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Recent Developments in the U.S. Manufacturing Industry

Kevin L. Kliesen

Business Economist and Research Officer

September 7, 2017

Disclaimer

The views we will express today are our own and do not necessarily reflect the positions of the Federal Reserve Bank of St. Louis or the Federal Reserve System.

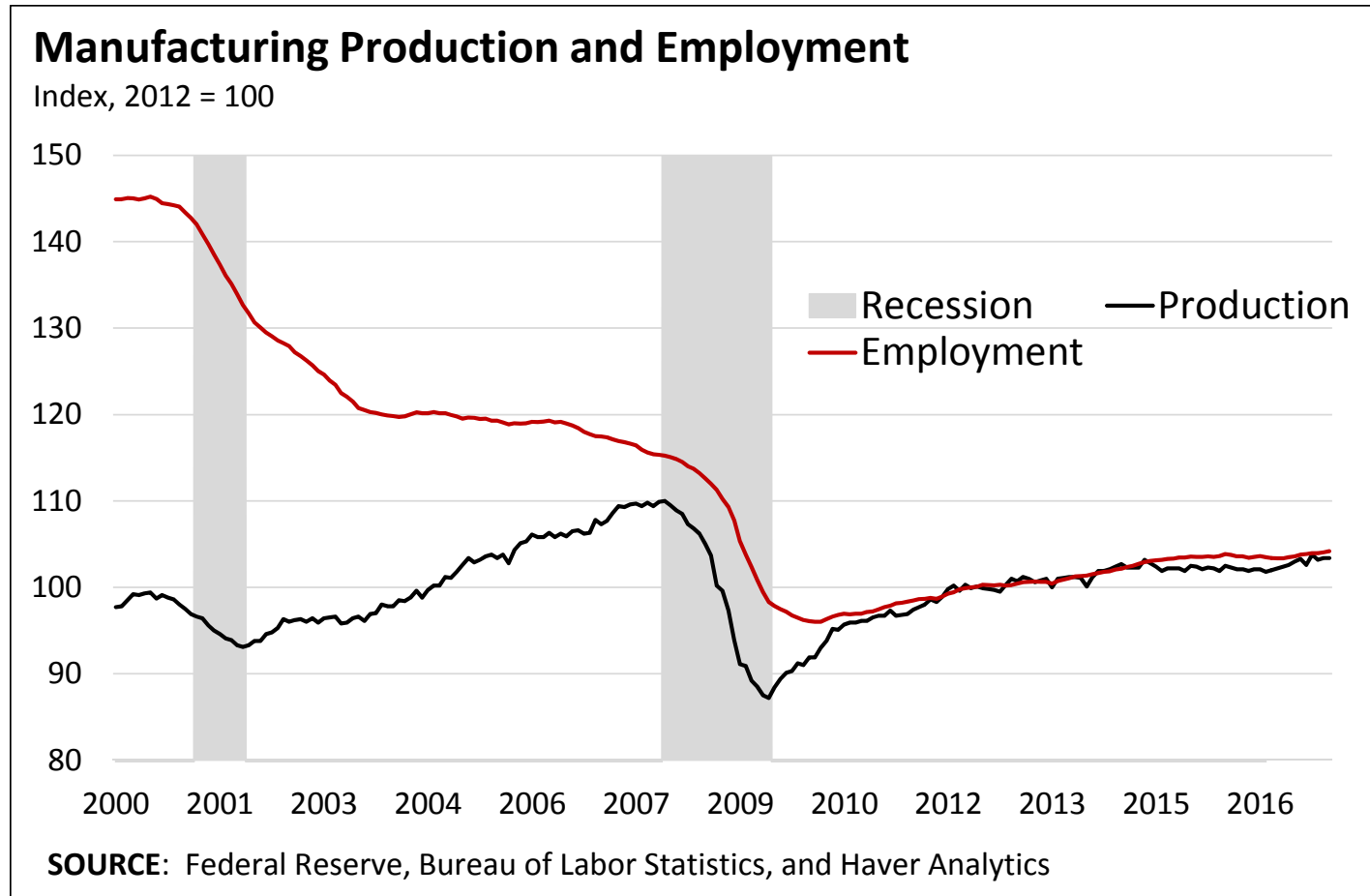
The Big Picture (Macro Stuff)

- The U.S. economy has developed some momentum. Global growth is also strengthening.
- Hurricane Harvey will affect the U.S. economy; Q3 real GDP growth may be trimmed modestly. However, growth will probably be boosted in the fourth quarter because of rebuilding.
- Labor market conditions remain solid; capital spending appears to be picking up, as are exports.
- Inflation remains below the Fed's 2% target.

Manufacturing Facts

- Manufacturing output is volatile—it is sensitive to changes in U.S. and world economic conditions.
- But U.S. manufacturing benefits more from stronger U.S. real GDP growth than foreign growth.
- Changes in the value of the dollar have modest effects on exports of manufactured goods.
- Manufacturers benefit from imports of intermediate materials that reduce their costs, which raises productivity and profits and wages.

A Slow Climb out of the Recession

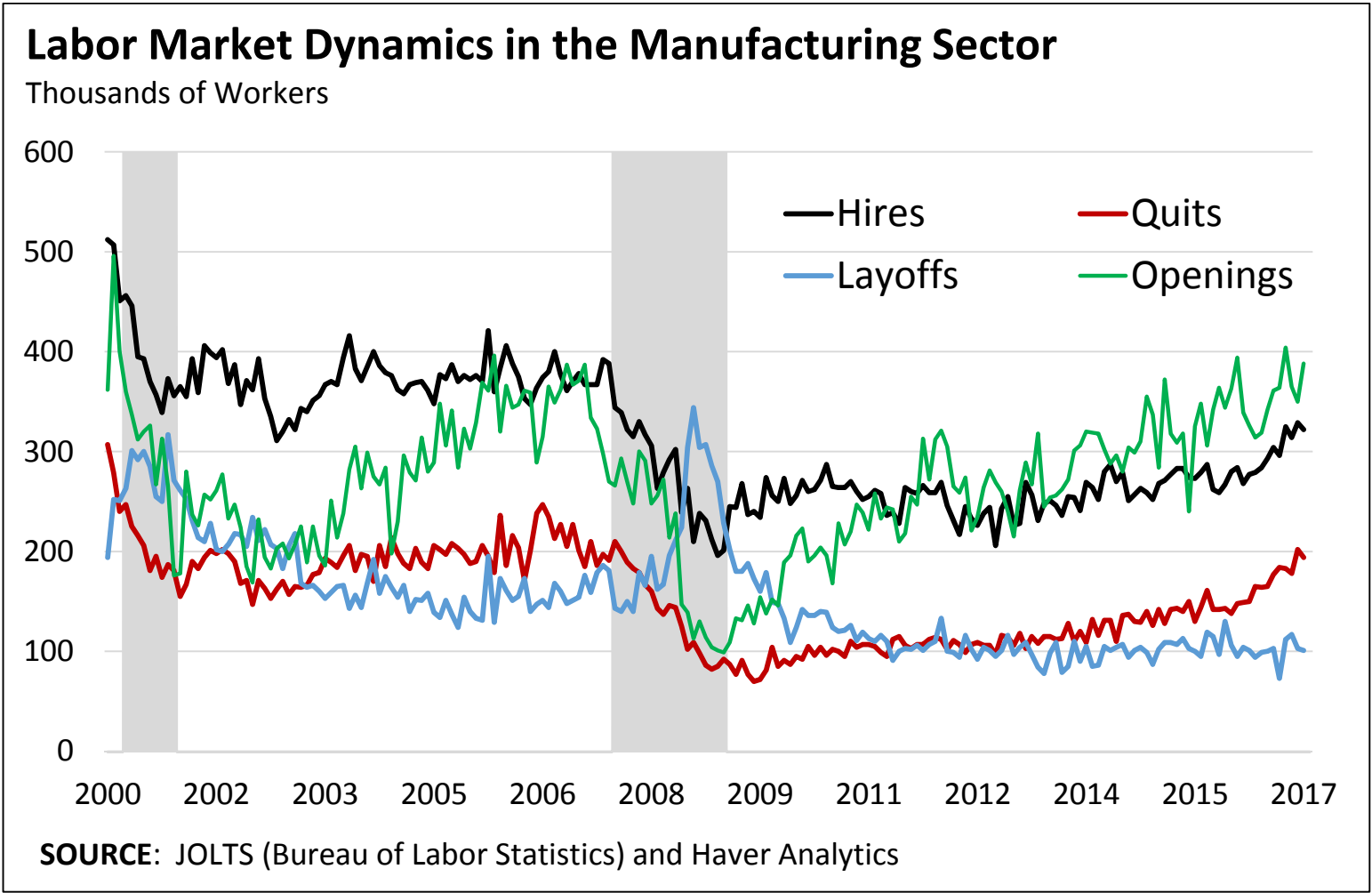


Change since
June 2009

Prod.: 18.6%

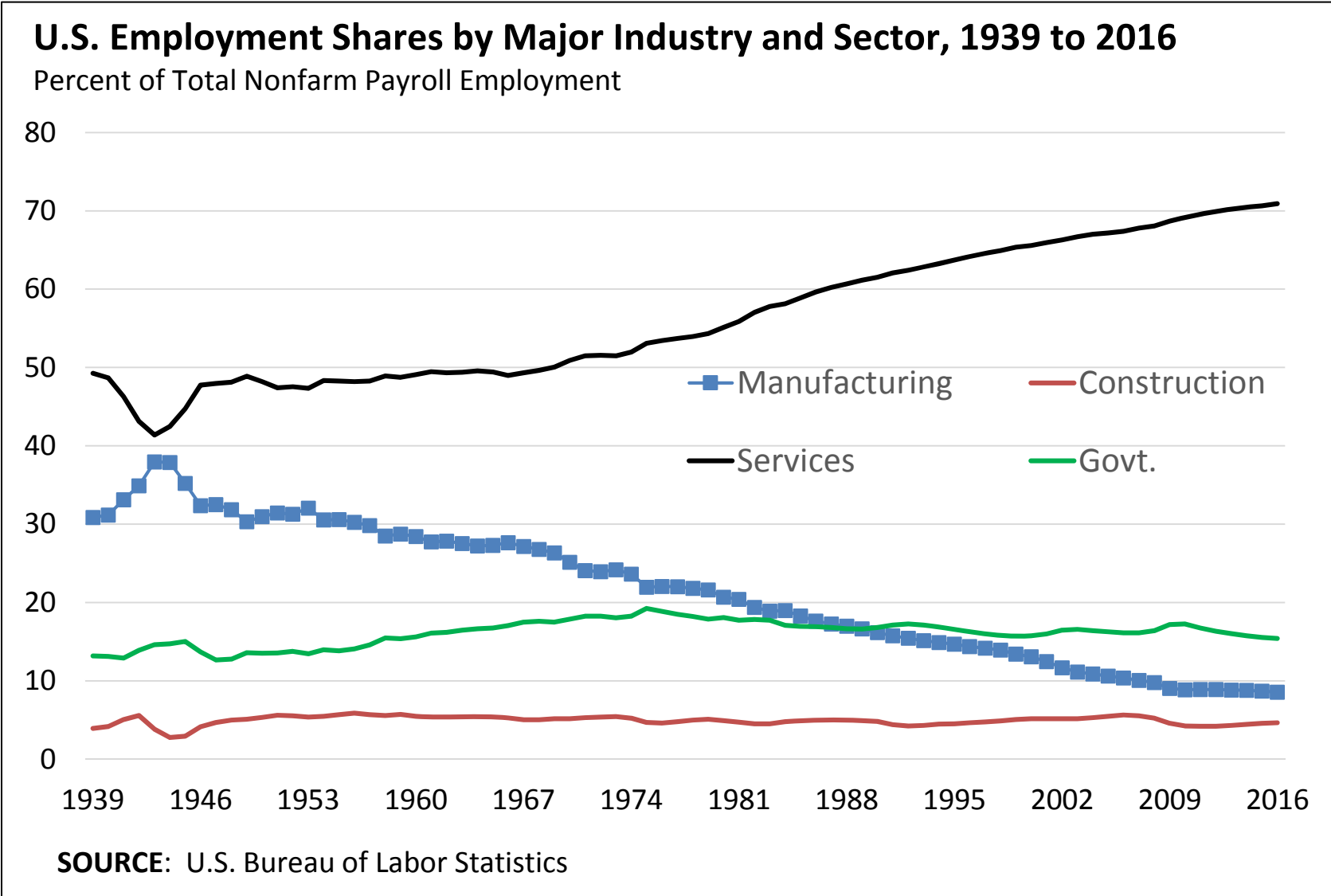
Employ: 6.0%

Favorable Labor Market Dynamics

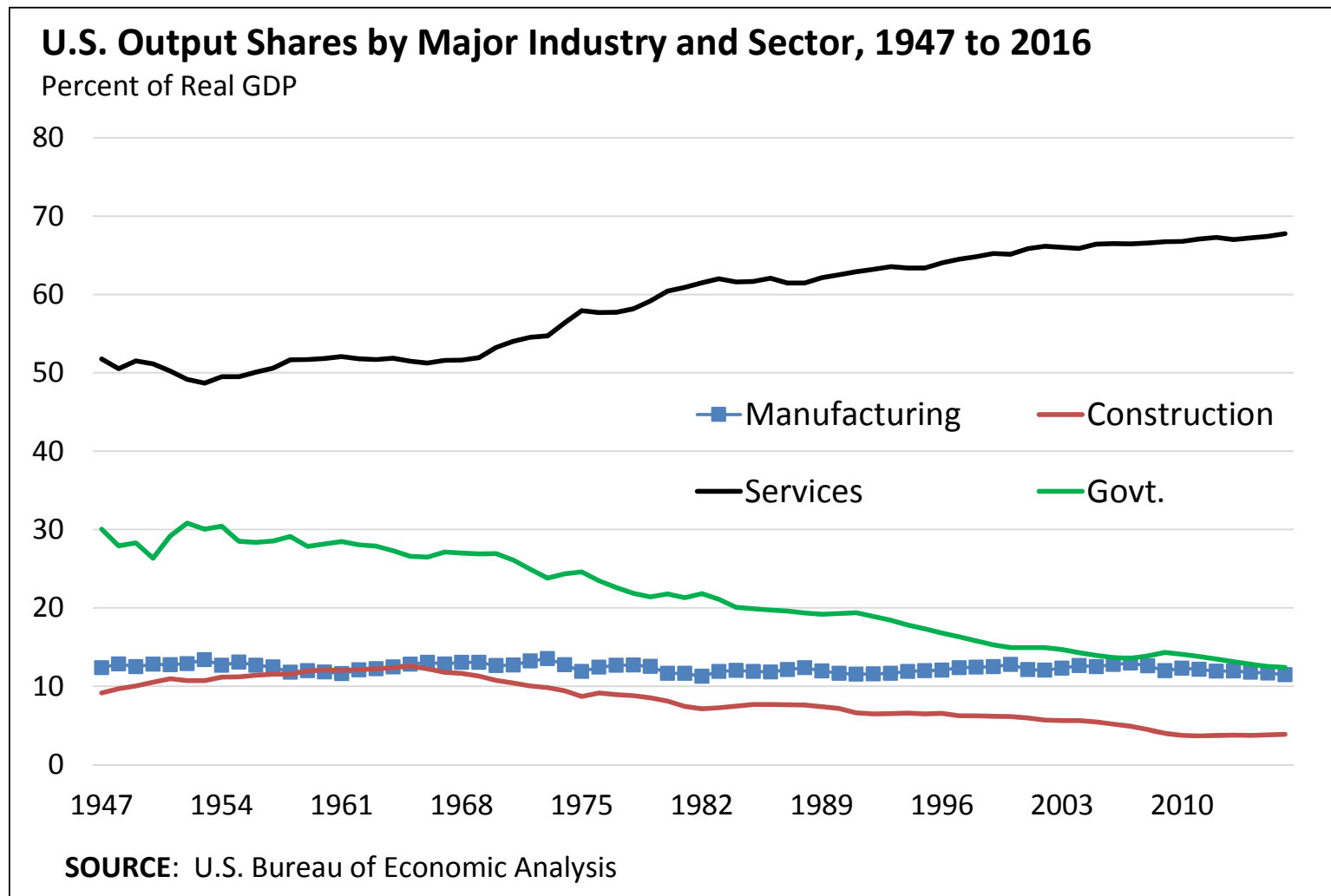


THREE TAKEAWAYS FROM THIS MORNING'S PRESENTATION

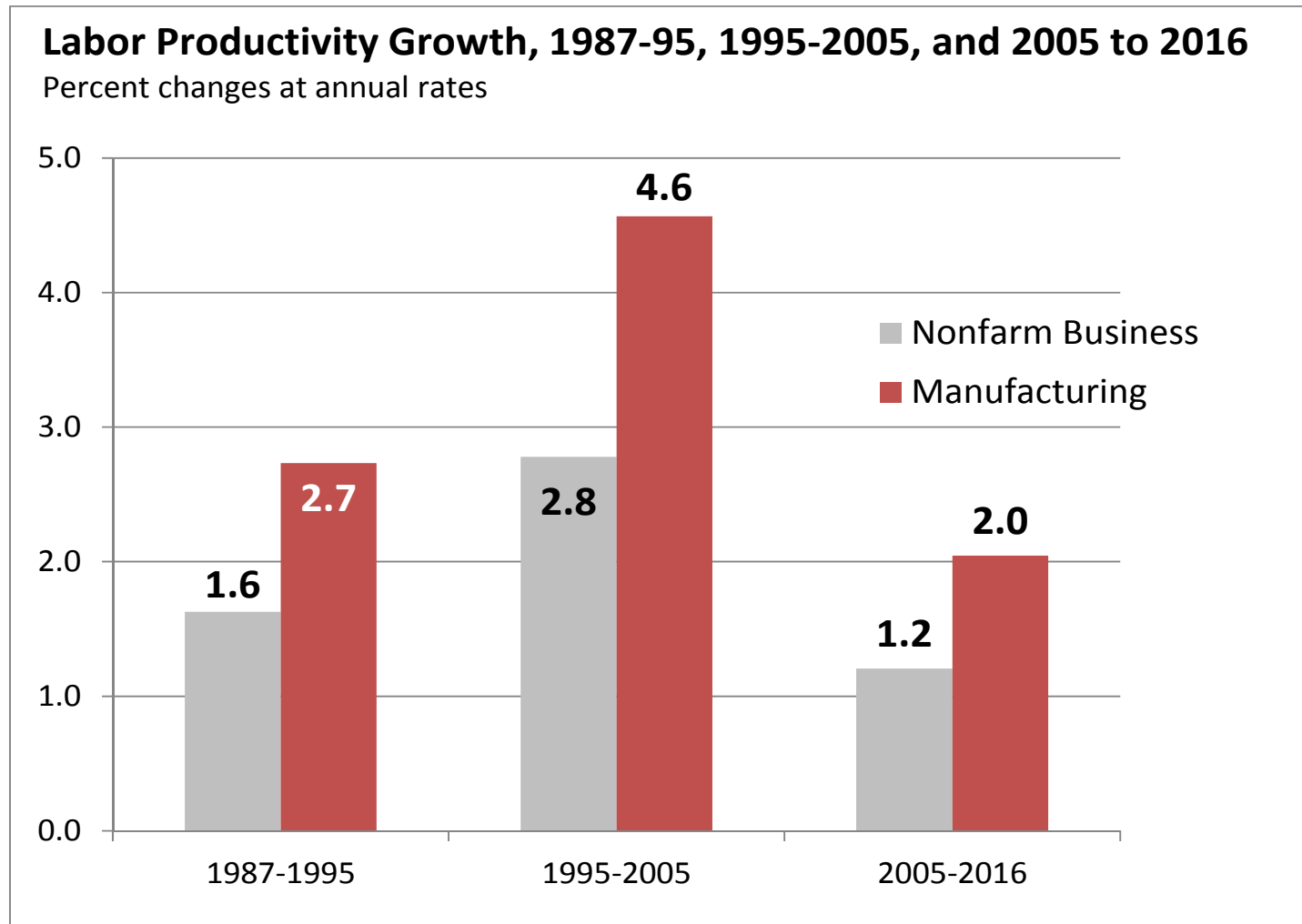
Fewer jobs in manufacturing.



But manufacturing output as a share of GDP has remained constant.



Productivity growth in manufacturing exceeds services.



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An Overview of Manufacturing in St. Louis

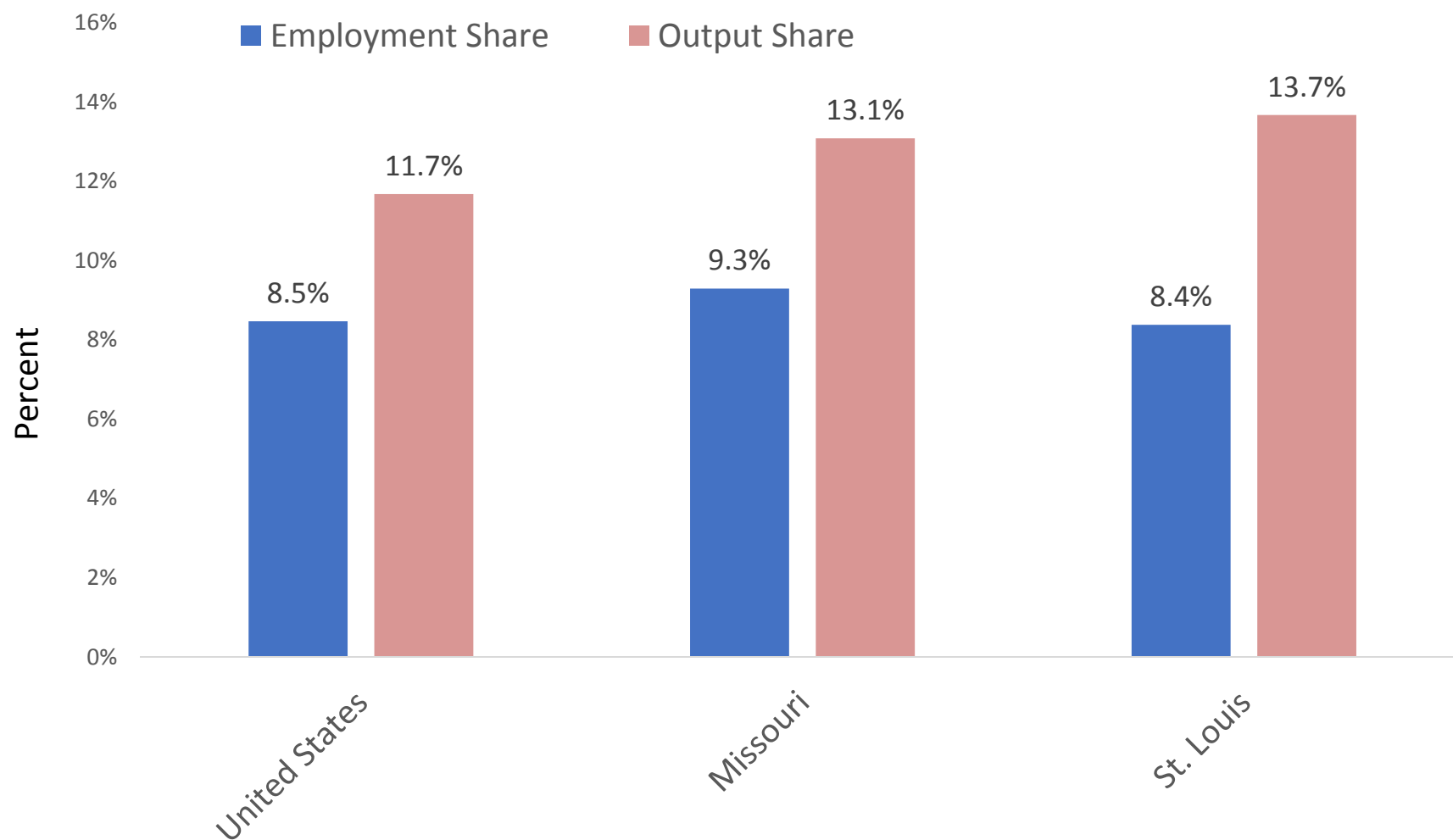
Charles S. Gascon

Regional Economist

September 7, 2017

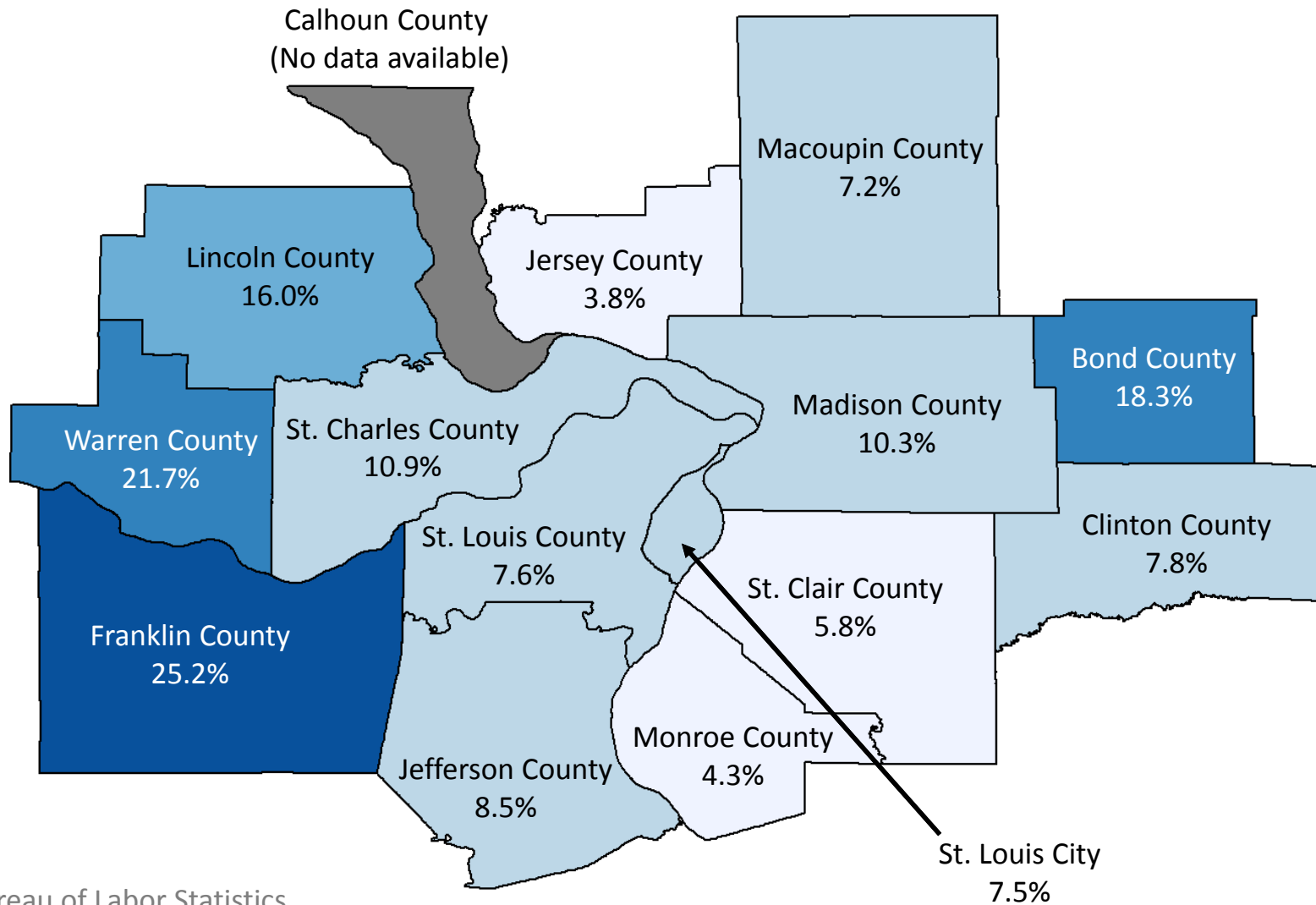
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First glance: St. Louis looks very much like the US



Source: Bureau of Labor Statistics

Manufacturing employment shares vary within the region



Source: Bureau of Labor Statistics

Manufacturers headquartered in St. Louis

Company Name	Industry	Revenue (Billions)	Local Employees
Emerson Electric	Electrical Engineering	\$23.2	2,600
Sigma-Aldrich	Biology, Chemistry, and Materials Science	\$6.8	2,000
Edgewell Personal Care	Consumer products	\$2.2	175
Energizer Holdings	Batteries	\$1.7	400
Belden Inc.	Electronics	\$1.3	334
American Railcar Industries	Railcars	\$1.1	277

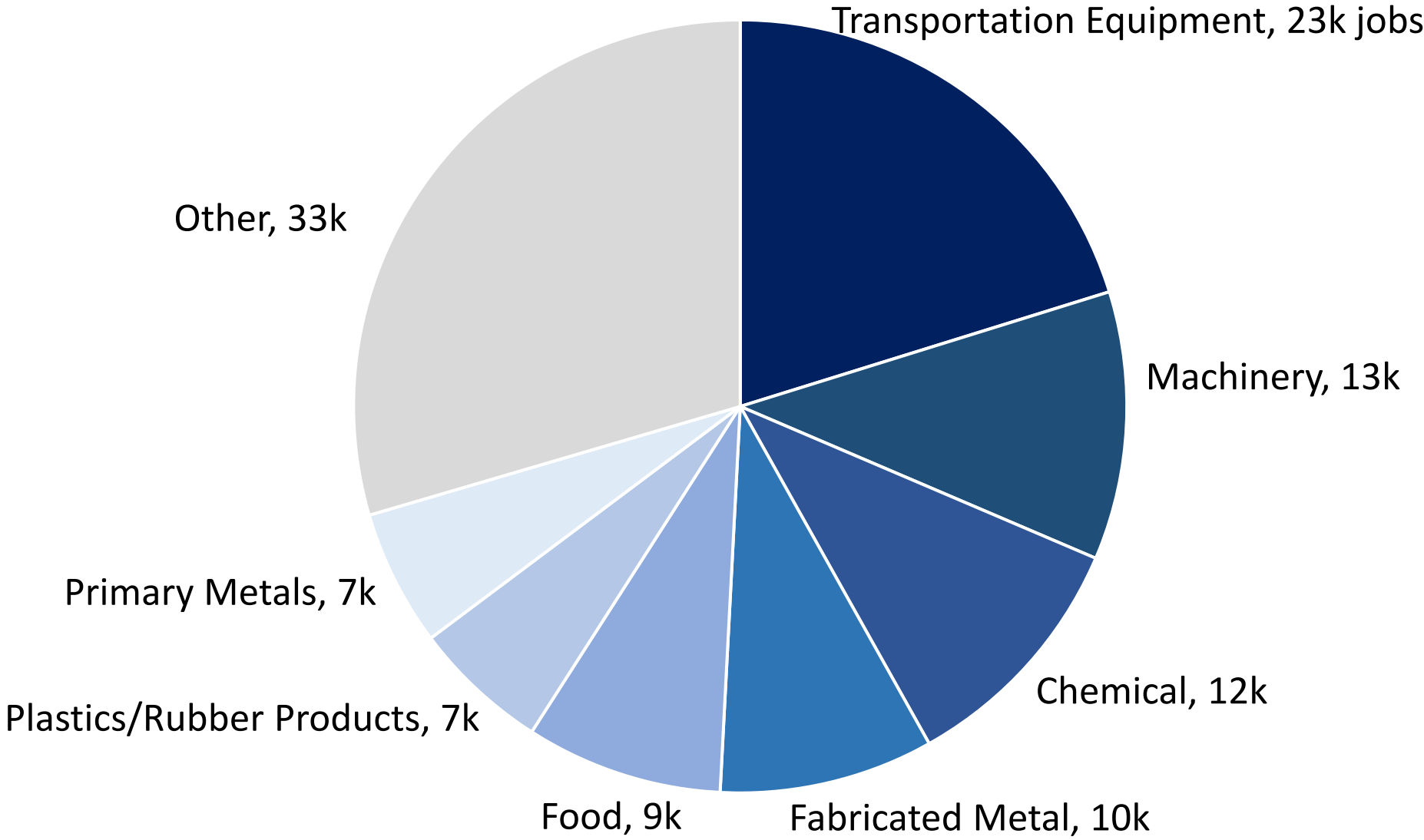
Source: Compustat, St. Louis Regional Chamber, St. Louis Business Journal, and St. Louis Post-Dispatch

Other major local manufacturing employers

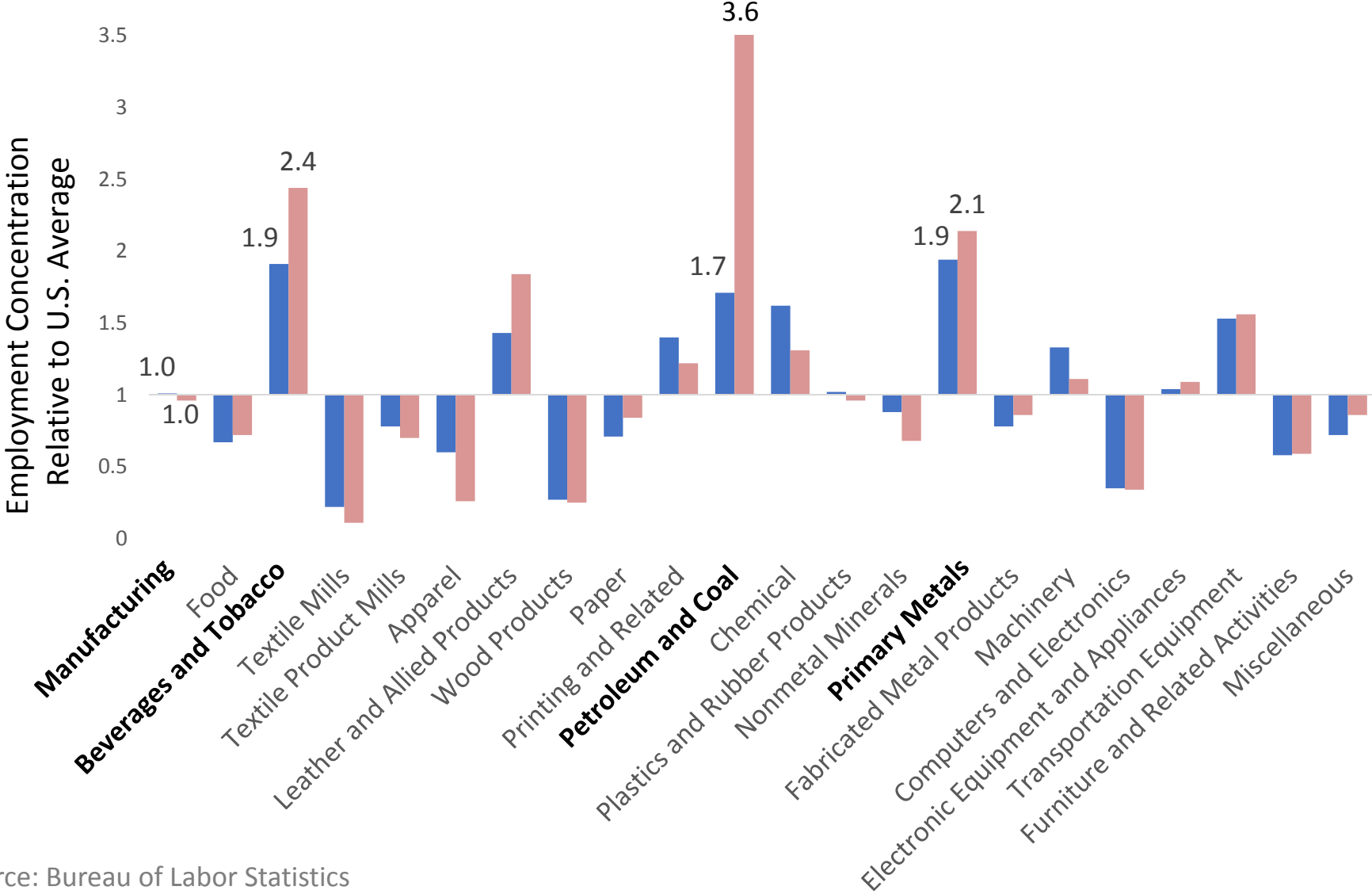
Company Name	Industry	Local employees
Boeing	Aerospace	14,000
GM	Auto	4,600
Anheuser-Busch InBev	Brewery	4,300
Mallinckrodt	Pharmaceuticals and Medicine	2,500
Nestle Purina	Pet Food	2,200
U.S. Steel	Steel	2,200

Source: St. Louis Regional Chamber

St. Louis manufacturing subsectors

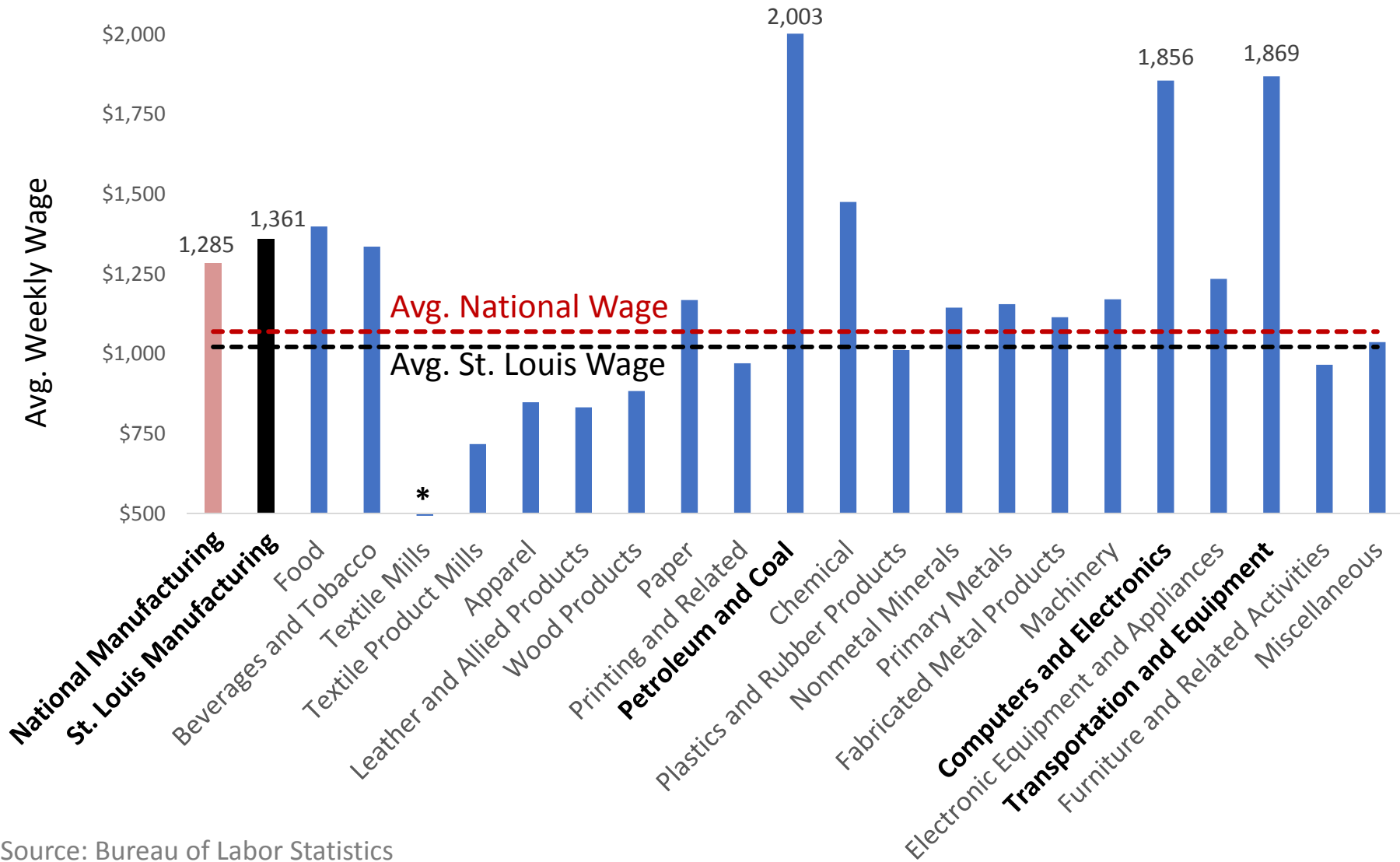


Concentration of employment relative to national average



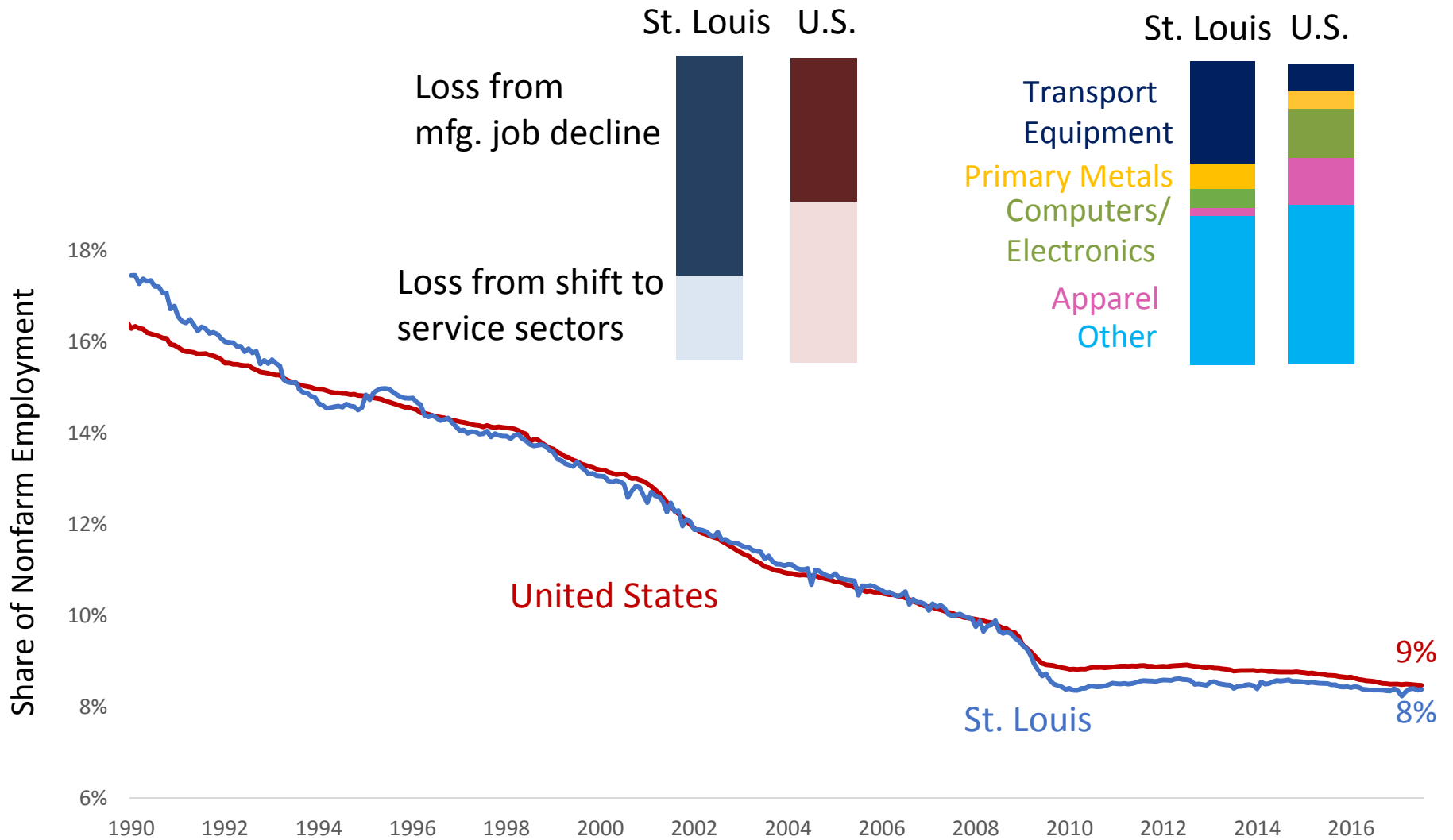
Source: Bureau of Labor Statistics

Manufacturing wages average around \$1,361 per week



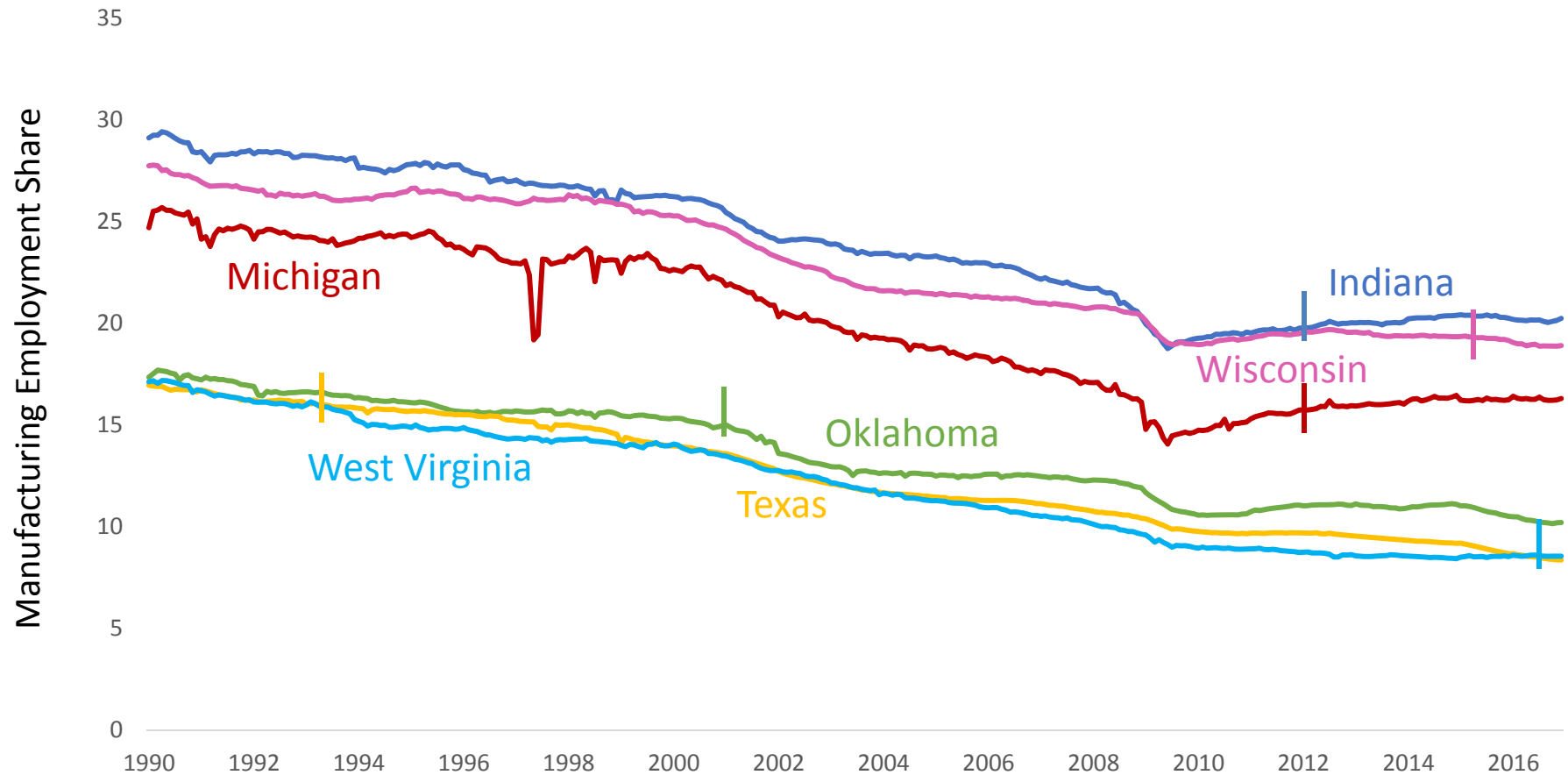
Source: Bureau of Labor Statistics

Does the local decline in manufacturing look like the US?



Source: Bureau of Labor Statistics

Is there evidence of right-to-work laws increasing employment shares in manufacturing?



Source: Bureau of Labor Statistics and author's calculations/National Conference of Legislators

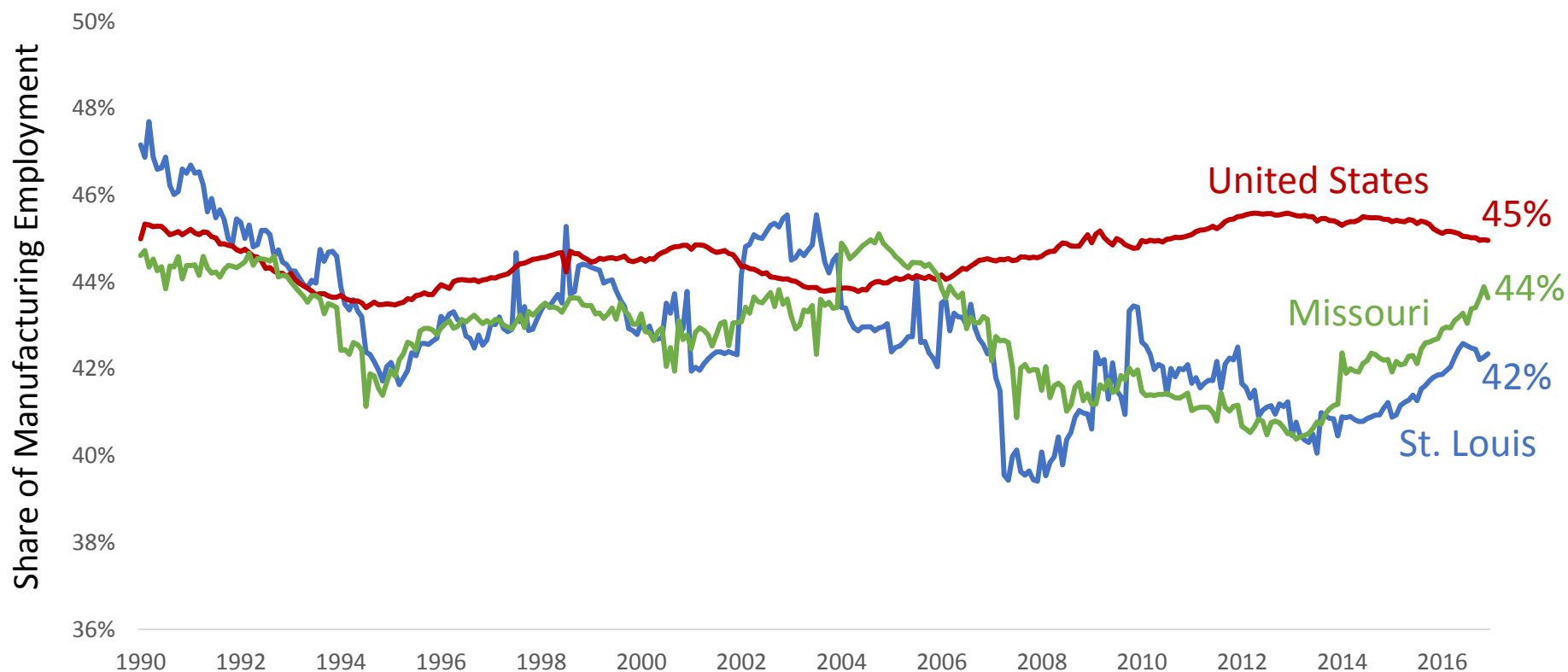
“Advanced” manufacturing

- Advanced industries defined as:
 - R&D spending per worker at least \$450
 - At least 21% of jobs require STEM knowledge
- 35 manufacturing subindustries are advanced
 - Including aerospace products, motor vehicles, chemical, petroleum/coal, and more
- Roughly 40% of manufacturing employment is advanced

Source: Muro, Rothwell, Andes, Fikri, and Kulkarni (Brookings Institute, 2015)

NOTE: There was a sector omitted in the version presented, this slide was updated on 9/13 with corrected data.

Advanced manufacturing has declined as share of manufacturing employment in St. Louis



Source: Bureau of Labor Statistics and author's calculations



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