



The State of Manufacturing

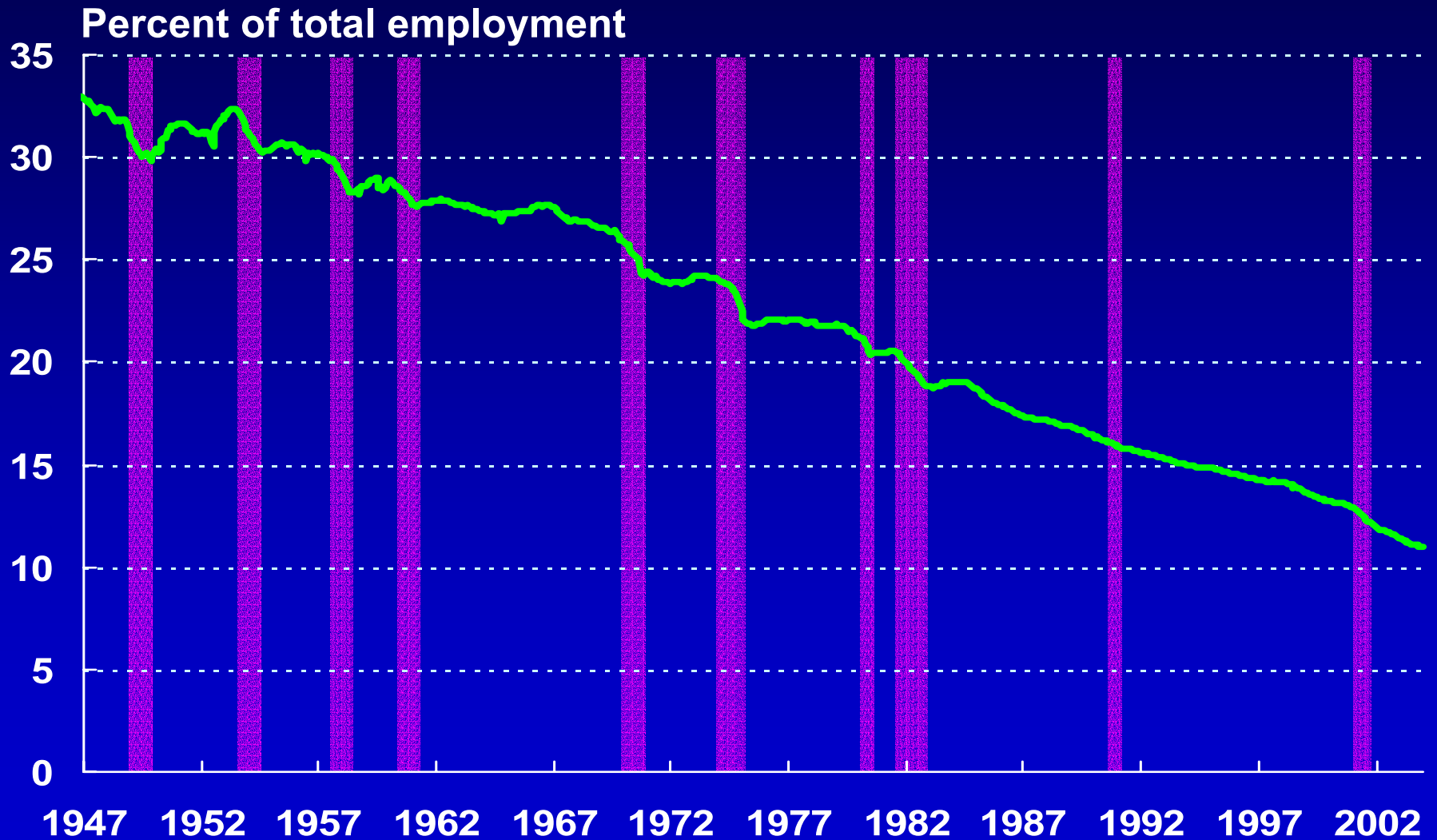
Mark Schweitzer
Federal Reserve Bank of Cleveland

February 18, 2004

Outline

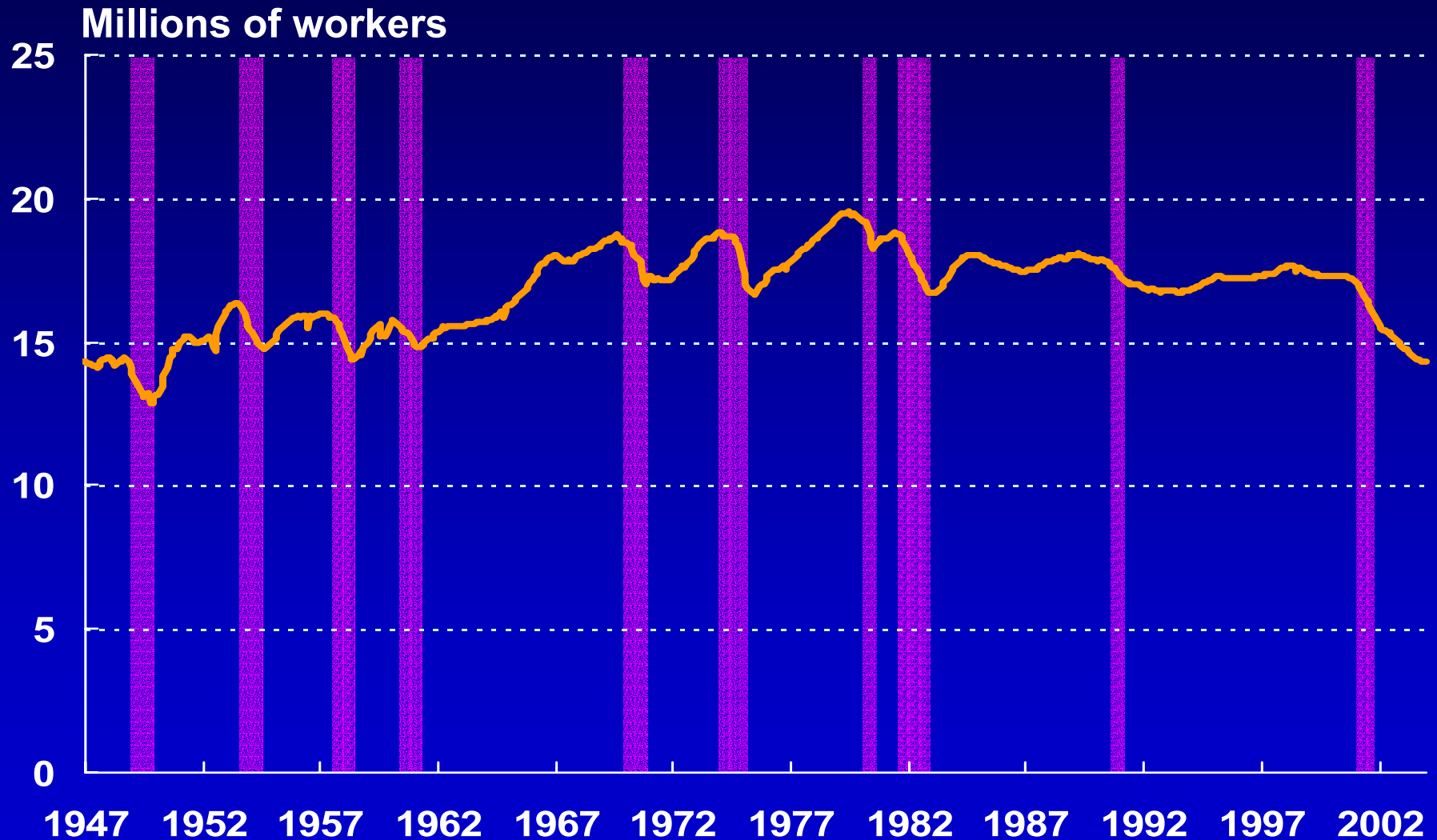
- Some important long run trends
- The business cycle and current situation
- Manufacturing productivity growth
- Wages in manufacturing

MANUFACTURING: SHARE OF EMPLOYMENT



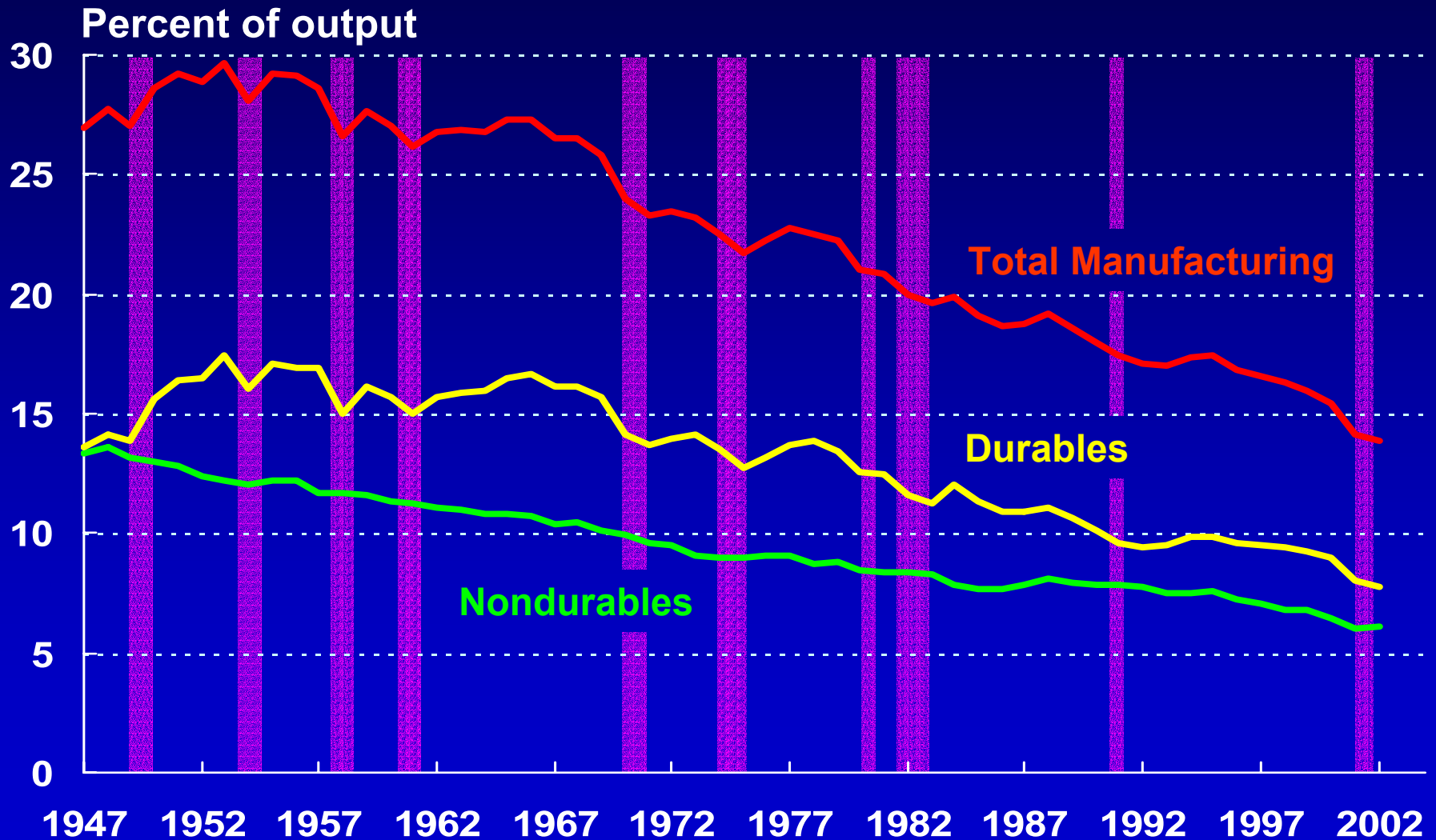
Note: Shading indicates periods of economic contraction.

MANUFACTURING: LEVEL OF EMPLOYMENT



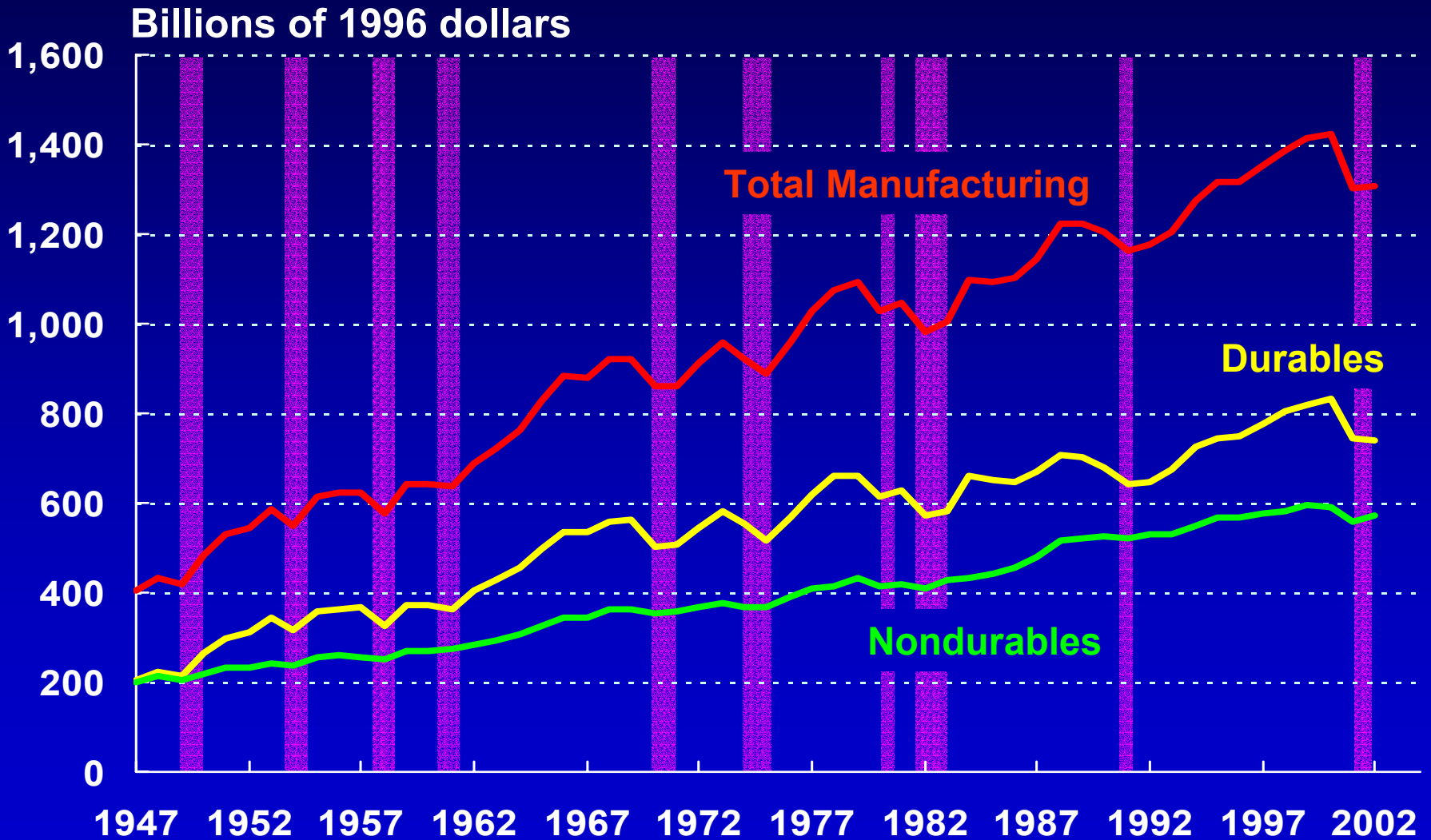
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MANUFACTURING: SHARE OF OUTPUT



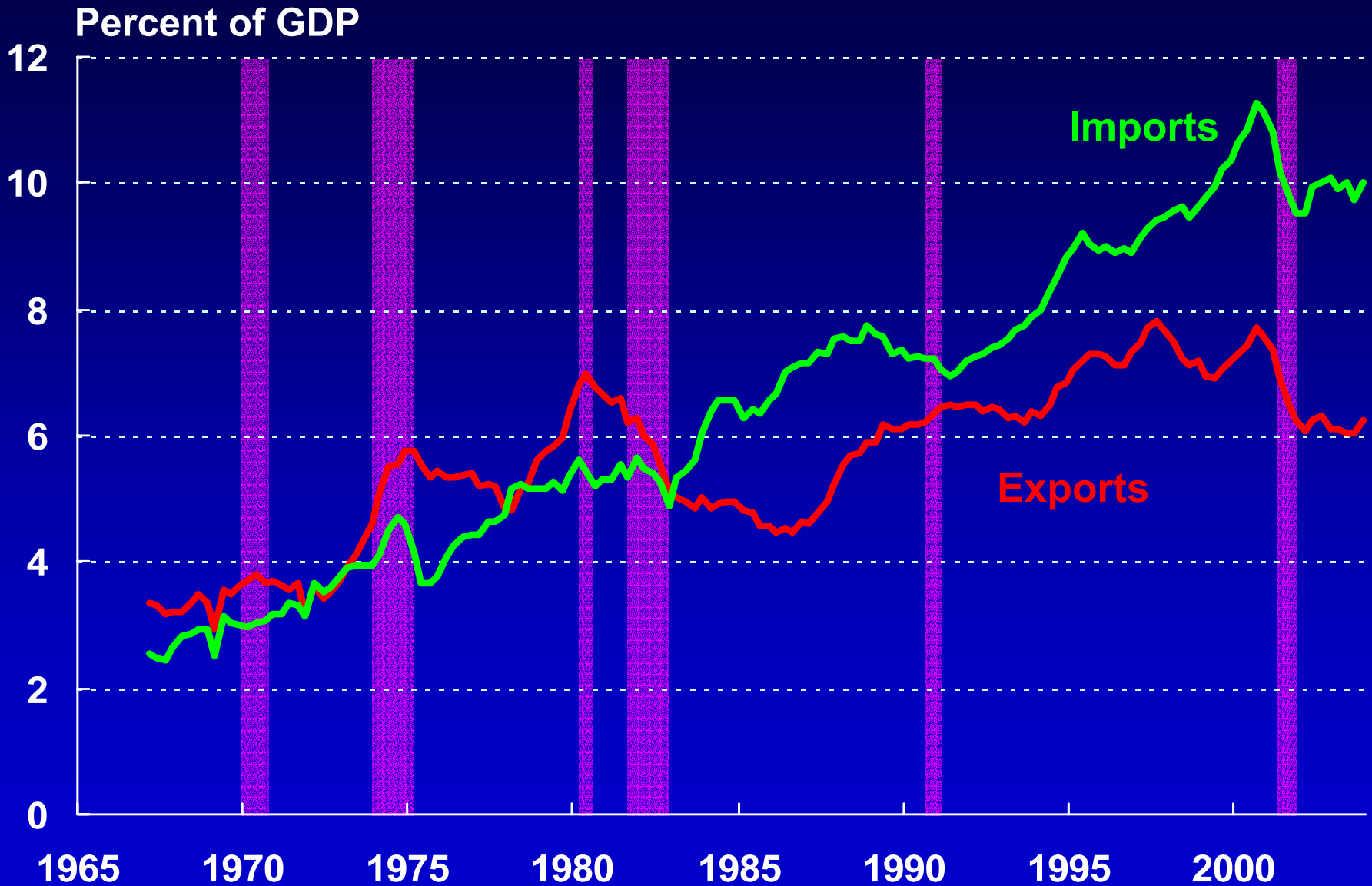
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MANUFACTURING: LEVEL OF OUTPUT



Note: Shading indicates periods of economic contraction.

IMPORTS AND EXPORTS*

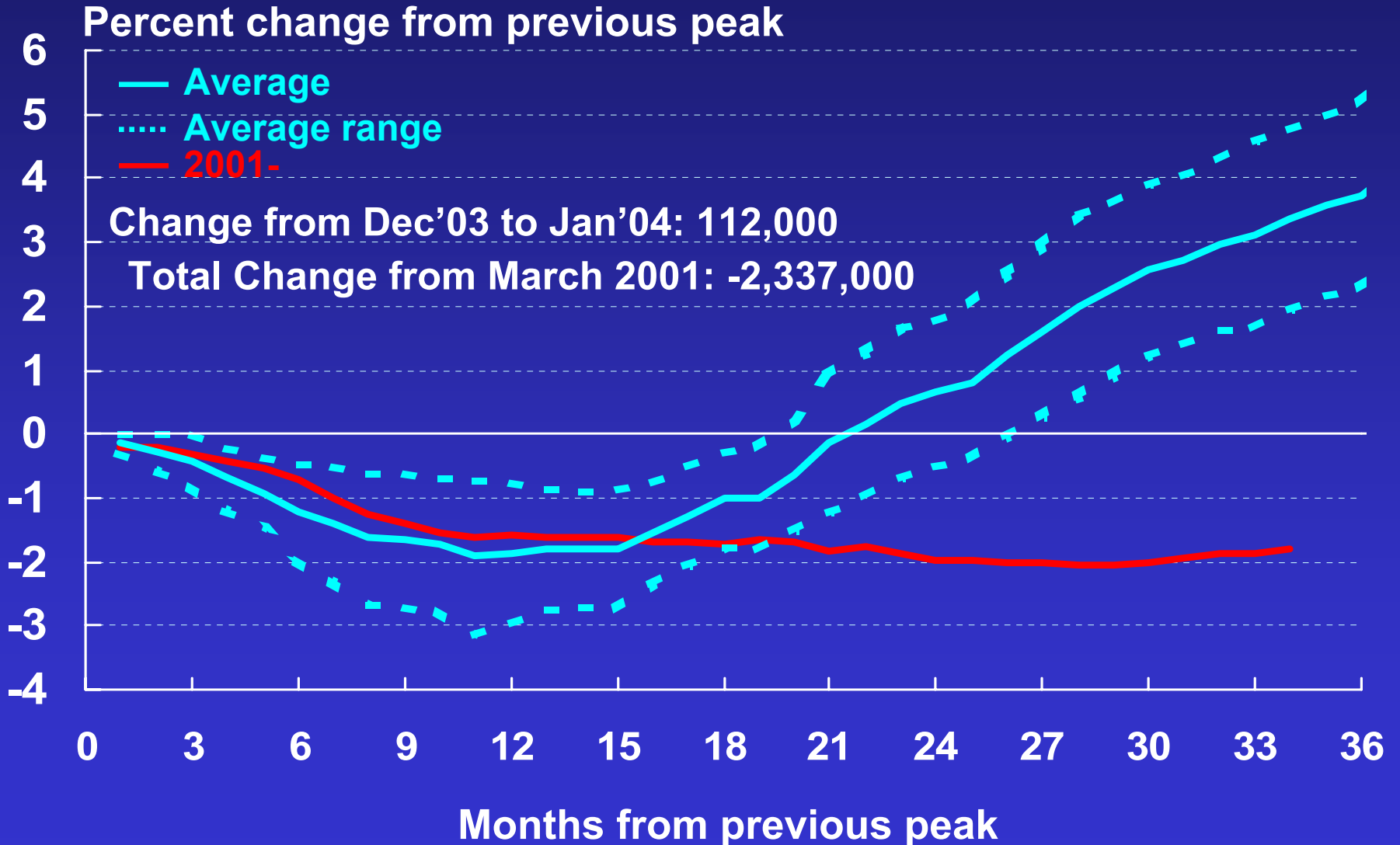


Note: Shading indicates periods of economic contraction; data exclude food and petroleum products.

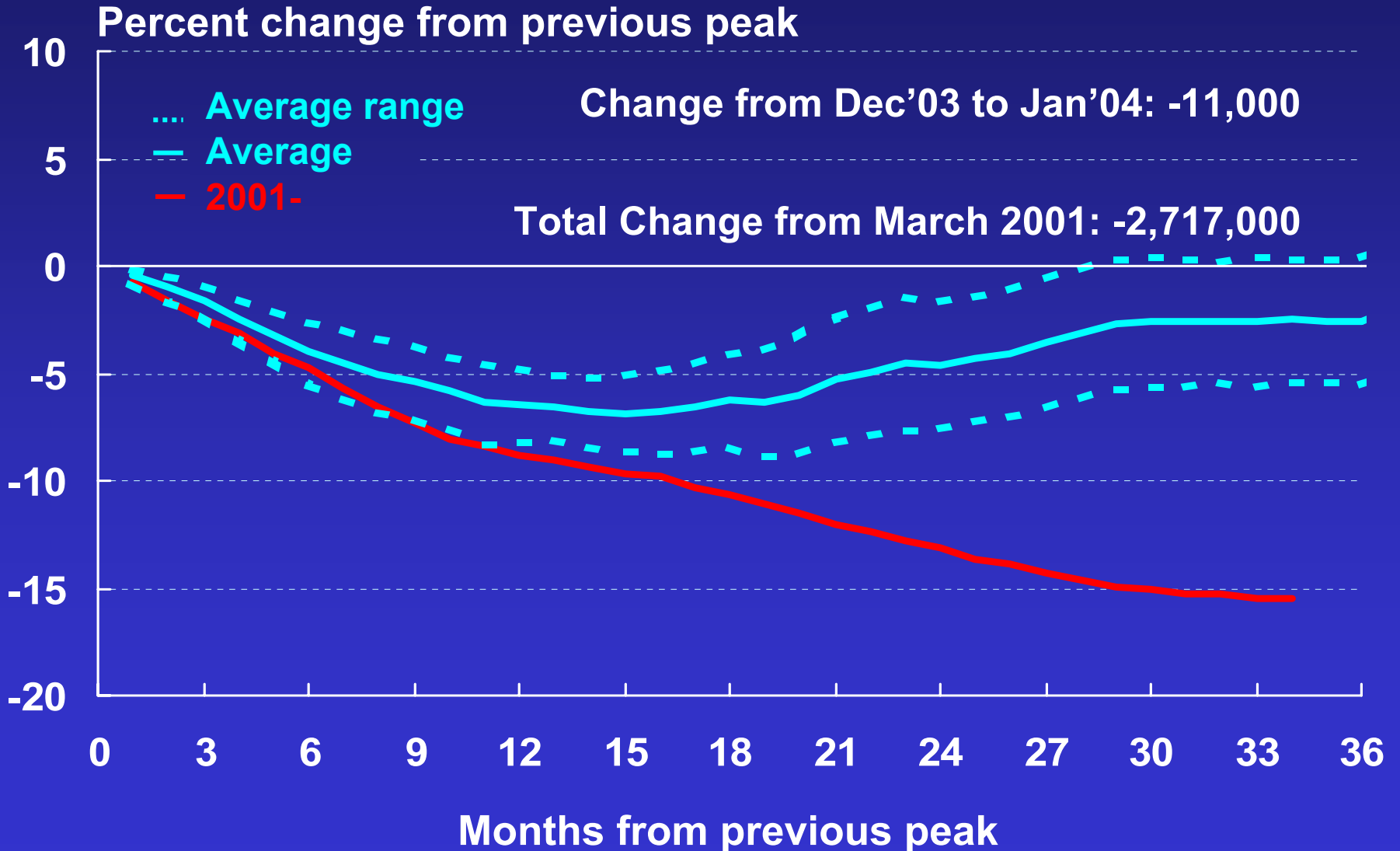
History Shows

- Fifty years of manufacturing data show the predominance of the long-run trends
- That said much of the long run changes are seen around periods of recession
- The current period has developed slowly in to one of the larger episodes

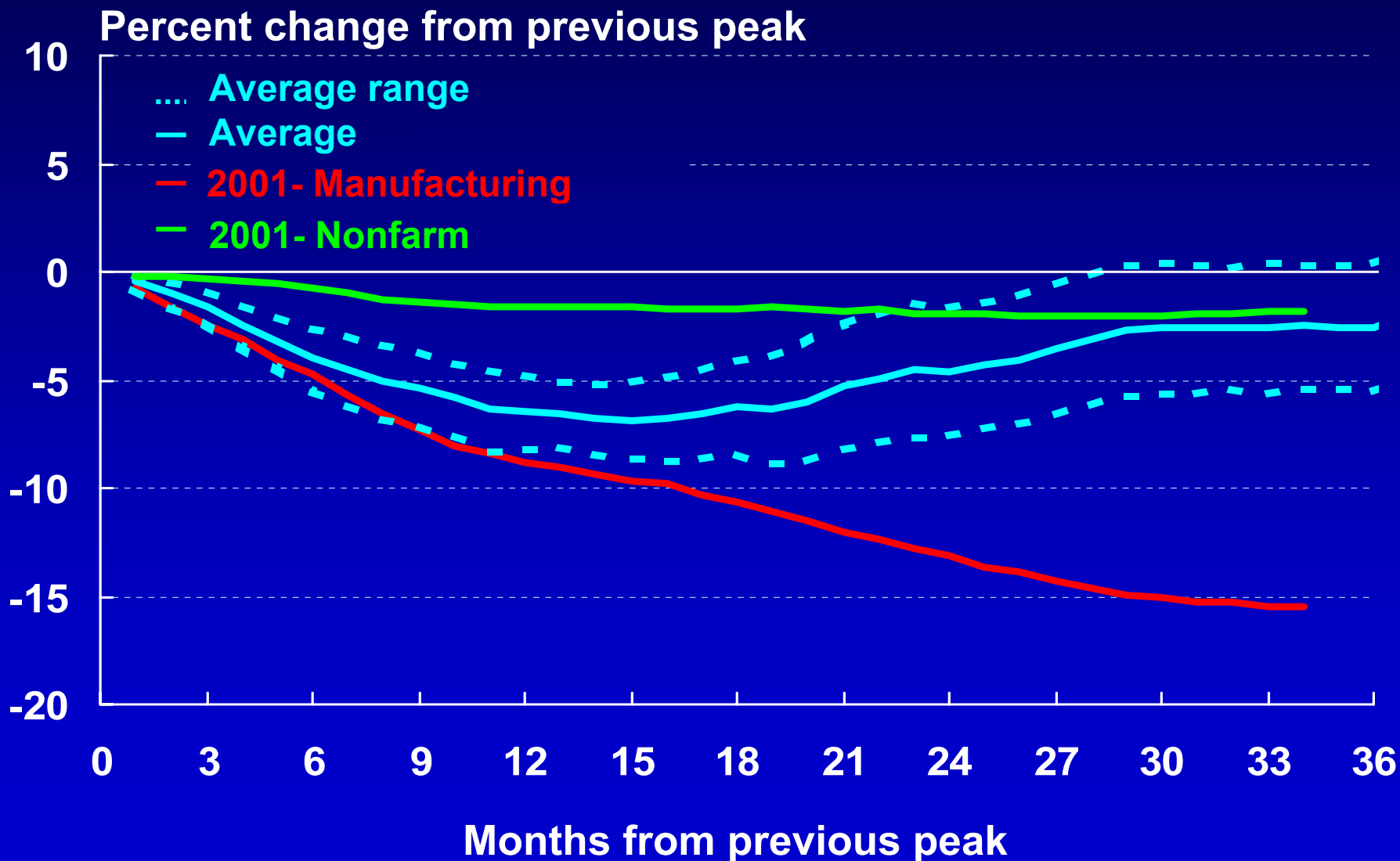
BUSINESS CYCLE PATTERN: NONFARM EMPLOYMENT



BUSINESS CYCLE PATTERN: MANUFACTURING EMPLOYMENT



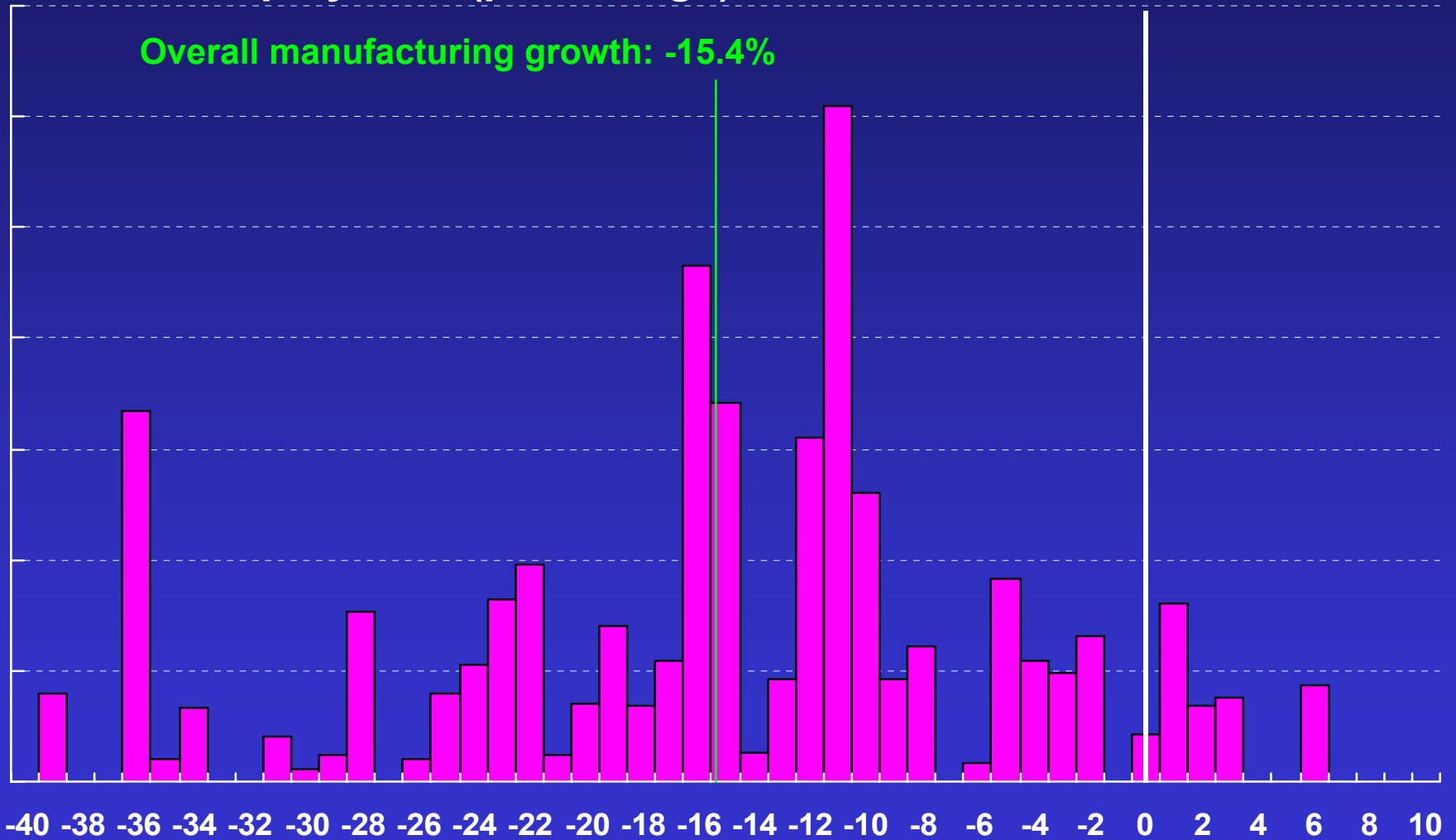
BUSINESS CYCLE PATTERN: MANUFACTURING EMPLOYMENT



MANUFACTURING GROWTH FROM PREVIOUS PEAK

Share of employment (percentage)

Overall manufacturing growth: -15.4%



Growth rate from the previous peak

US MANUFACTURING 2001-2003

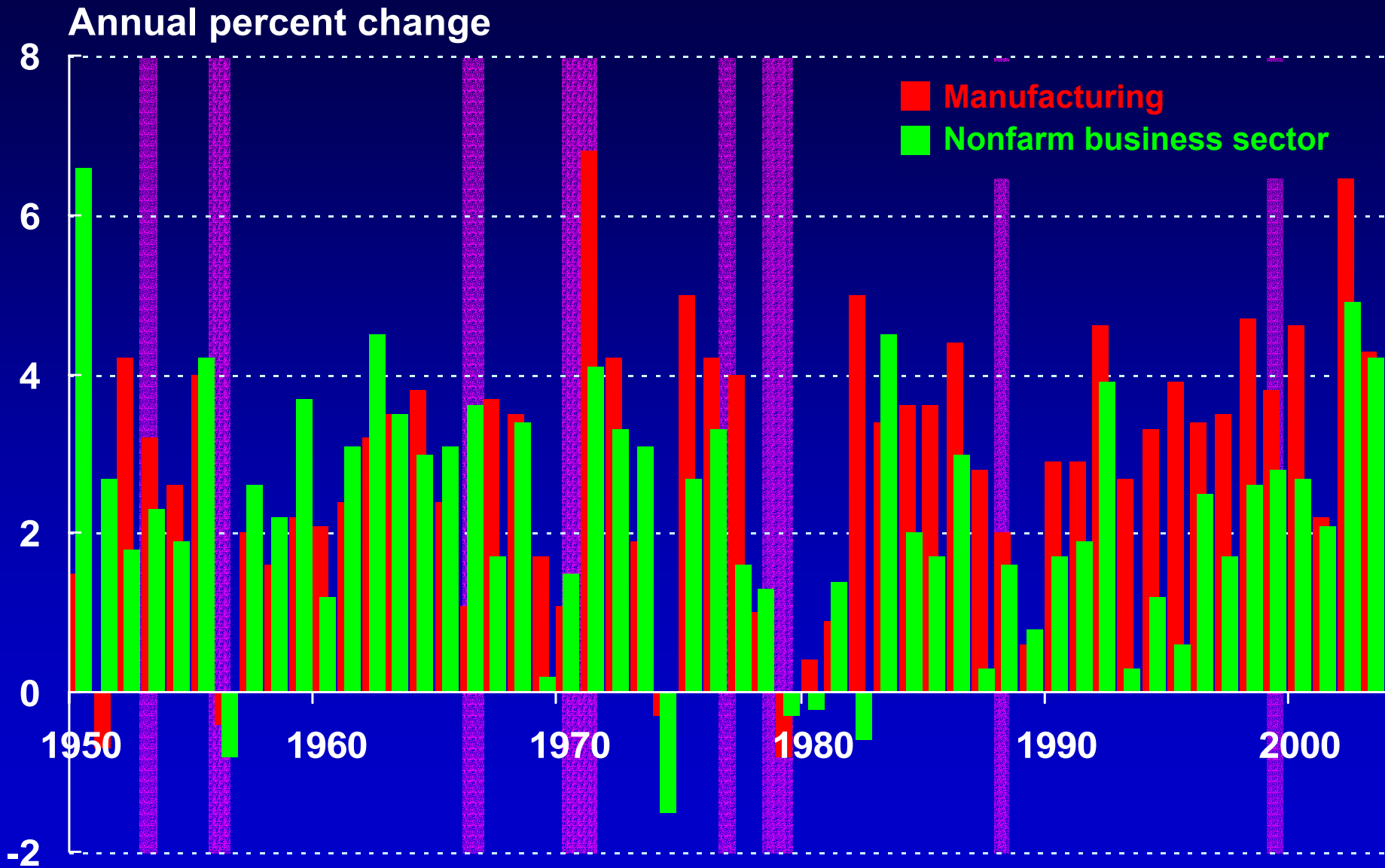
Losers

- **Communication equipment (-39%)**
- **Cut and sew apparel (-36.2%)**
- **Semiconductor and electronic (-35.7%)**
- **Apparel knitting mills (-35.5%)**
- **Accessories and other apparel (-34.3%)**

Gainers

- **Pharmaceuticals and medicines (6.1%)**
- **Sugar and confectionery products (3%)**
- **Other food products (2.9%)**
- **Tobacco and tobacco products (1.9%)**
- **Other transportation equipment (1.8%)**

MANUFACTURING PRODUCTIVITY

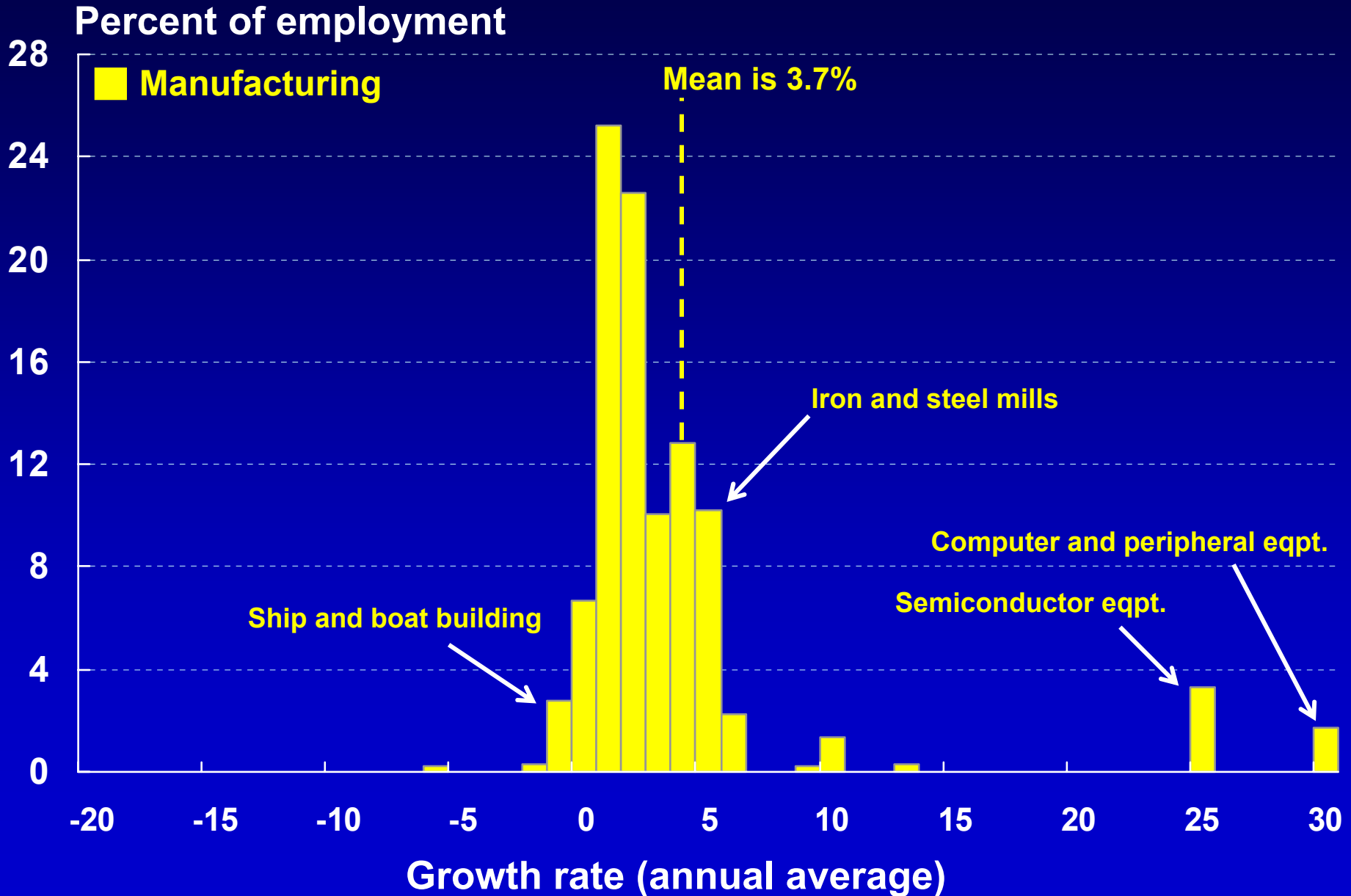


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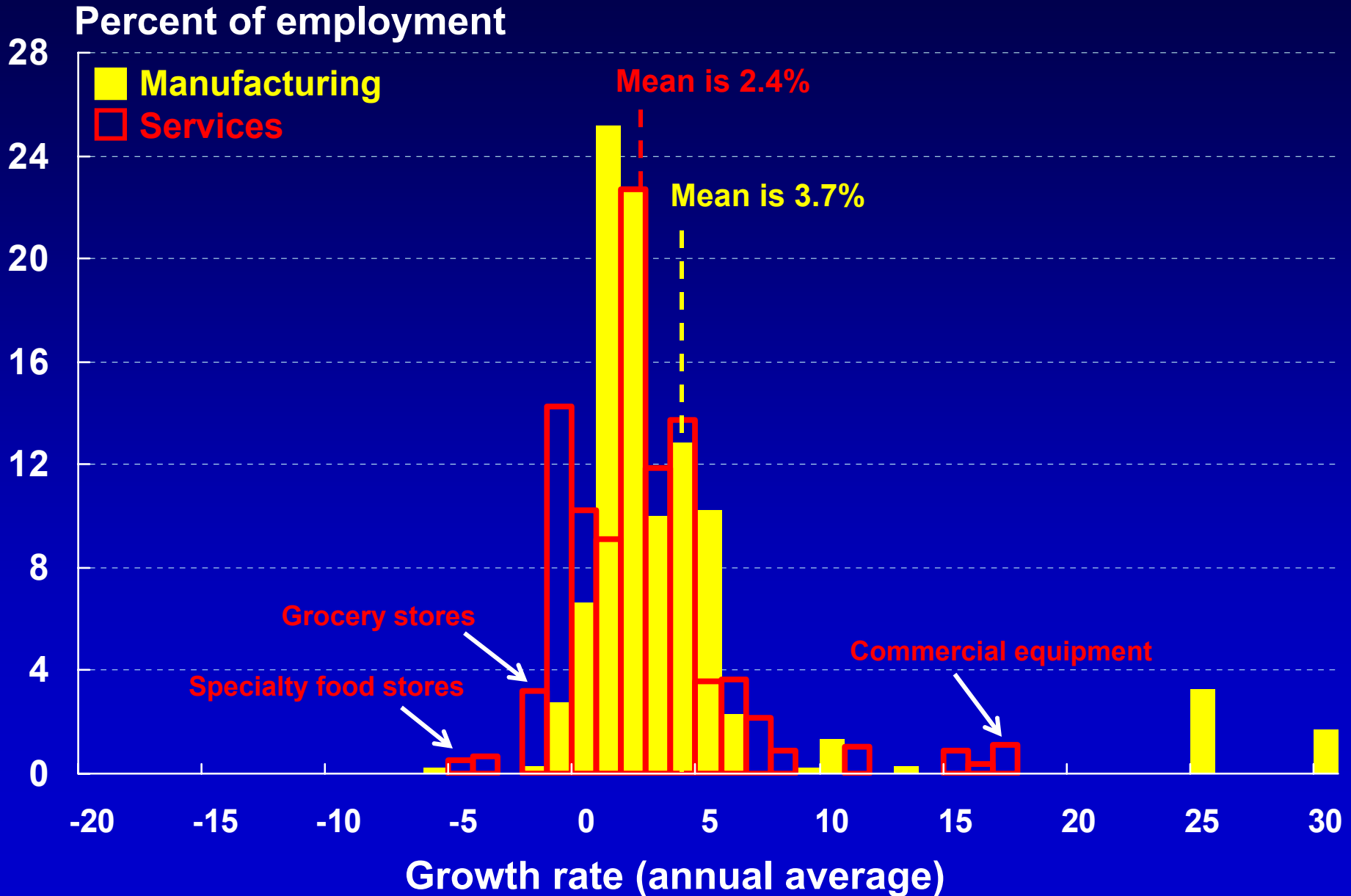
BLS INDUSTRY PRODUCTIVITY PROGRAM

- **The Bureau of Labor Statistics produces annual measures of productivity by detailed industry**
 - **Manufacturing Industries**
 - **Data provide nearly complete coverage**
 - **4-digit NAICS industries (e.g., basic chemicals or industrial machinery)**
 - **Services Industries**
 - **Data provide coverage of about half of the service sector**
 - **4-digit NAICS industries (e.g., full service restaurants or automotive repair and maintenance)**
 - **The industries for which data are available are the ones with the most reliable productivity measures**

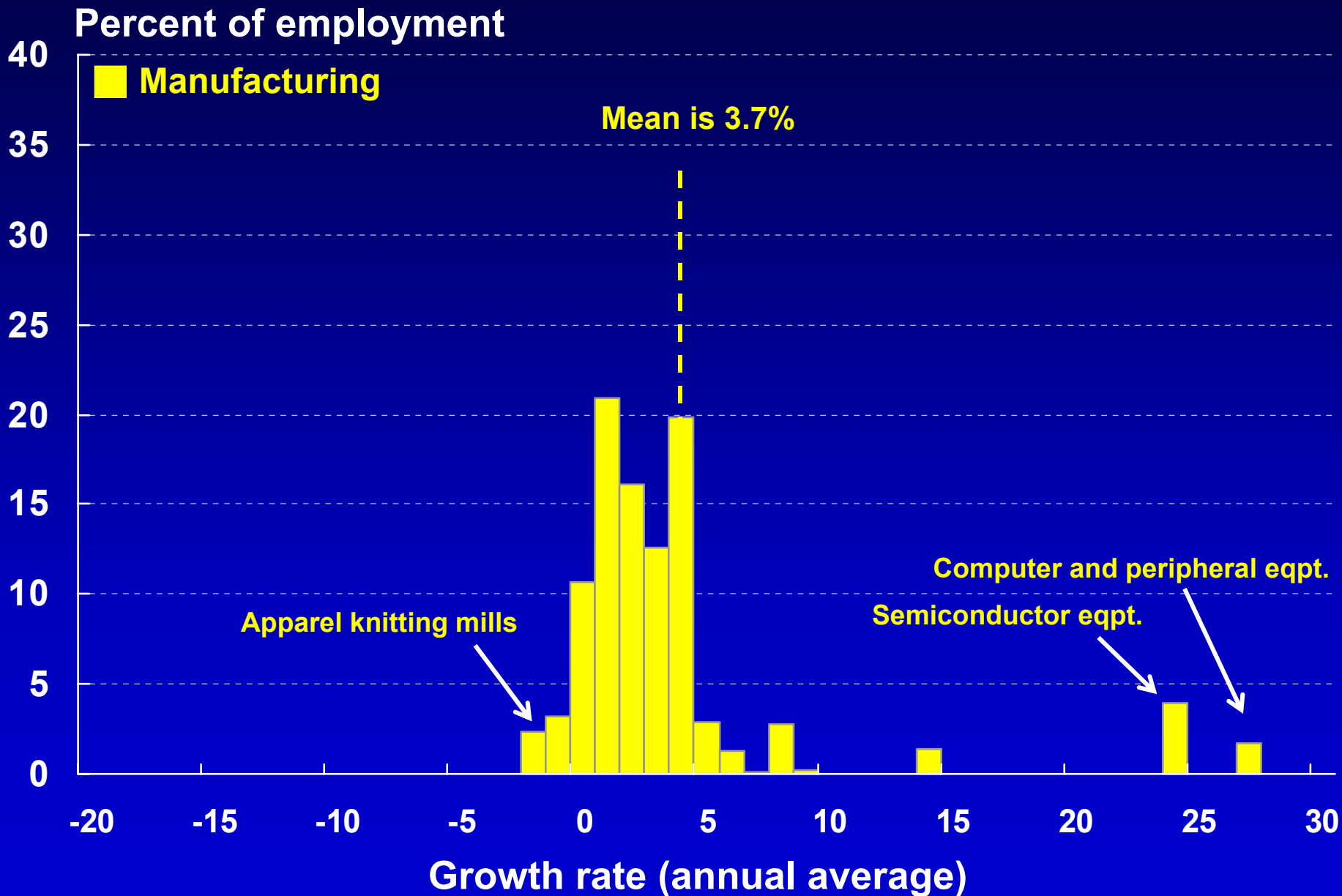
PRODUCTIVITY GROWTH 1990-1995



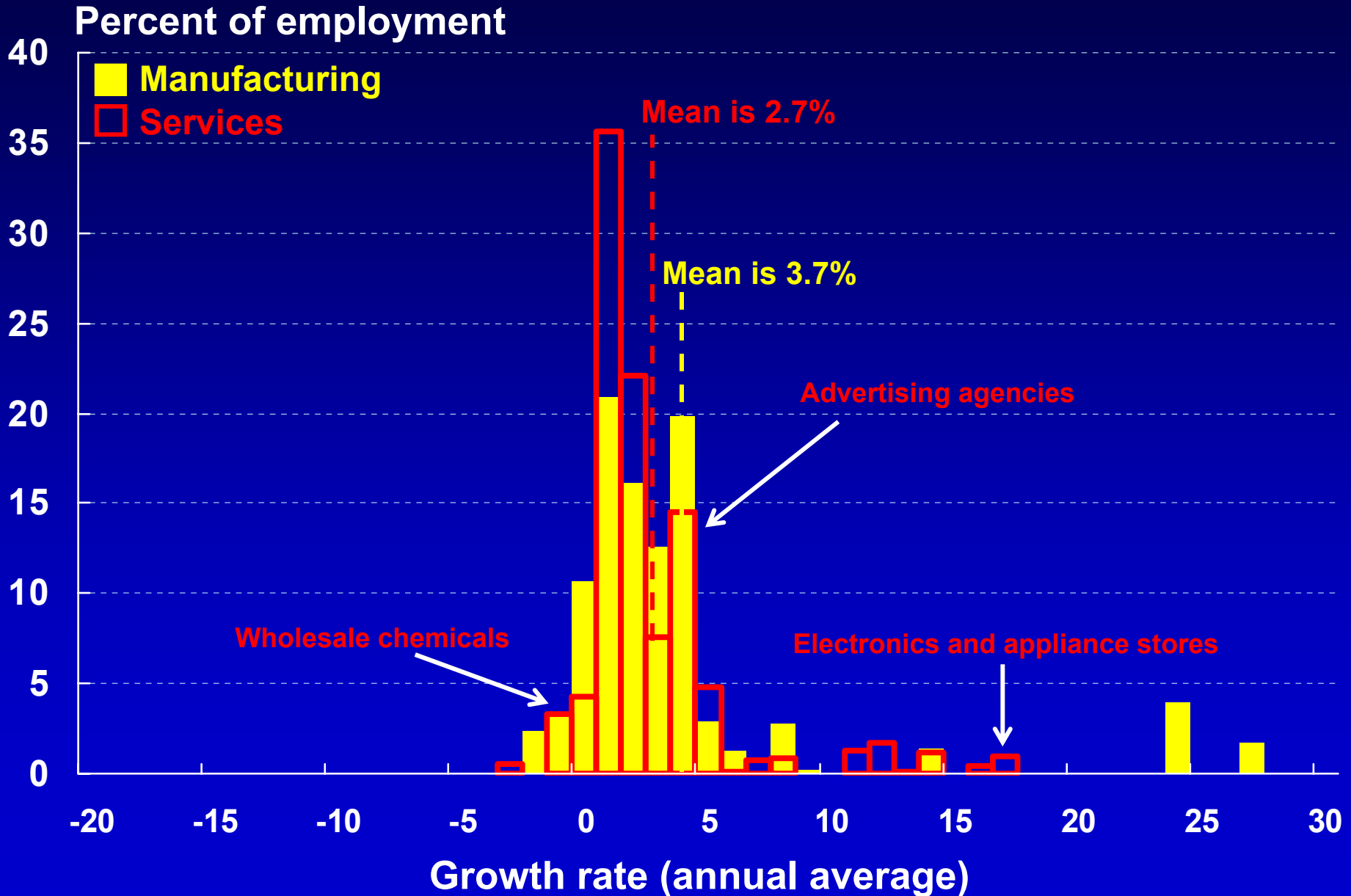
PRODUCTIVITY GROWTH 1990-1995



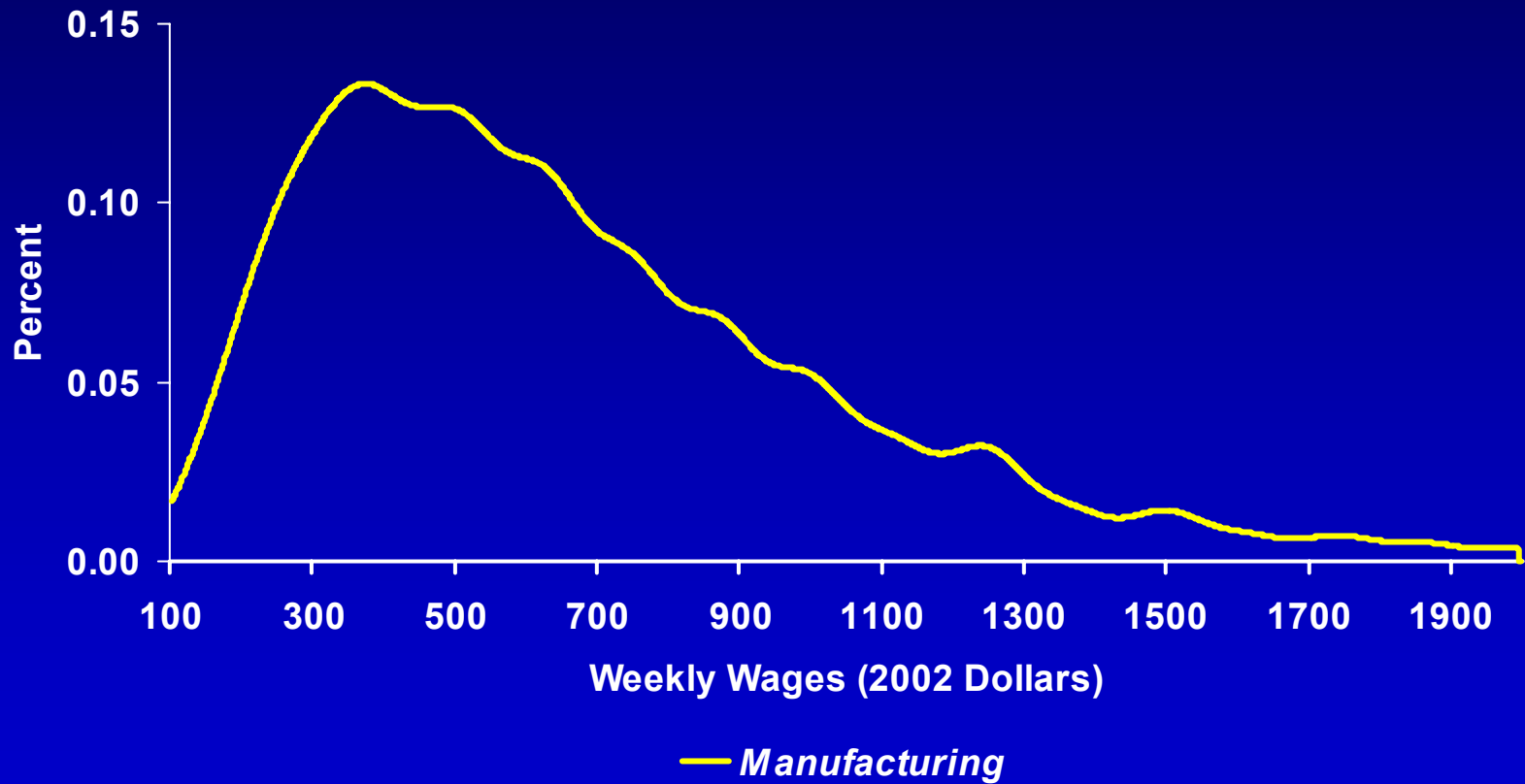
PRODUCTIVITY GROWTH 1996-2001



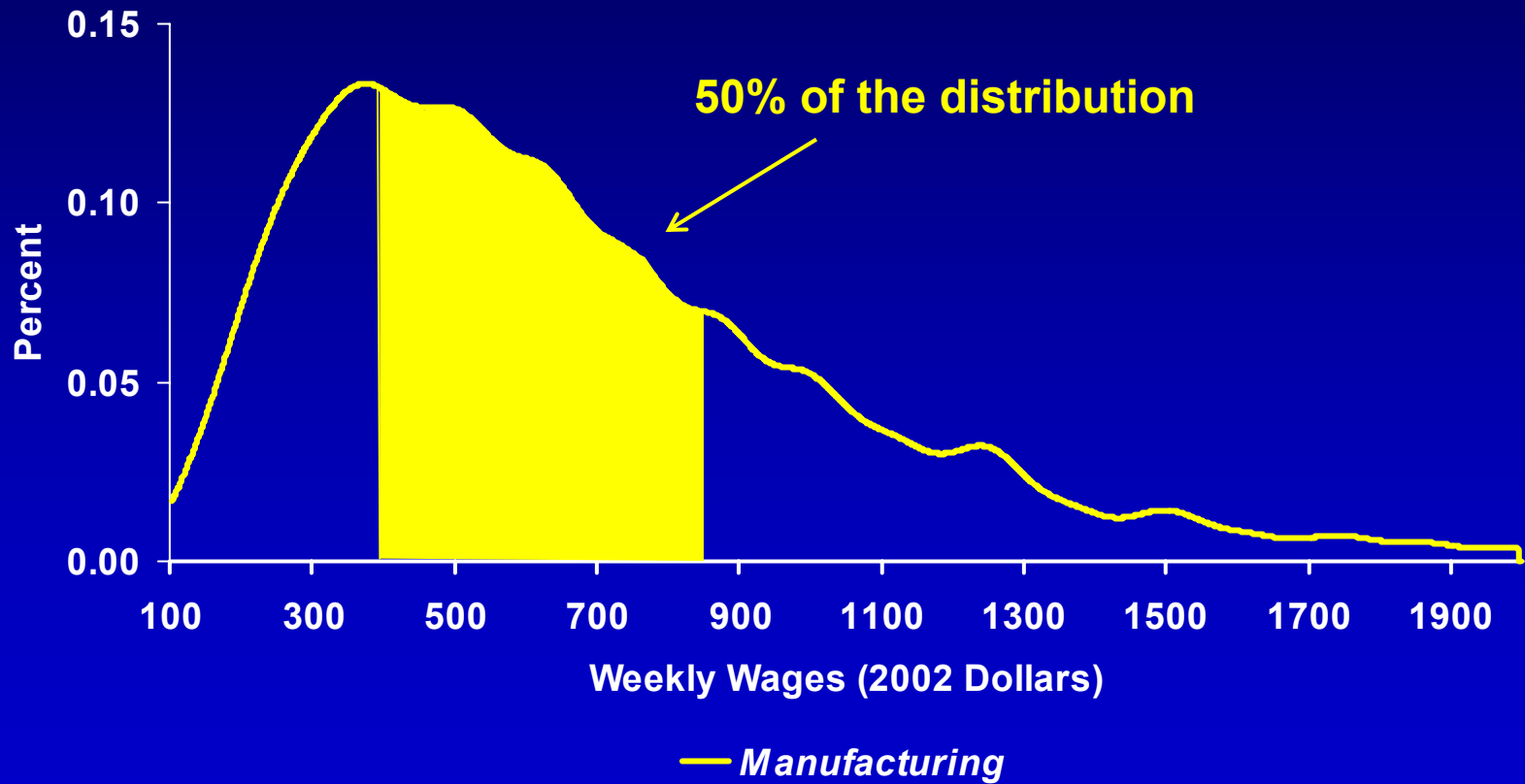
PRODUCTIVITY GROWTH 1996-2001



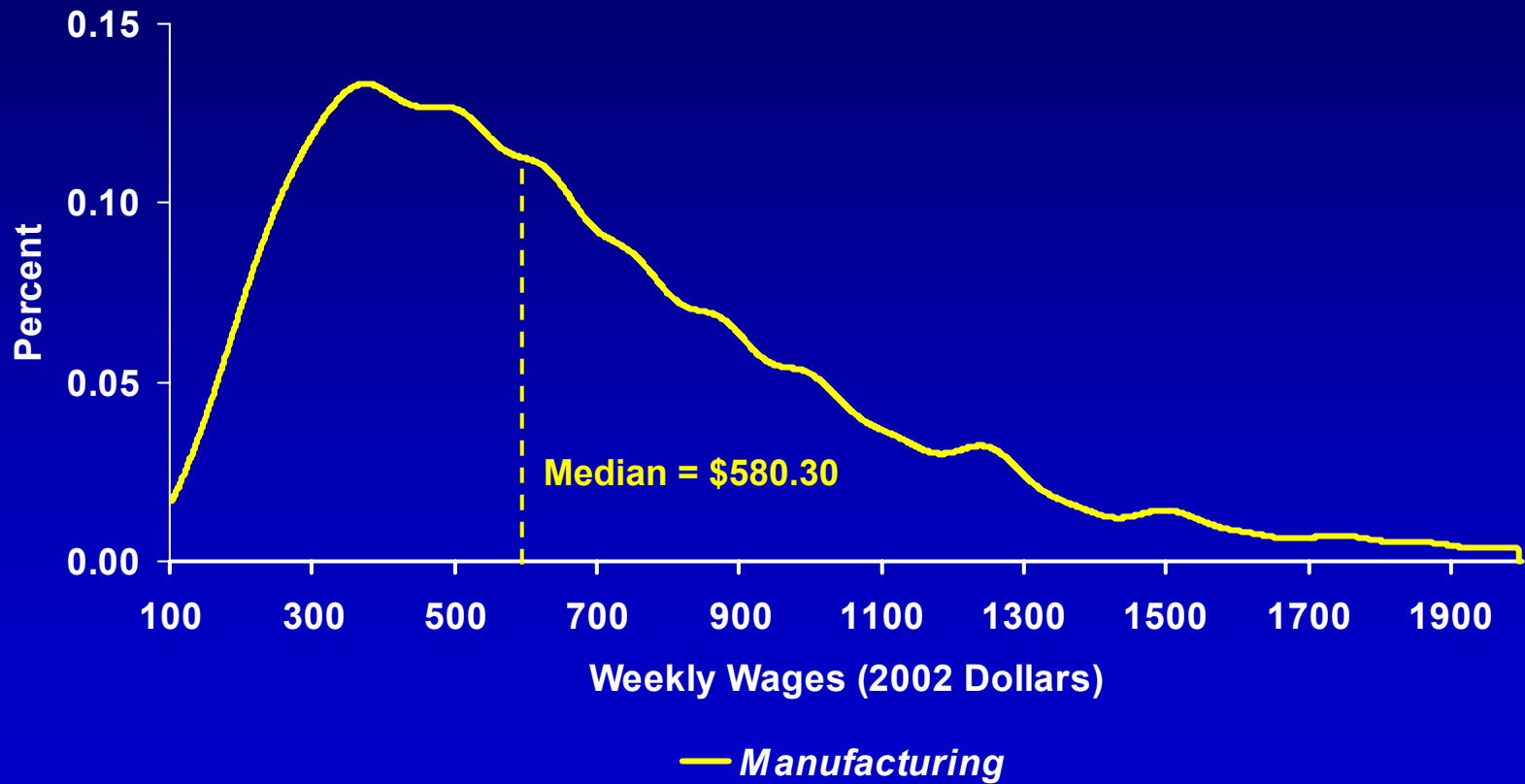
Wage Distributions: 1980



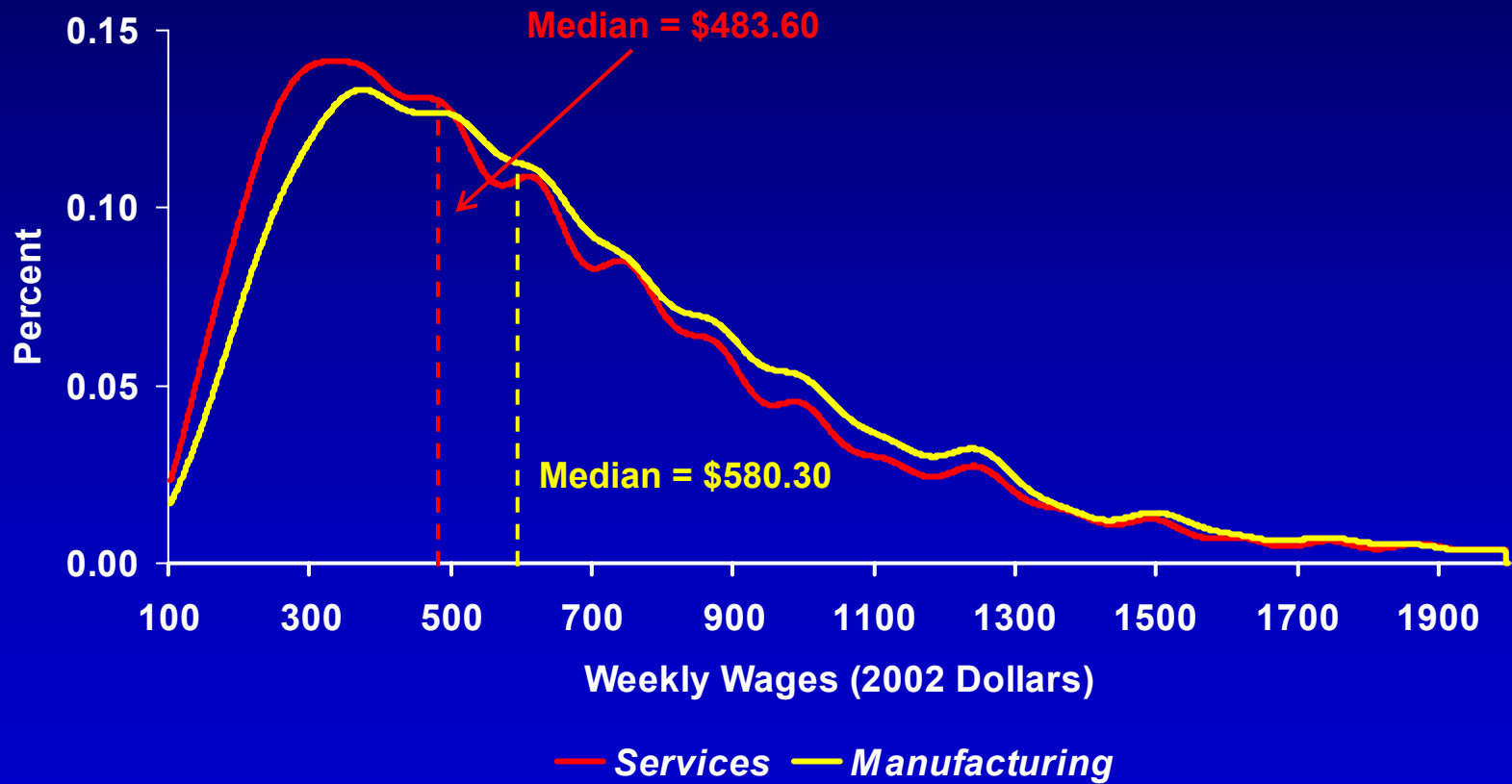
Wage Distributions: 1980



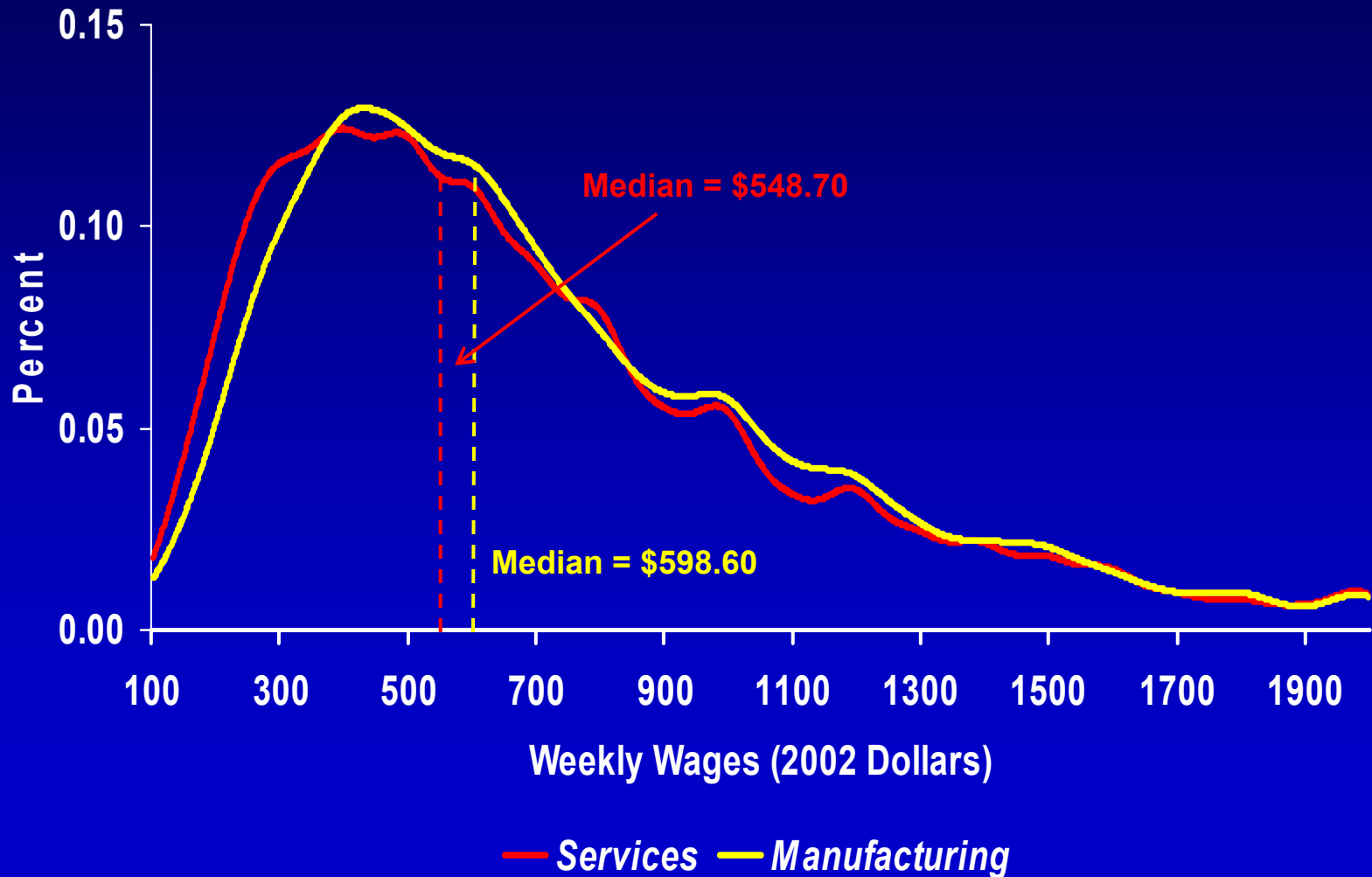
Wage Distributions: 1980



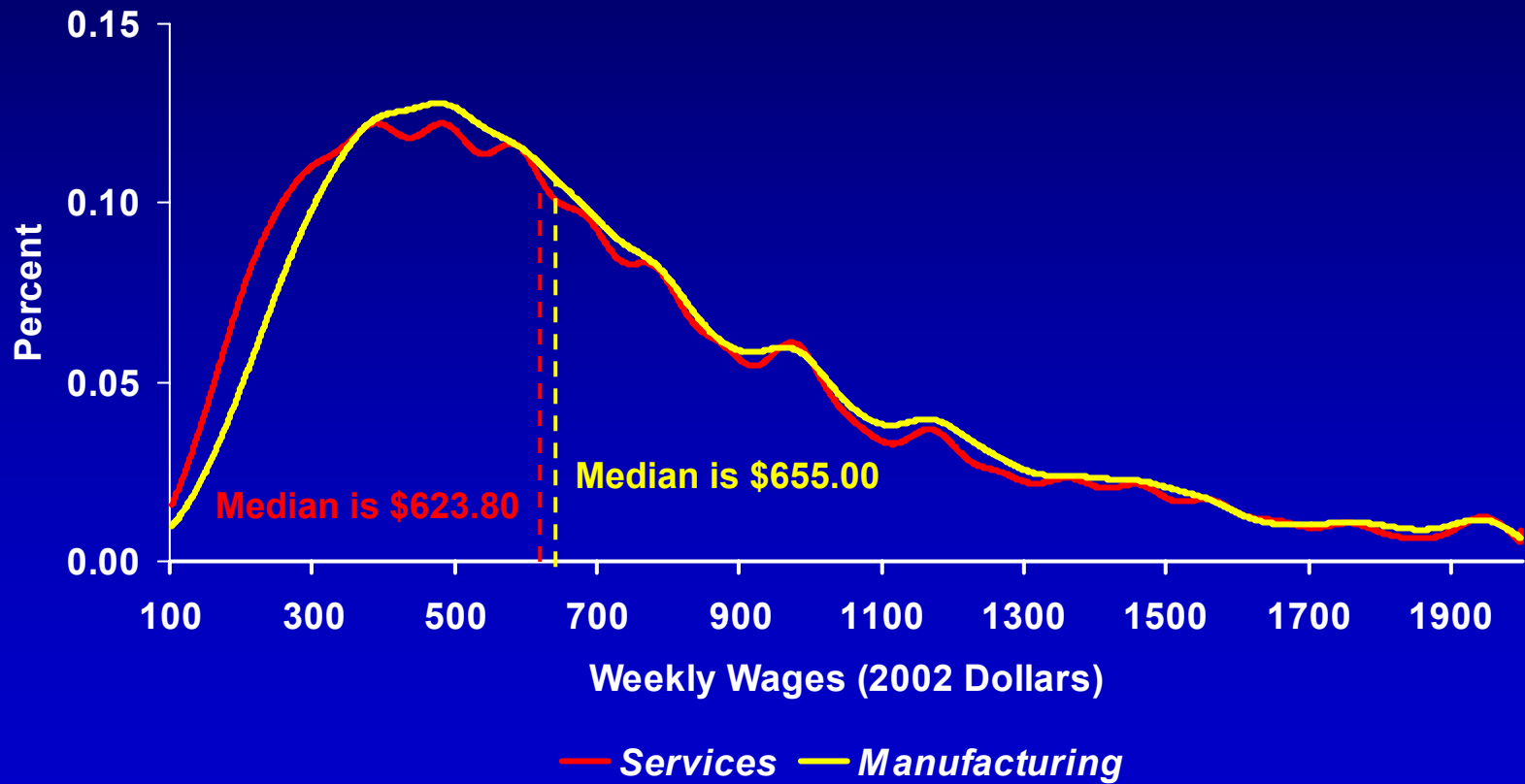
Wage Distributions: 1980



Wage Distributions: 1990



Wage Distributions: 2001



Conclusions

- Long-run factors like productivity and trade are critical to understanding the state of manufacturing
- Restructuring of manufacturing appears to have driven much of the decline in the latest recession and has abated little
- Fortunately, the differences between manufacturers and service providers is getting smaller



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