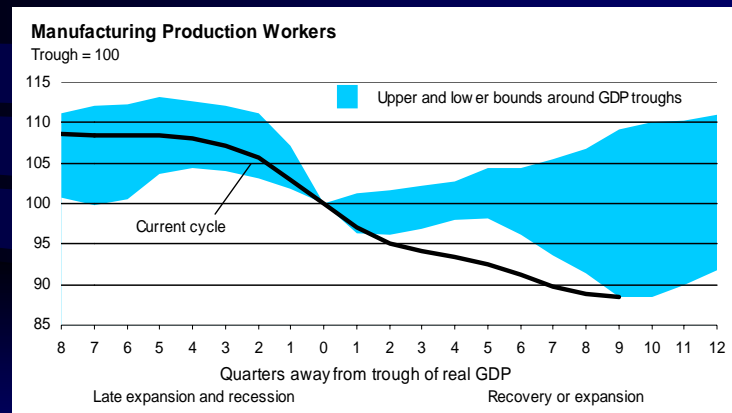
**The lower relative prices in the manufacturing  
sector has lead to manufacturing comprising a  
smaller share of GDP over time**



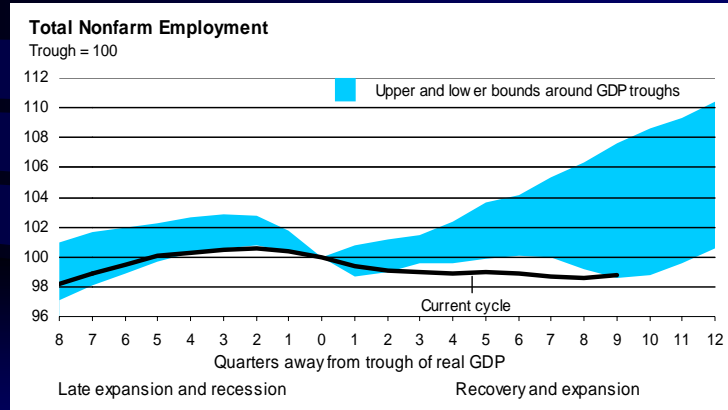


**The current doldrums in manufacturing employment are closely linked with the most recent economic recession**

**Manufacturing workers have suffered steep employment declines over the past few years**



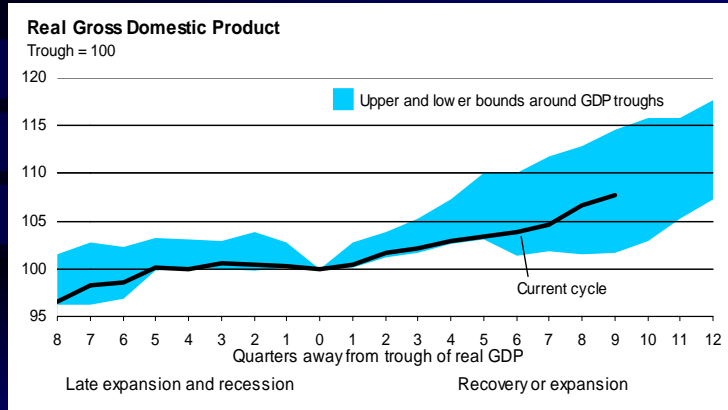
## But so has everyone else



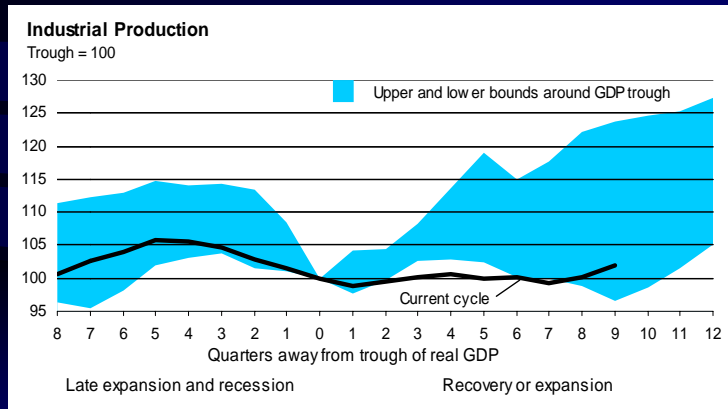
## The economy has been hit hard by a number of negative economic shocks over the past few years

- The equity market collapse that began in early 2000
- Soaring energy prices in late 2000 and again in late 2002
- The September 11, 2001 attack on the United States
- The corporate governance scandals that started in late 2001
- The geopolitical uncertainties regarding Iraq that began in the summer of 2002

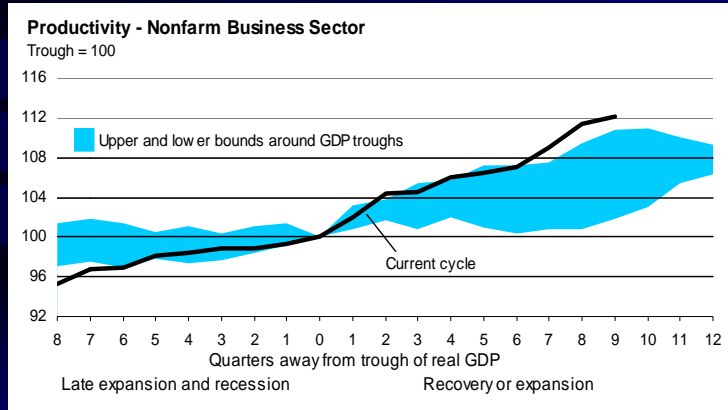
### These shocks hampered the current economic expansion



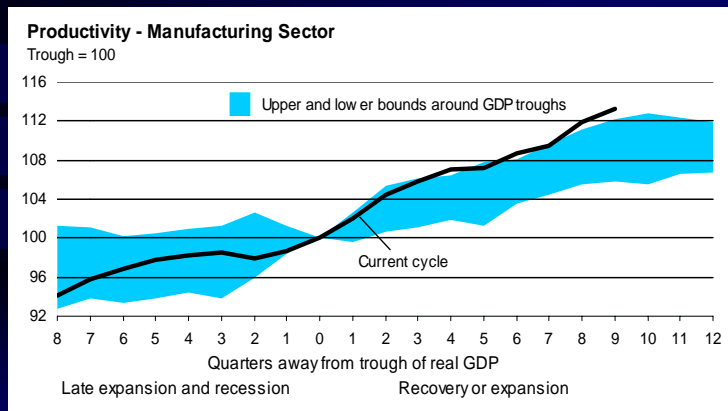
### The loss of manufacturing employment is consistent with the declines in overall manufacturing production



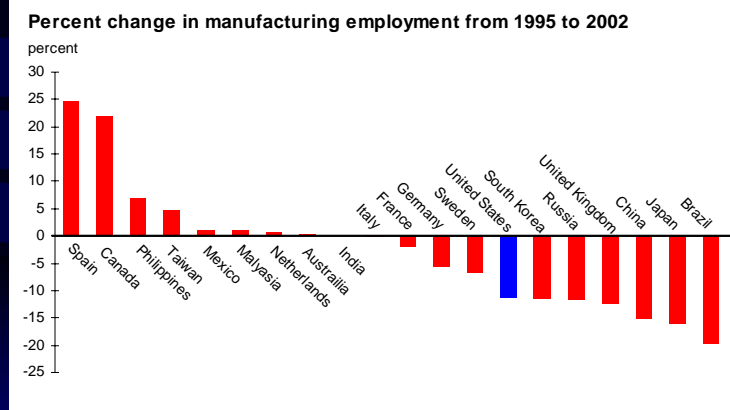
**Productivity in the overall economy has grown at a faster rate than during any previous expansion – this is a double edged sword**



**Productivity within the manufacturing sector has also been growing at a faster rate than during any previous expansion**

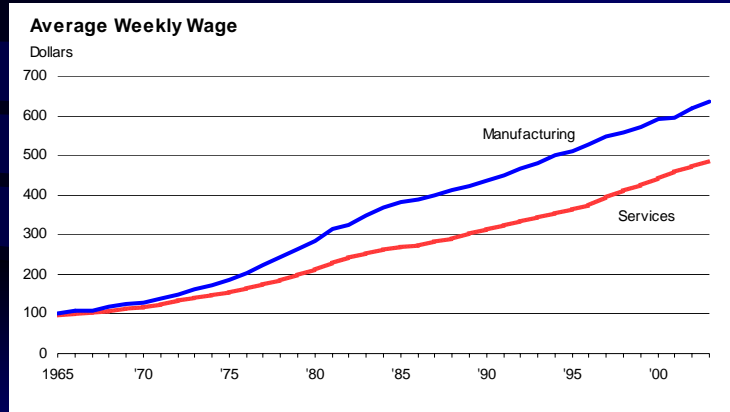


**Recent manufacturing employment losses have occurred across a number of countries – among 20 big economies, 22 million jobs have been lost**

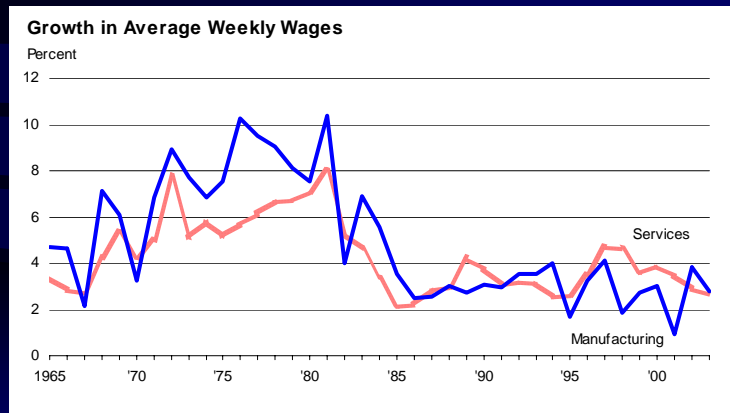


**Fact?**  
**Manufacturing jobs are higher paying jobs,  
and if we lose these jobs,  
we will become a nation of  
hamburger flippers**

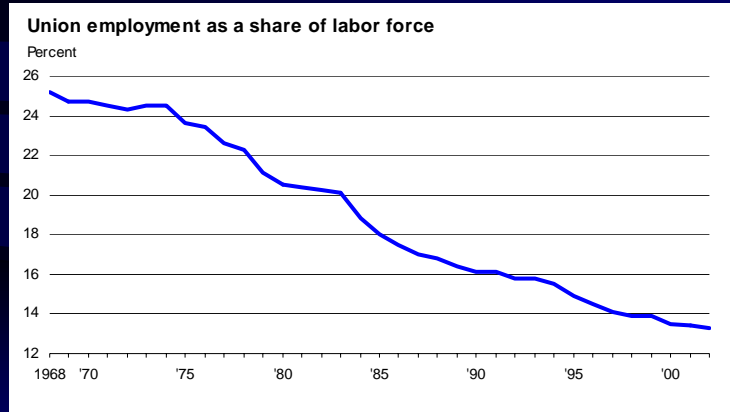
## Wages are higher in the manufacturing sector



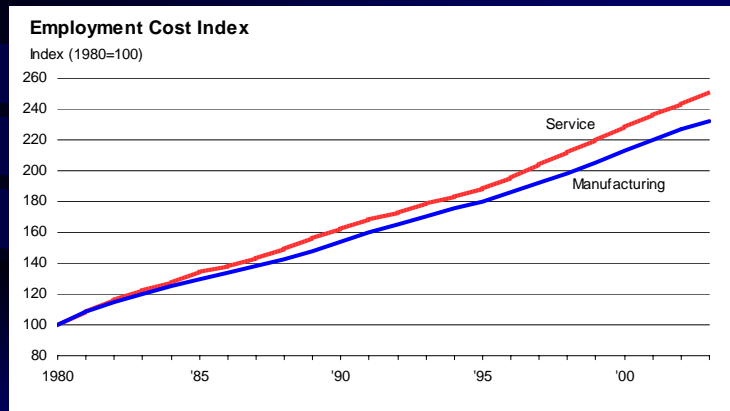
However, over the last fifteen years, service sector wages have been growing at a faster rate – 2.9% per year for manufacturing vs. 3.4% per year for services



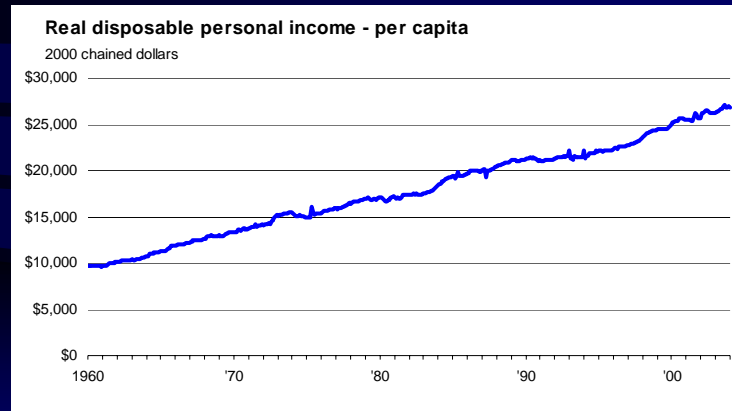
**Union membership has played a major role in manufacturing having higher relative wages and consequently encouraging the substitution away from labor to capital**



**Since 1980, employment cost increases in the service sector has exceeded the manufacturing sector**



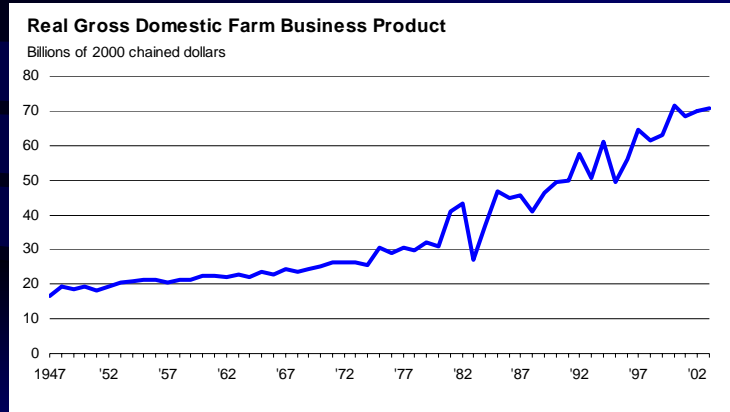
## Standards of living in the United States have never been higher



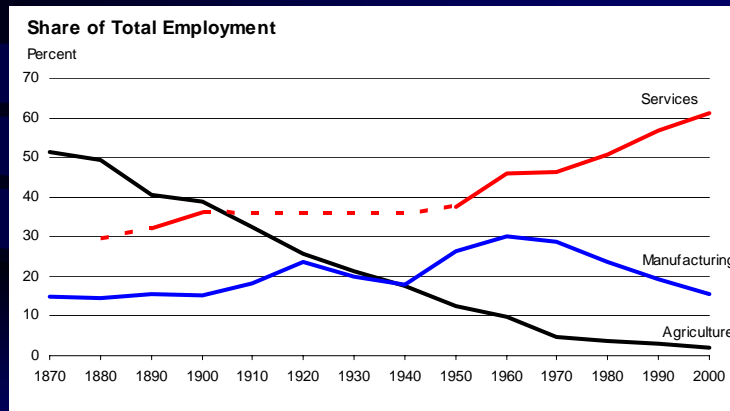
## Lessons from the farm sector



**We are producing more in our farm sector than at anytime in our history**



**And we are accomplished this remarkable feat with just 2.4% of our employment devoted to farming**



***Chicago Fed Letter*** - June 2003  
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Questions