

Economic Conditions: The Nation, Pennsylvania, and the Region

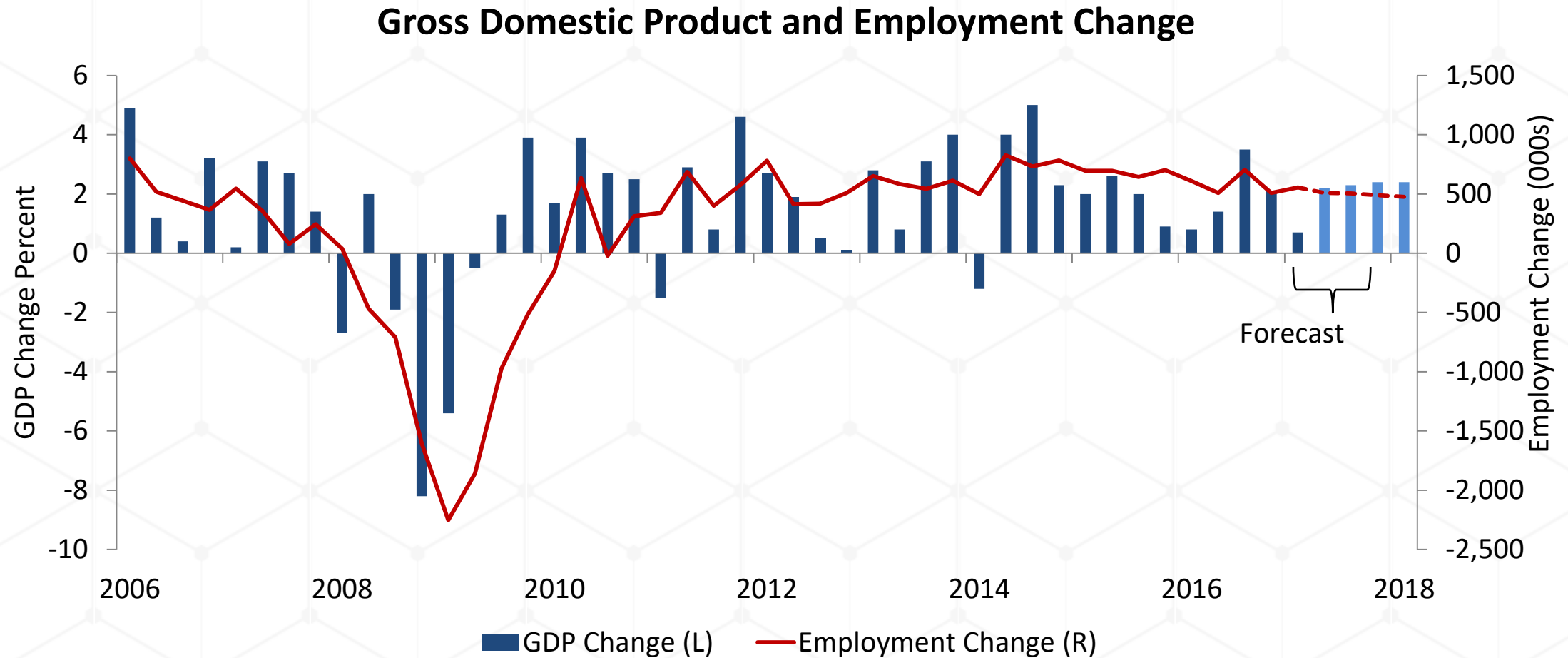
James Robey, PhD

June 6, 2017

W.E. Upjohn Institute for Employment Research

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Is about 2% growth the new norm?

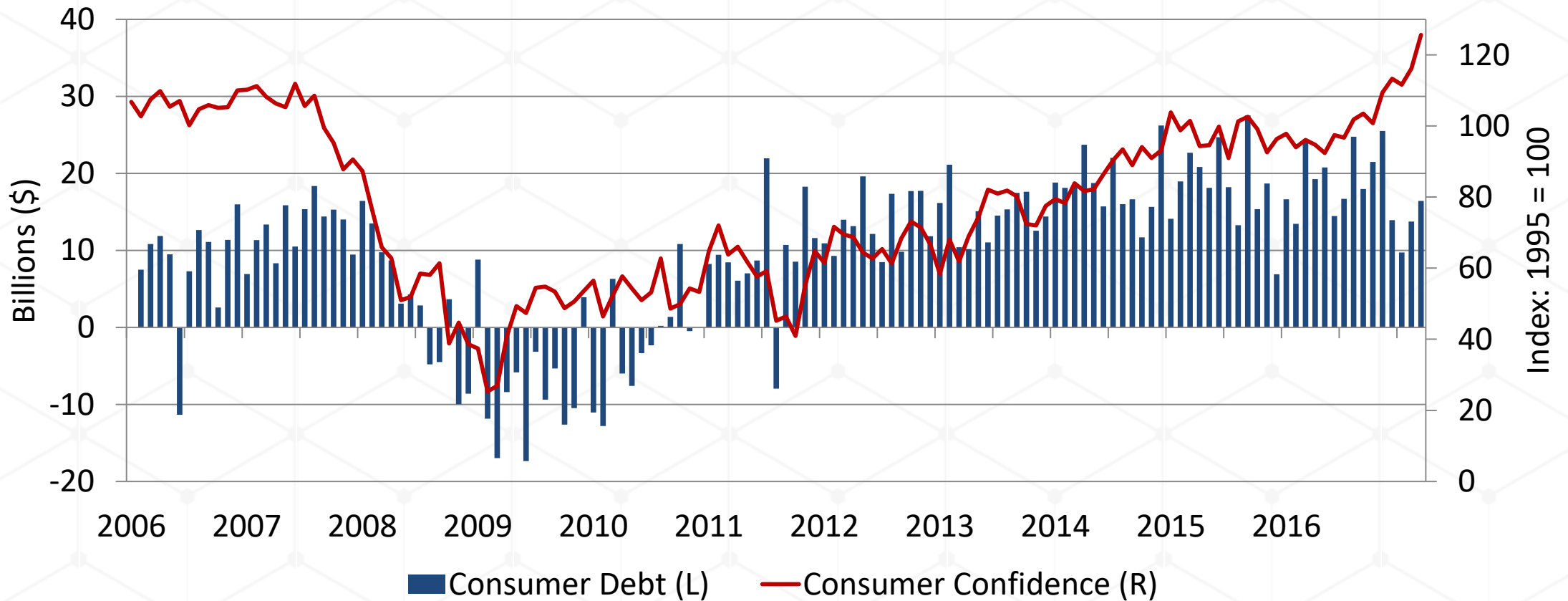


University of Michigan RSQE Forecast

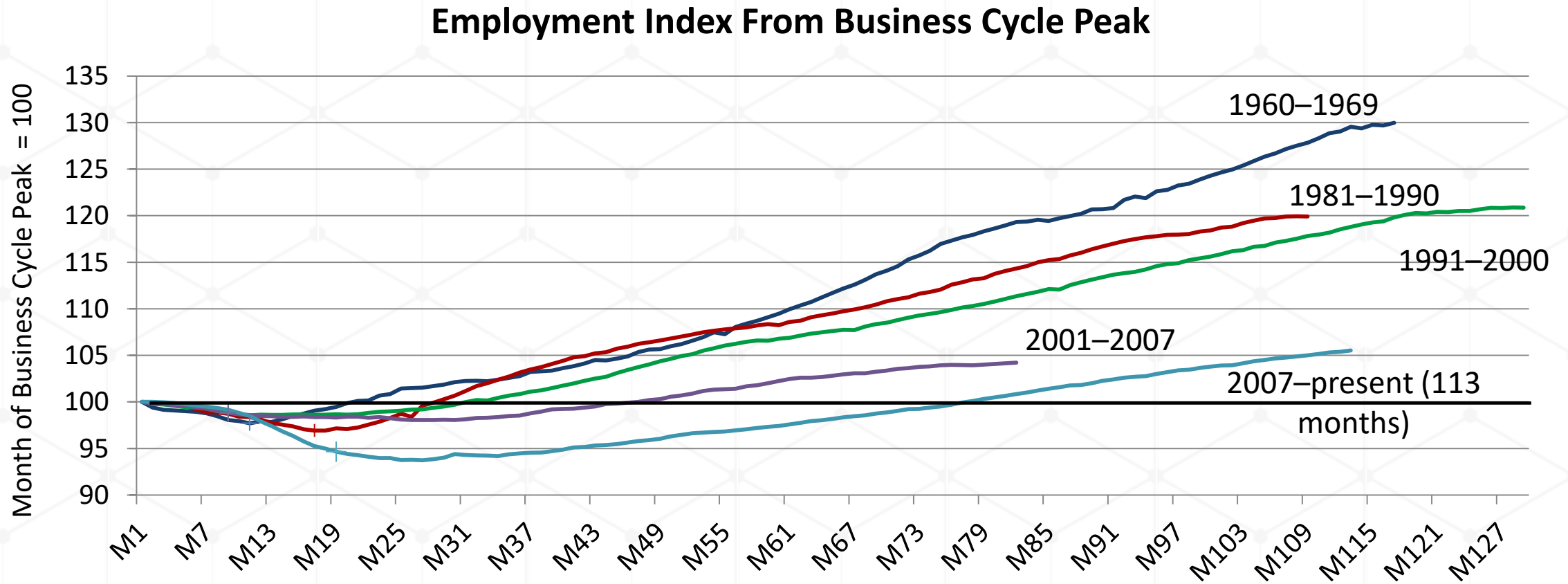
	2016	2017 (Forecast)	2018 (Forecast)
GDP (Percent)	1.6	2.2	2.4
Light Vehicle Sales (\$Millions)	17.5	17.2	17.1
Unemployment Rate (Percent)	4.9	4.4	4.3
Housing Starts (Millions)	1.18	1.27	1.33
CPI/Inflation (Percent)	1.6	1.9	2.1

Consumer confidence rapidly improving

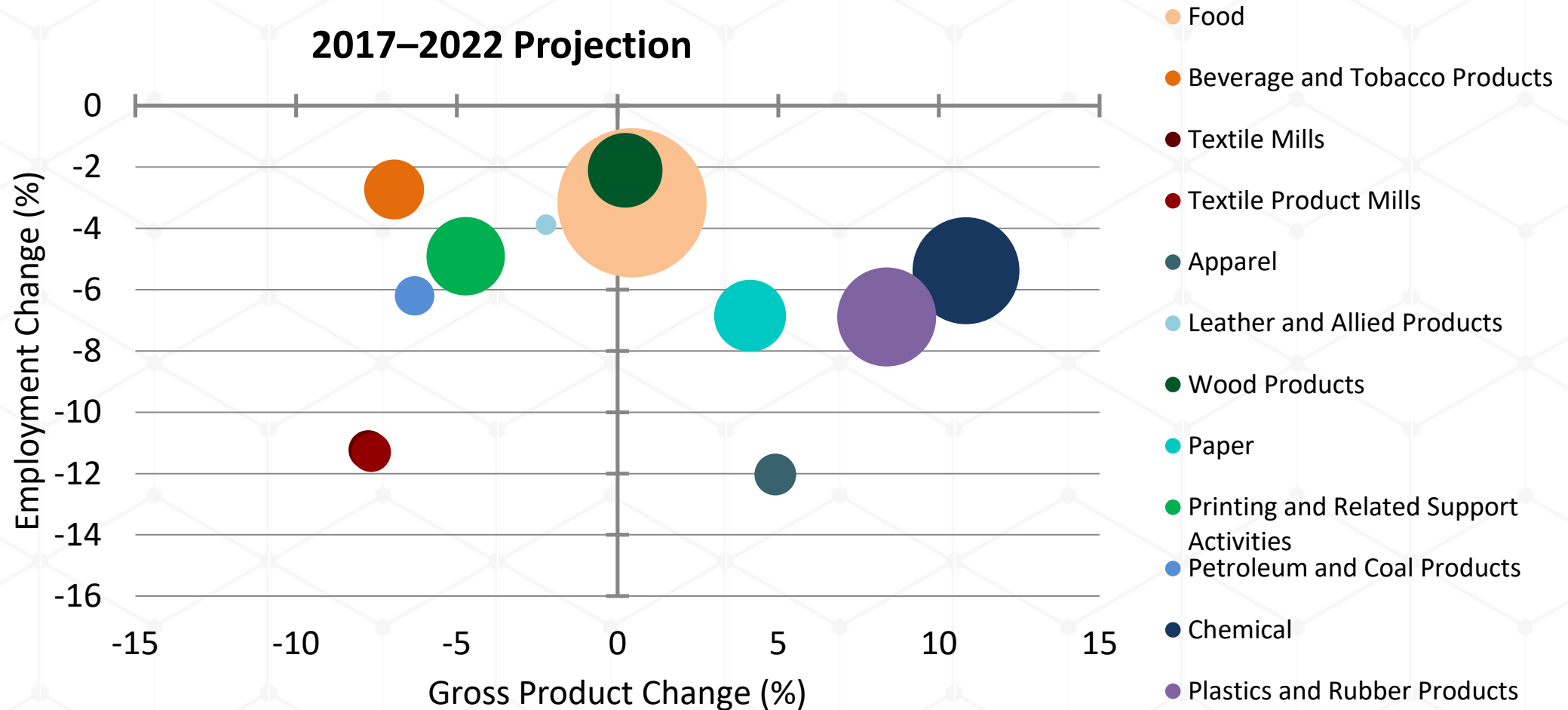
Consumer Confidence and Change in Consumer Debt



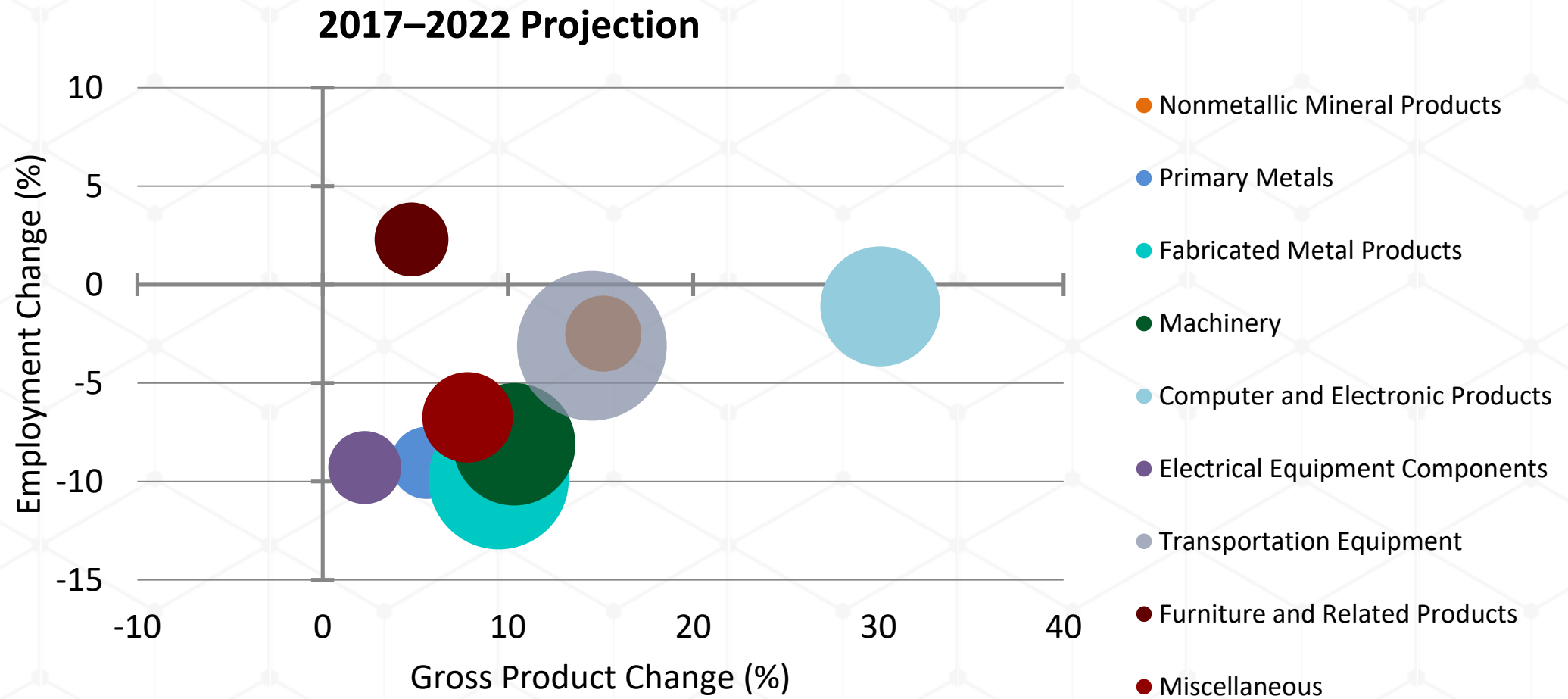
The calendar isn't yet calling for a recession—if you trust history



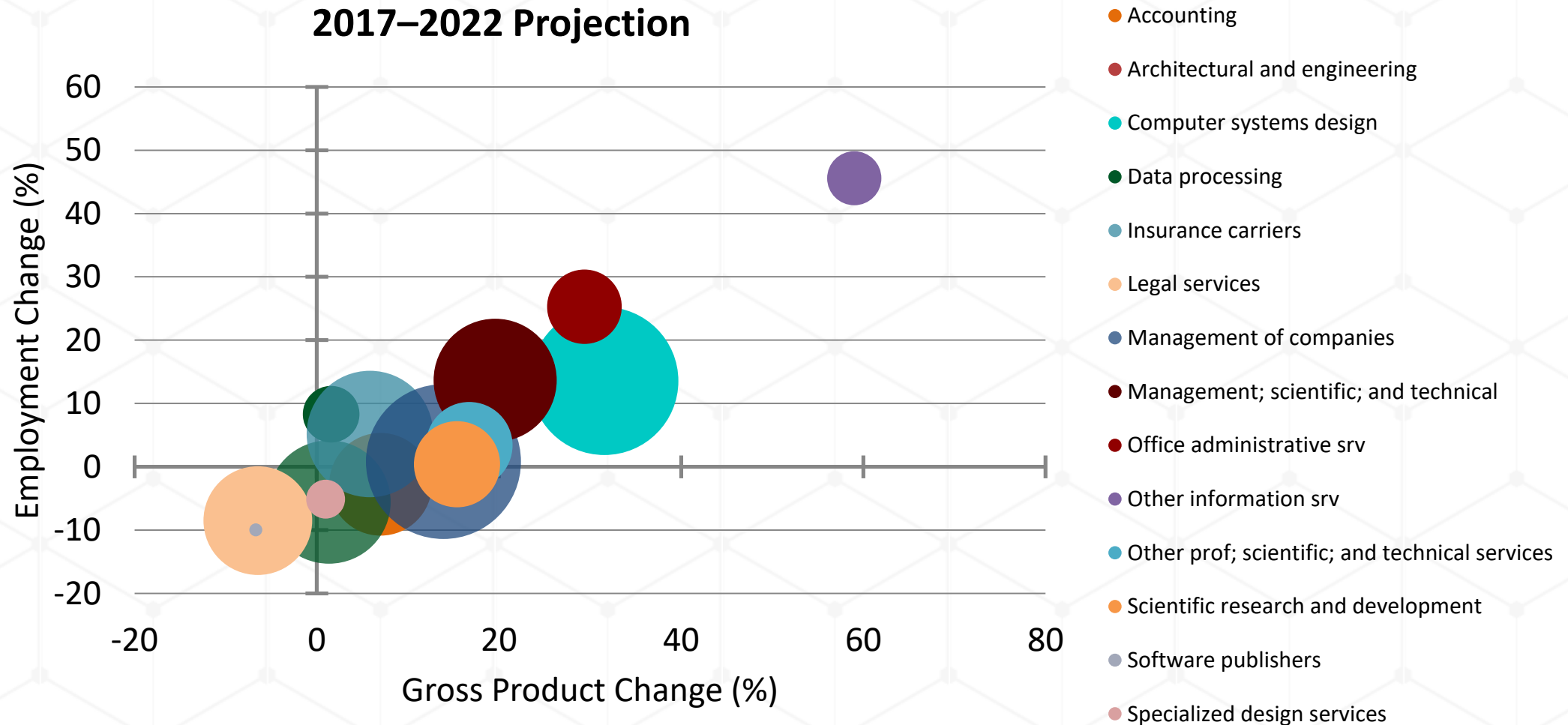
National nondurables



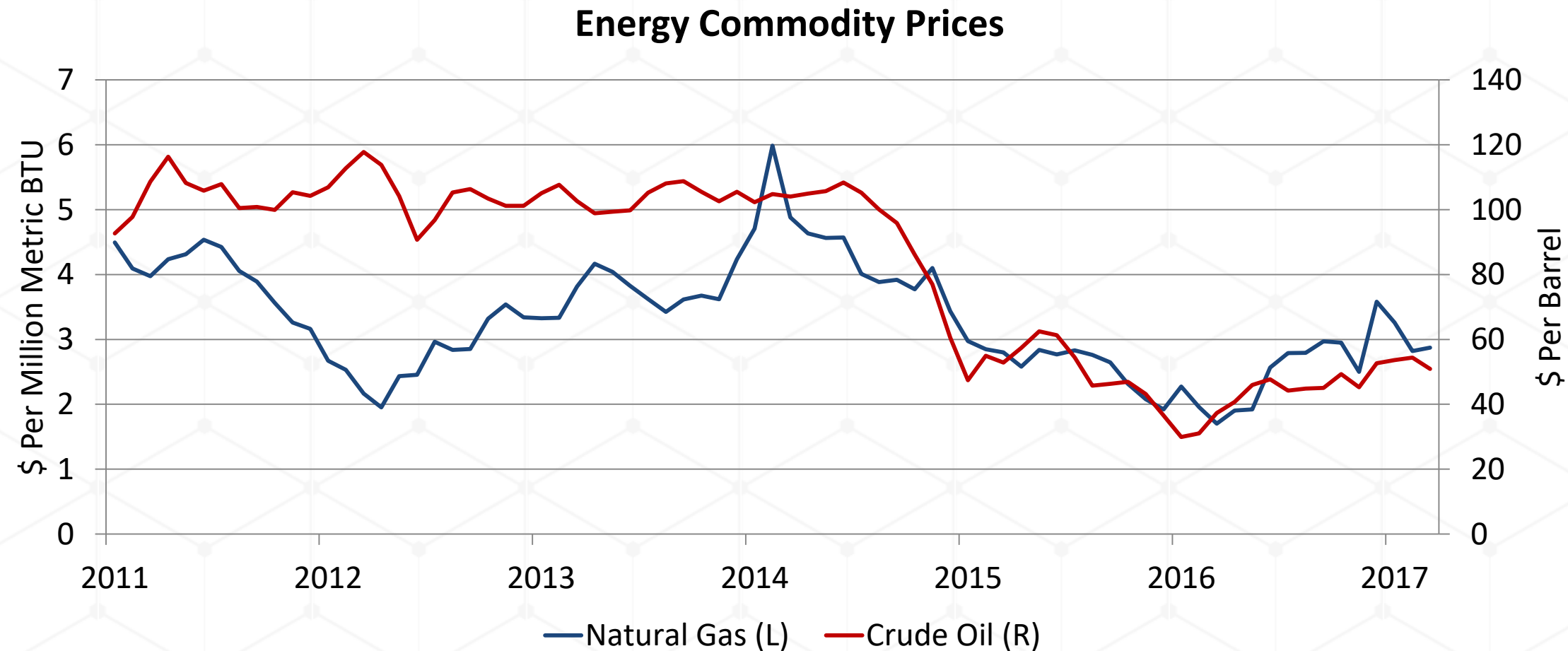
National durables



Technology and Services



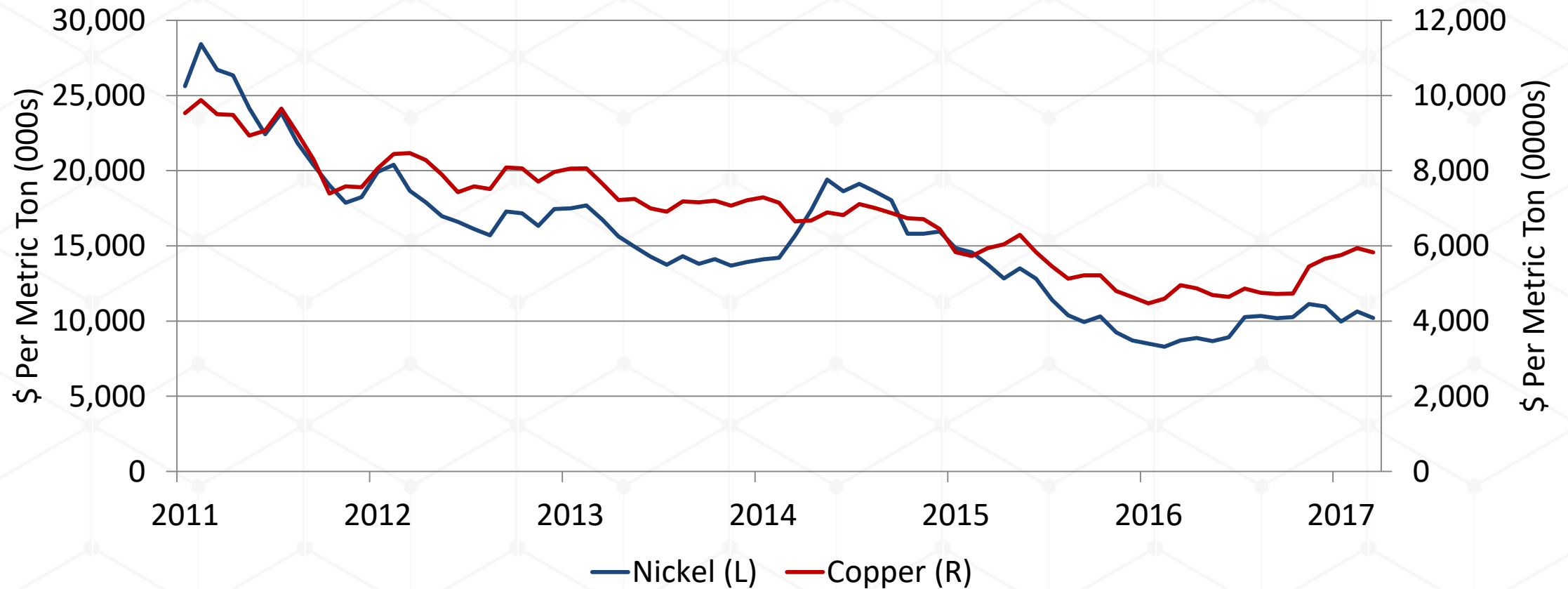
Energy rebounding, US and Canadian rig counts up



Natural Gas spot price at the Henry Hub terminal in Louisiana, US\$ per million metric BTU;
Crude Oil (petroleum) simple average of Dated Brent, West Texas Intermediate, and the Dubai Fateh.

Some recent upturns portend good things are coming?

Industrial Inputs Commodity Prices

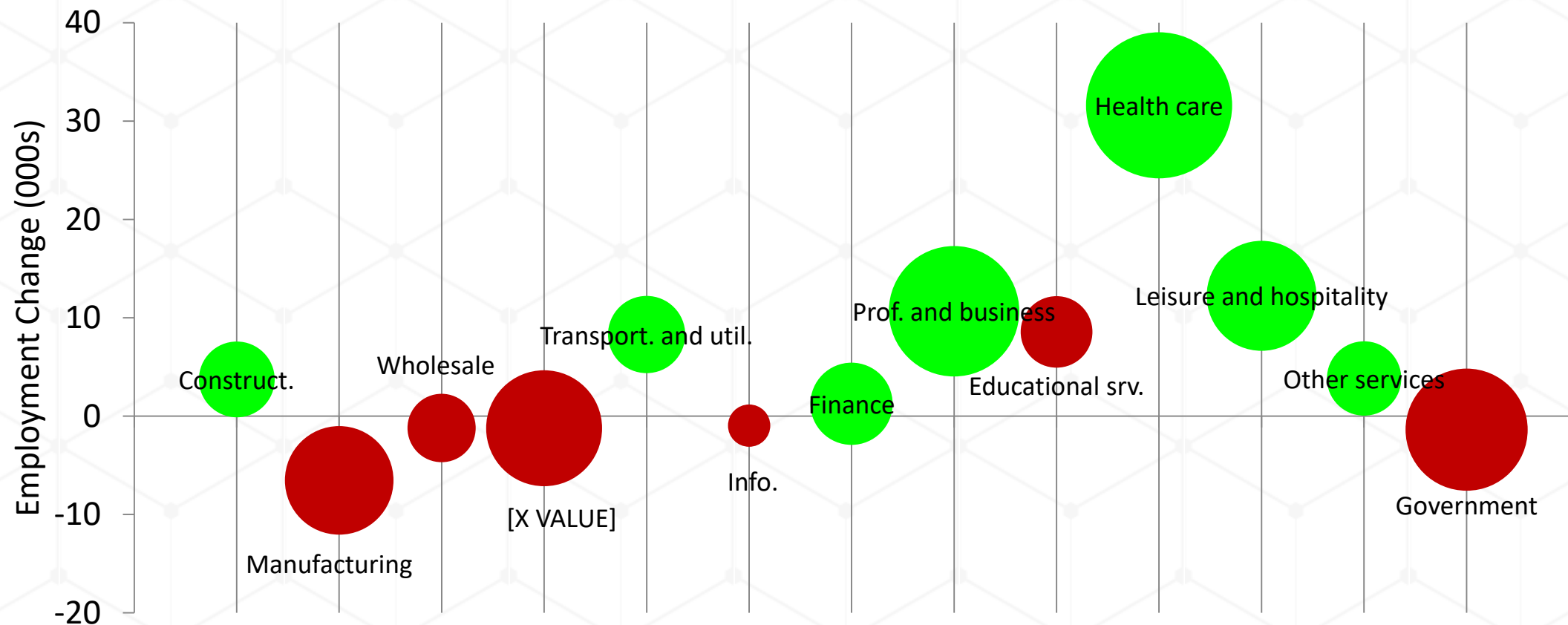


Nickel - melting grade; Copper - grade A cathode, LME spot price, CIF European ports.

Moving on to Pennsylvania

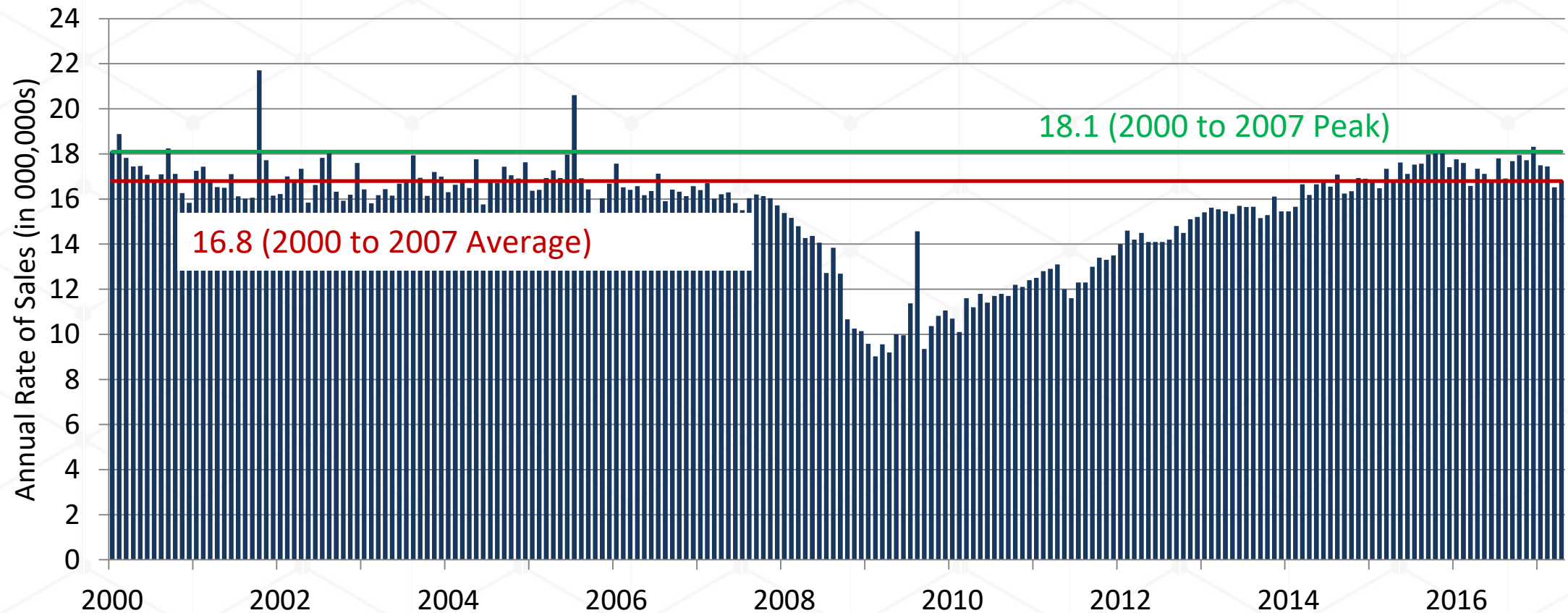
The State of Pennsylvania

Employment Change, Q1 2016 to Q1 2017



Auto sales have reached a peak?

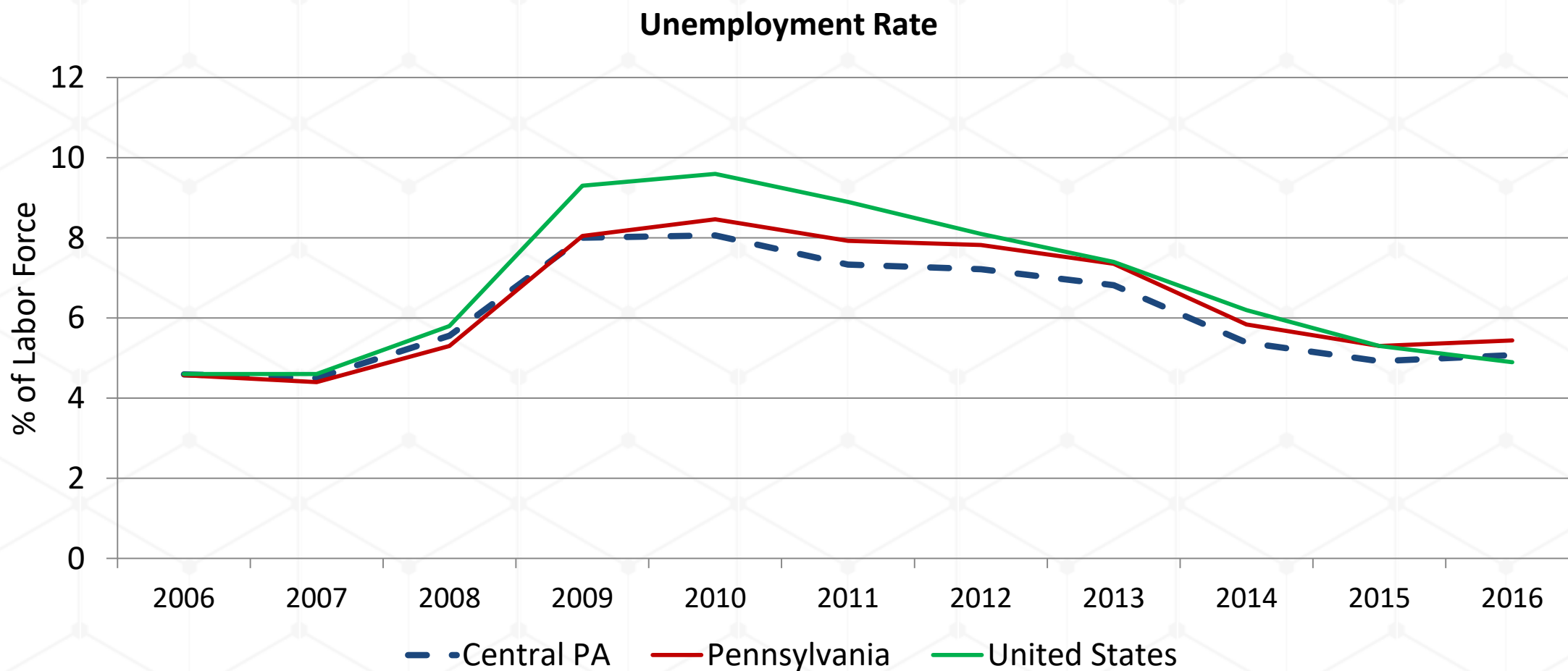
Annualized Rate of U.S. Light Vehicle Sales (in millions)

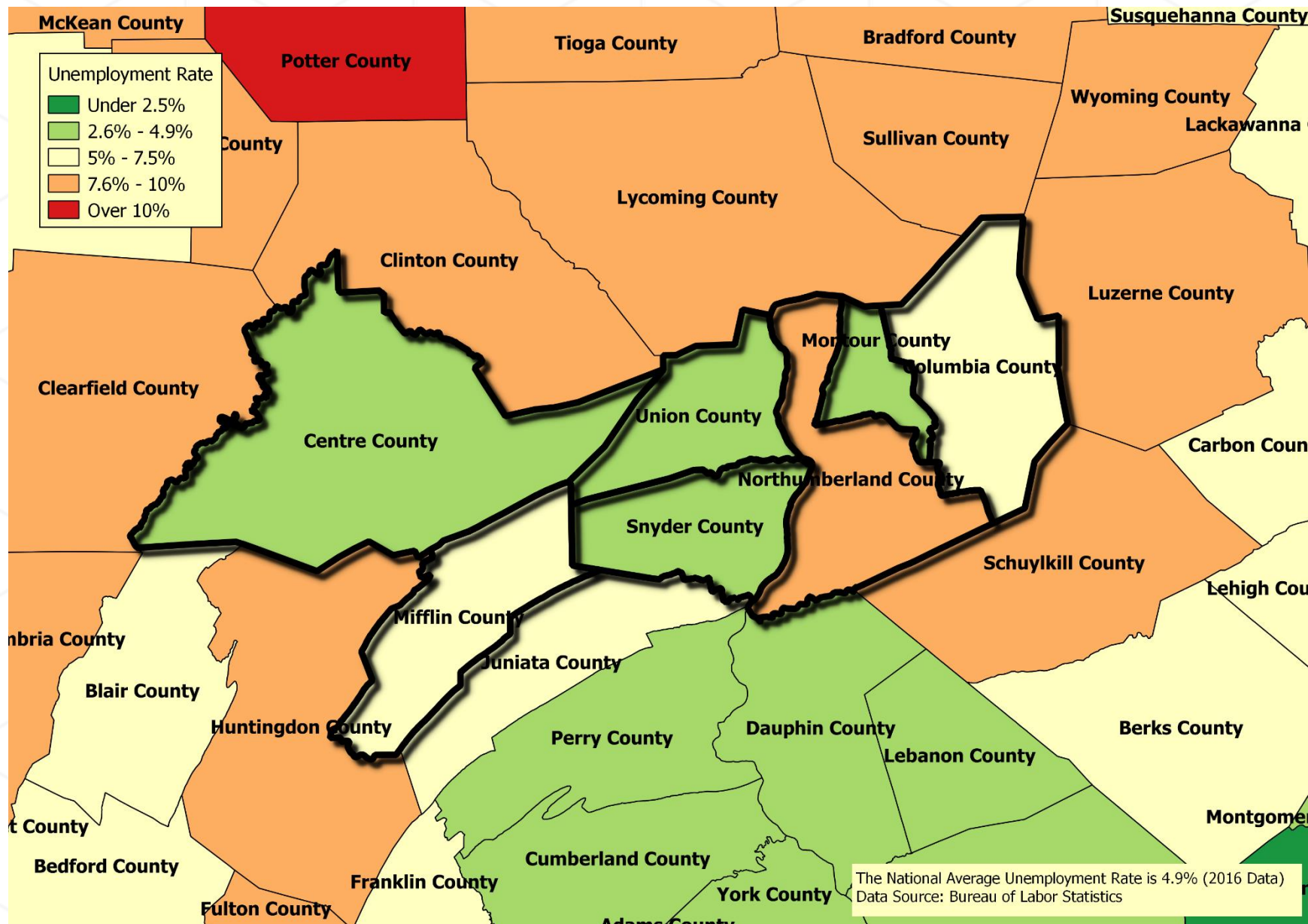


Conditions in Central Pennsylvania

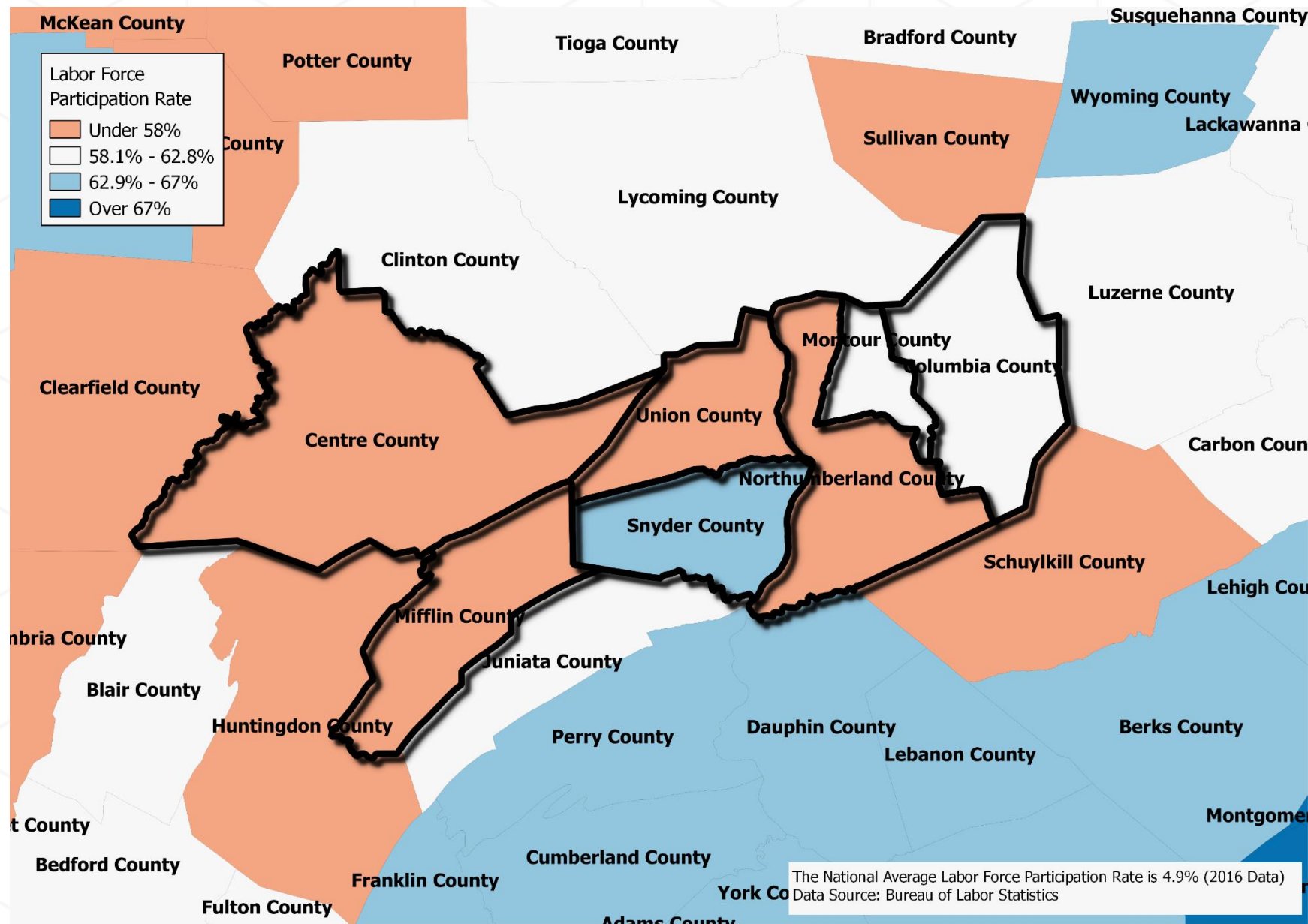
Center, Columbia, Mifflin, Montour,
Northumberland, Snyder, & Union Counties

The labor market is relatively tight



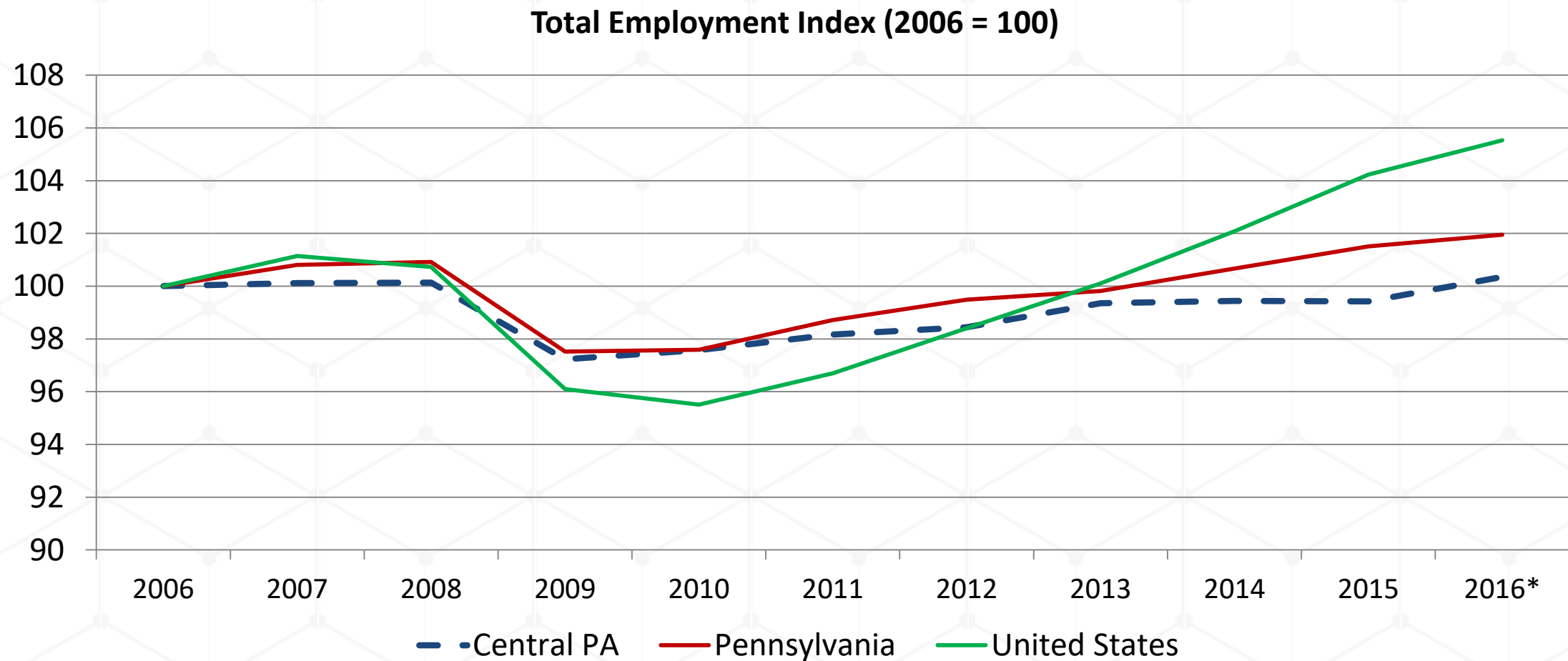


The national unemployment rate was 4.9 in 2016



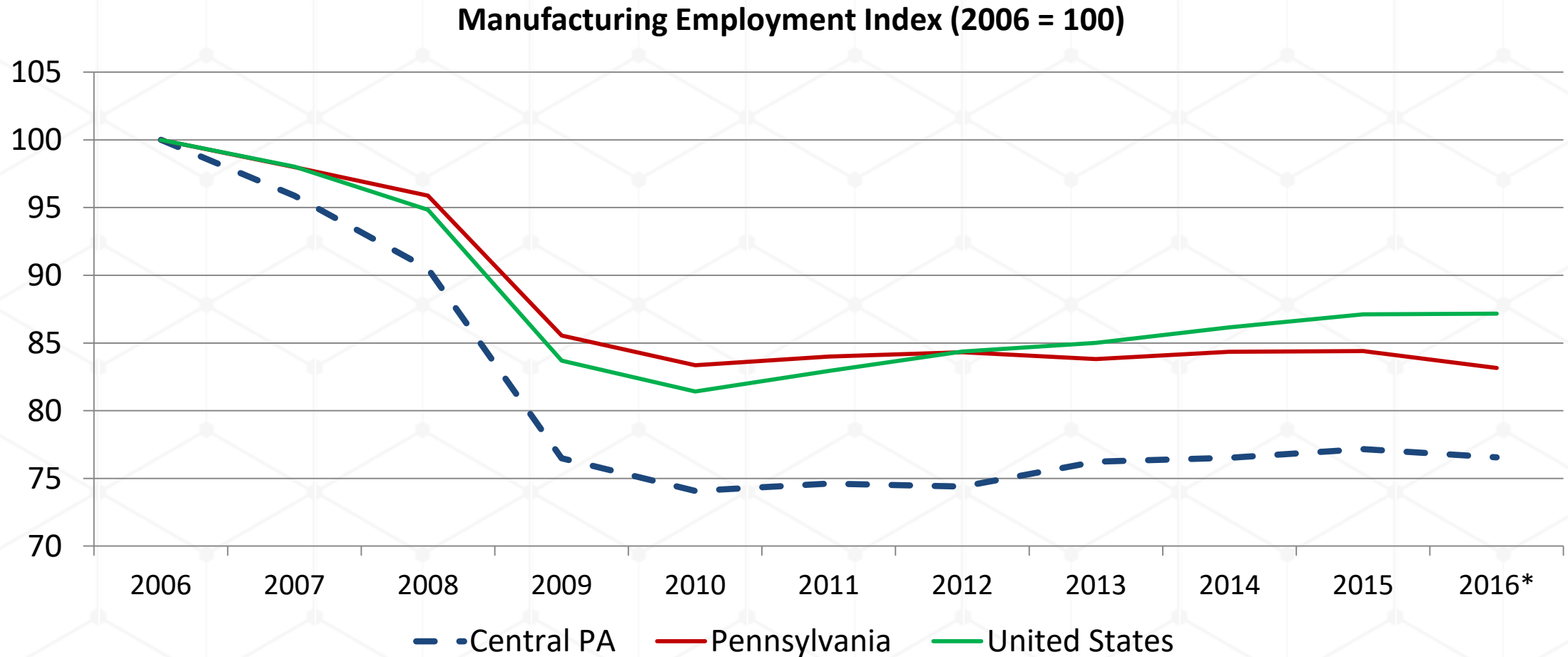
The national
labor force
participation
rate was 62.8
in 2016

Continuing to recover from the recession



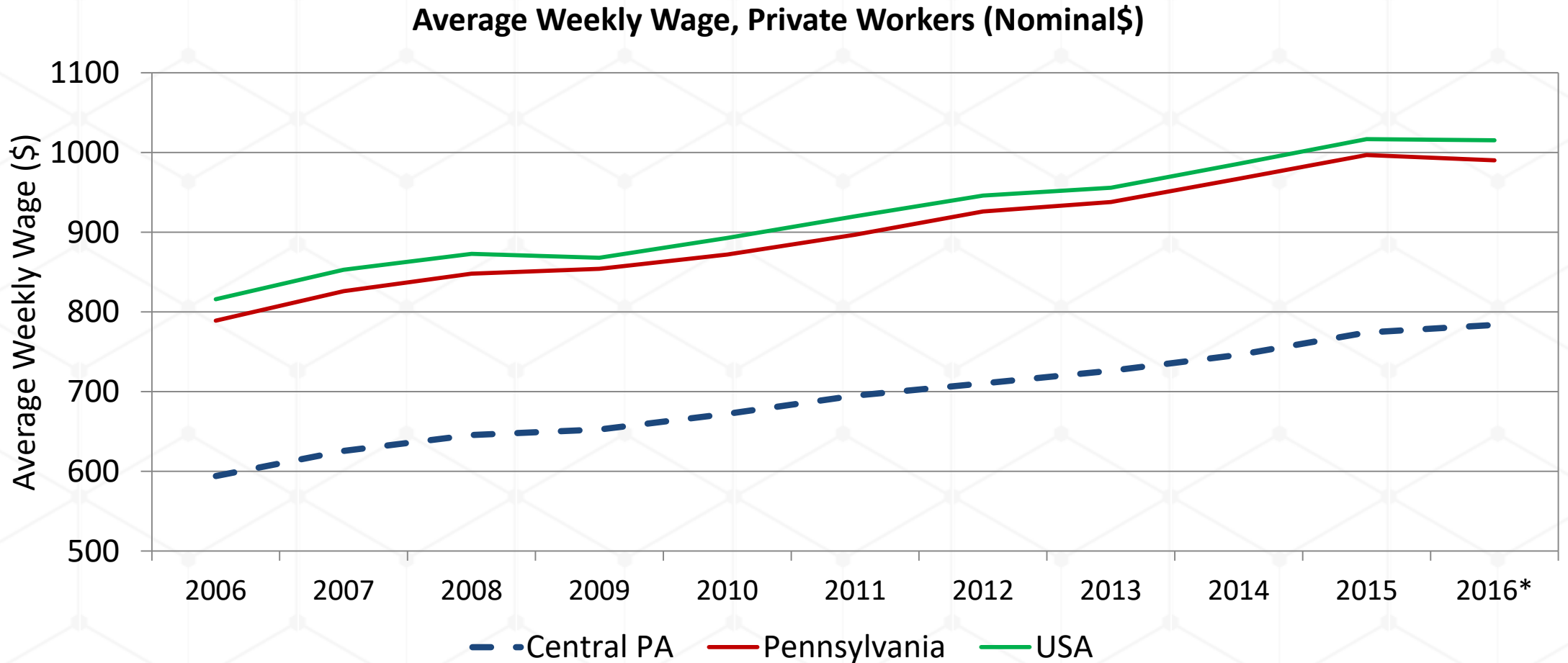
*Through September 2016

Manufacturing employment continues to struggle



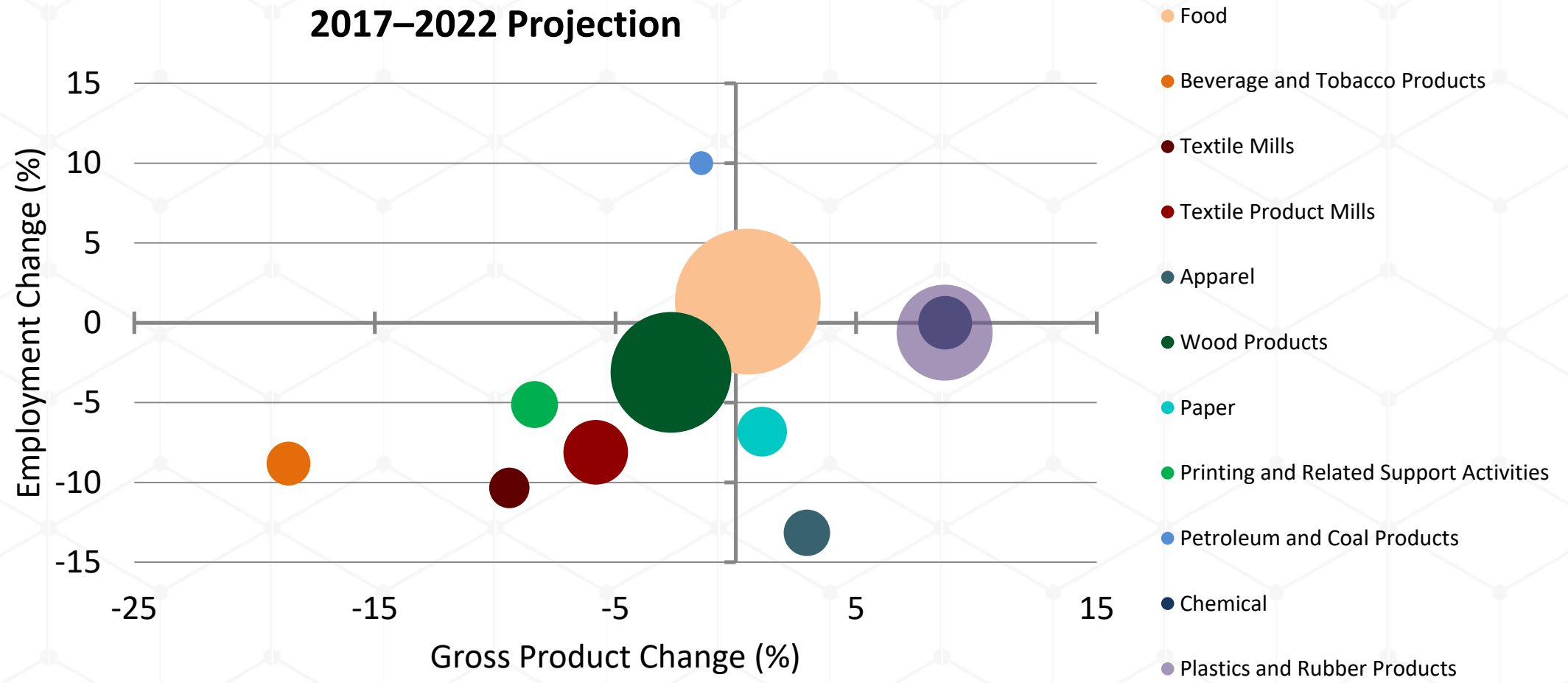
*Through September 2016

Lower wages can be both a good and bad thing

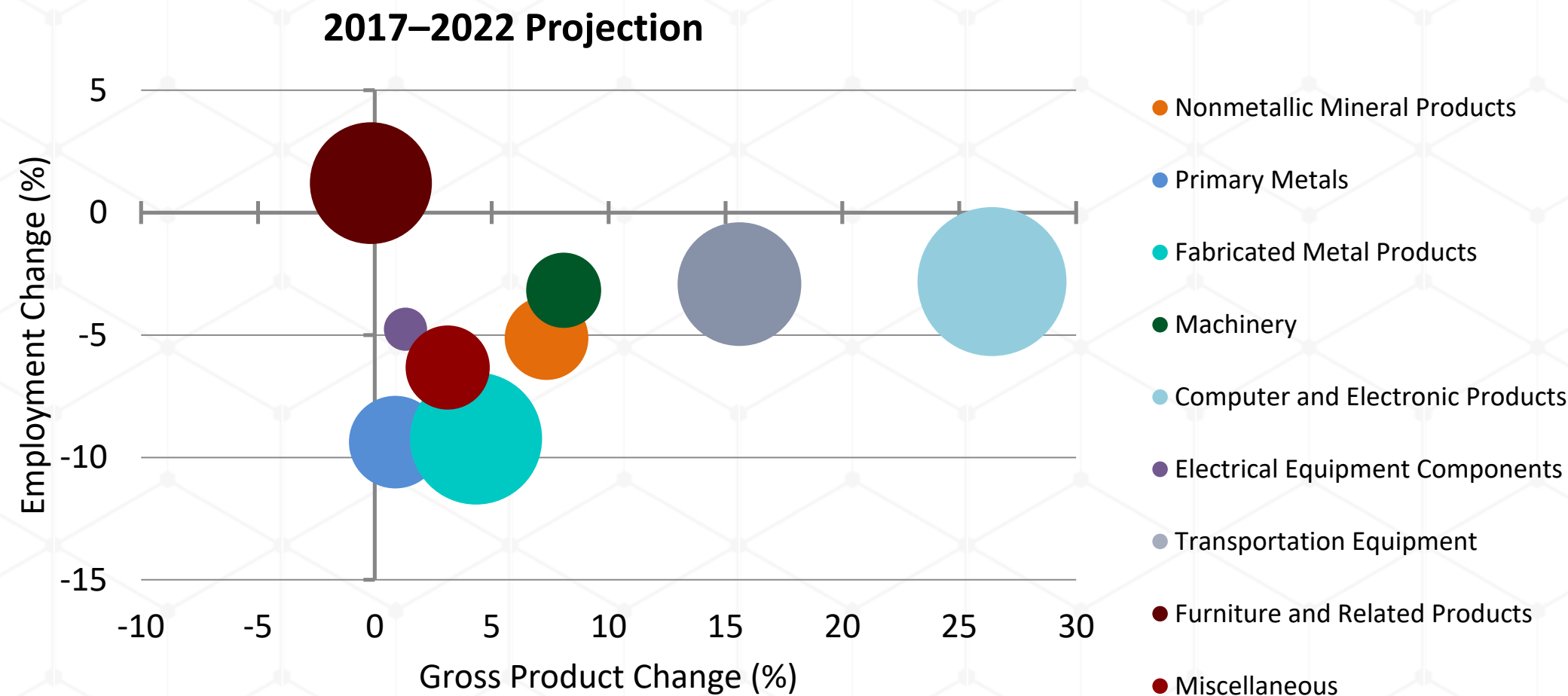


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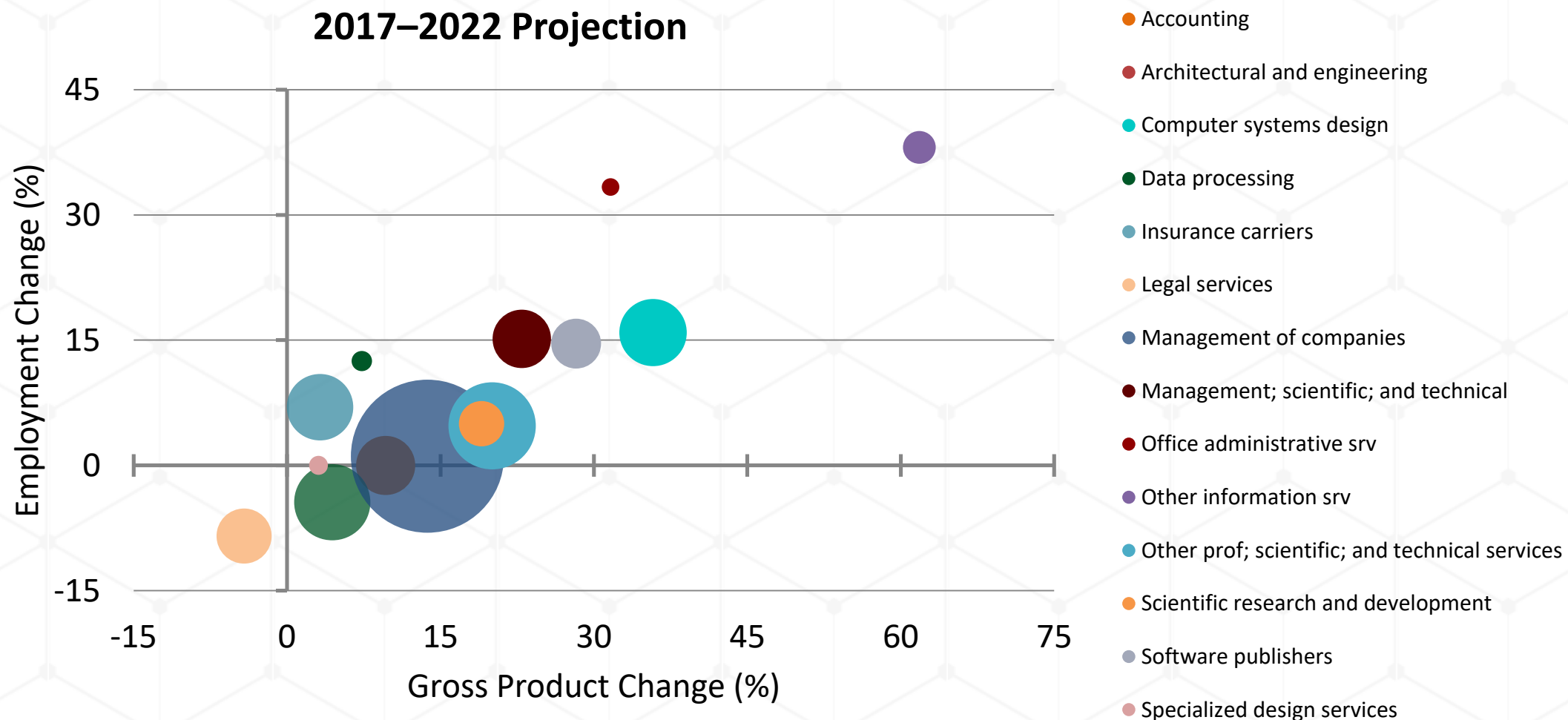
Regional nondurables:



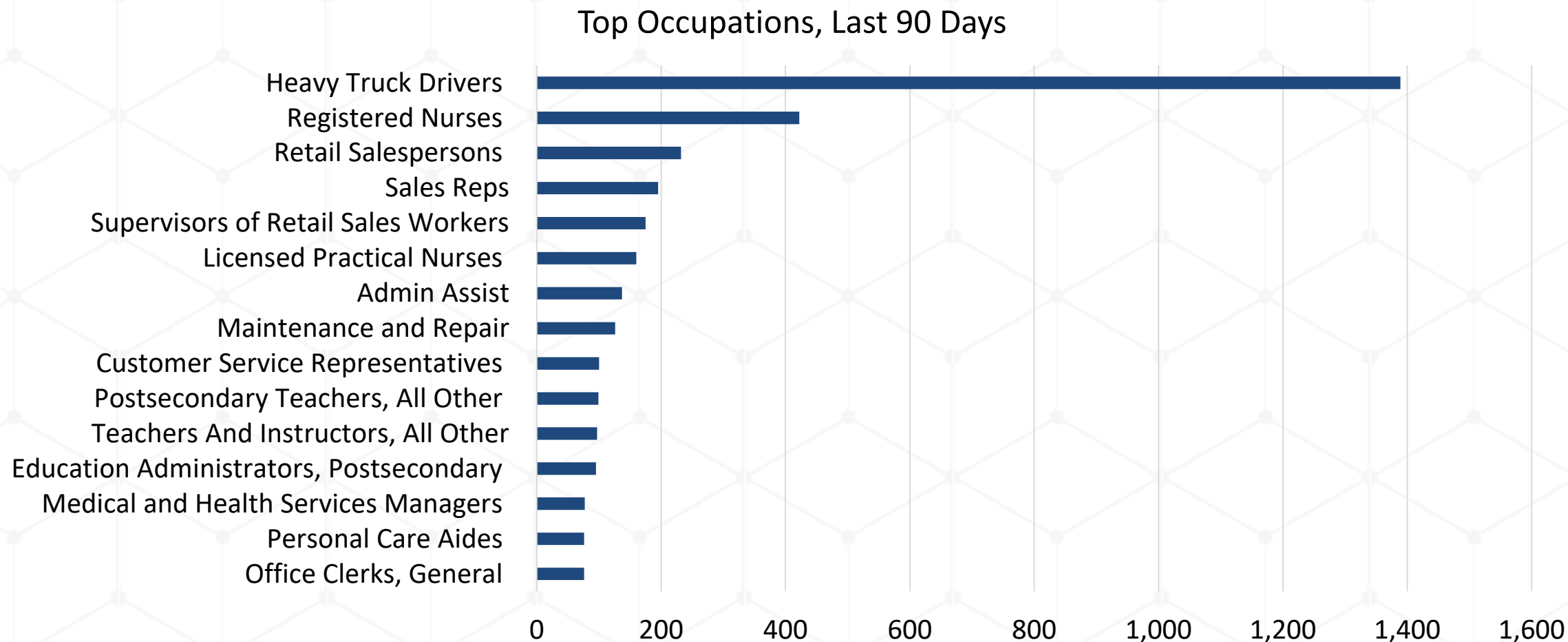
Regional durables:



Technology and Services:

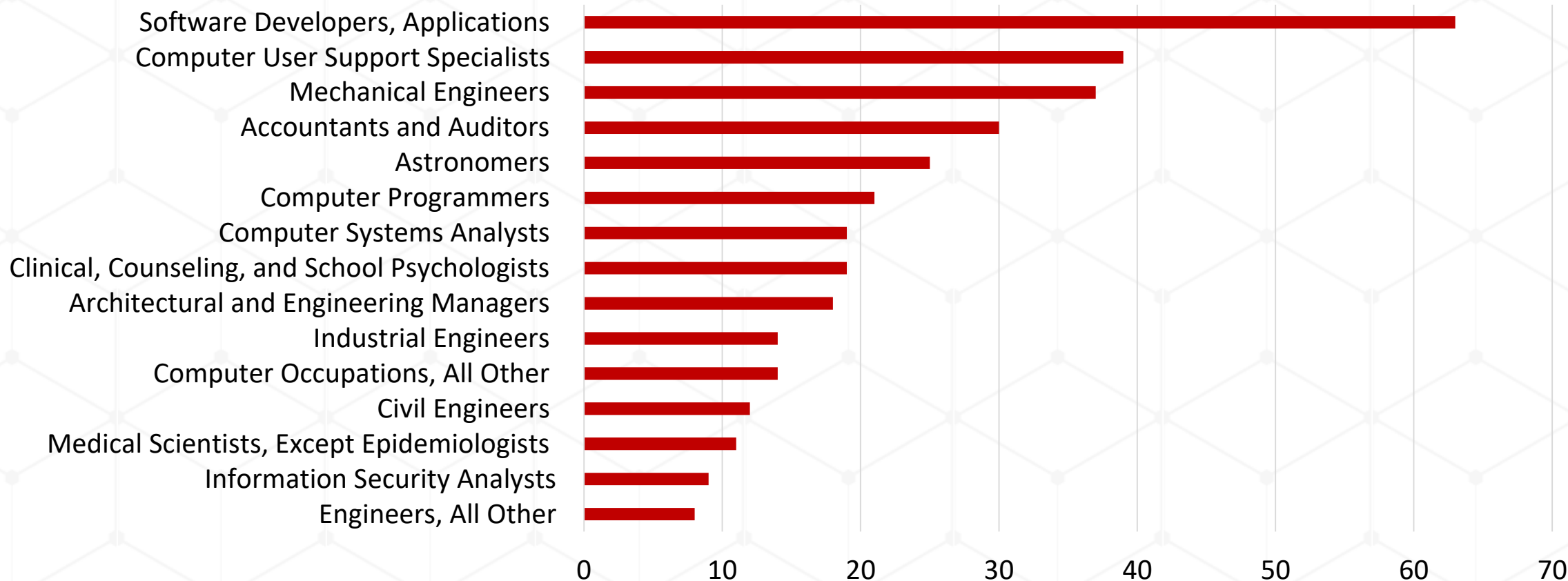


These are pretty consistent across the country



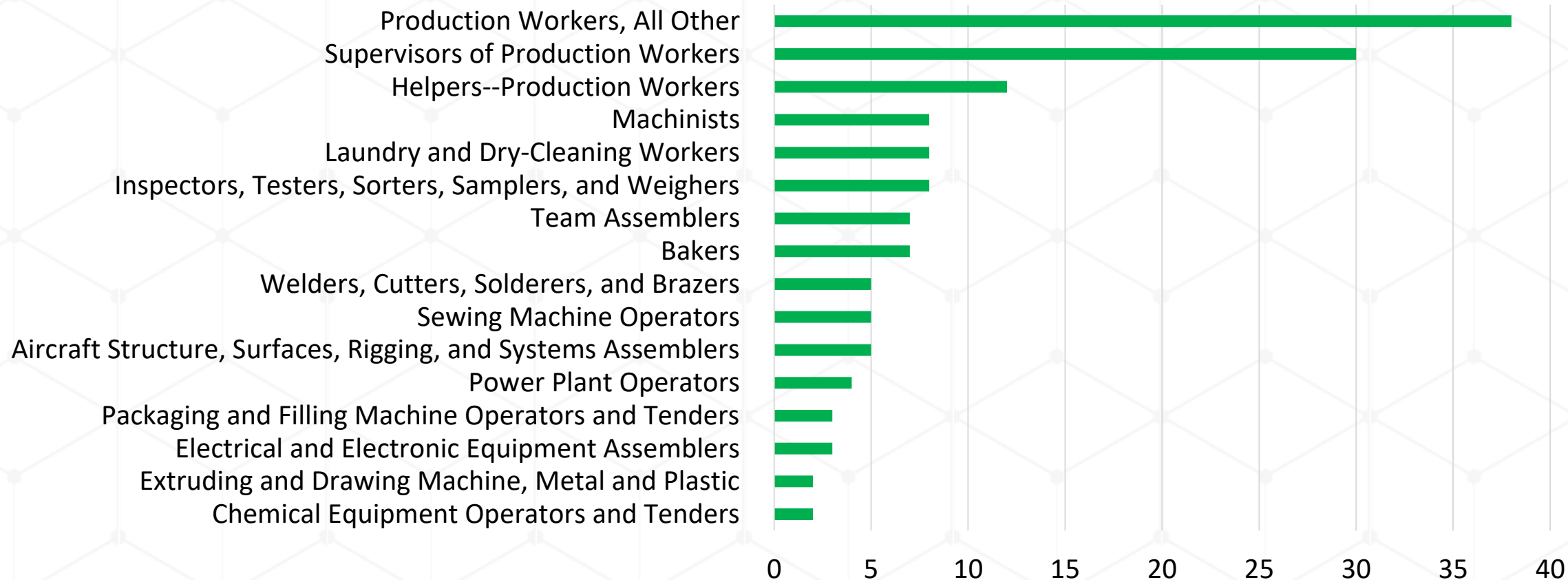
Openings in the knowledge economy

Top STEM Occupations, Last 90 Days



Openings in the manufacturing sector

Top Production Occupations, Last 90 Days



So, what keeps me up at night:

- The changing face of economic development, trading capex for jobs
- Middle skilled jobs
- Artificial Intelligence
- Paying for public goods

What are middle skill jobs?

- Jobs that require more than a high-school diploma and at least 6 months of formal on-the-job training, but less than a Bachelor's degree.

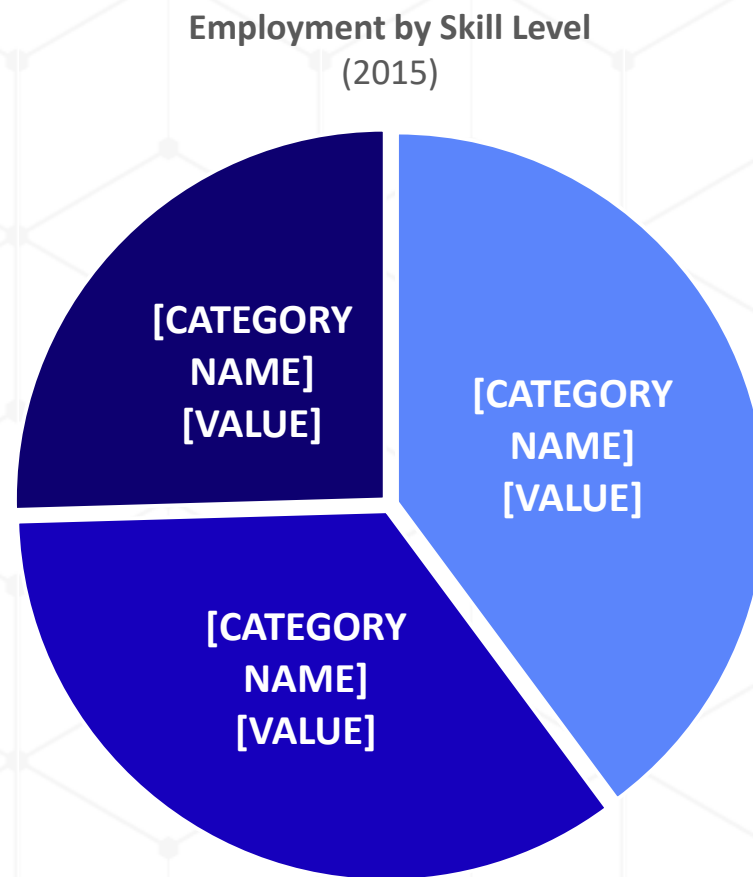
The majority of individuals employed in these professions are considered middle skilled:

94.6%	Installation, Maintenance, & Repair Occupations
84.4%	Production Occupations
77.5%	Construction and Extraction Occupations
69.7%	Health Care Support Occupations
55.4%	Protective Service Occupations

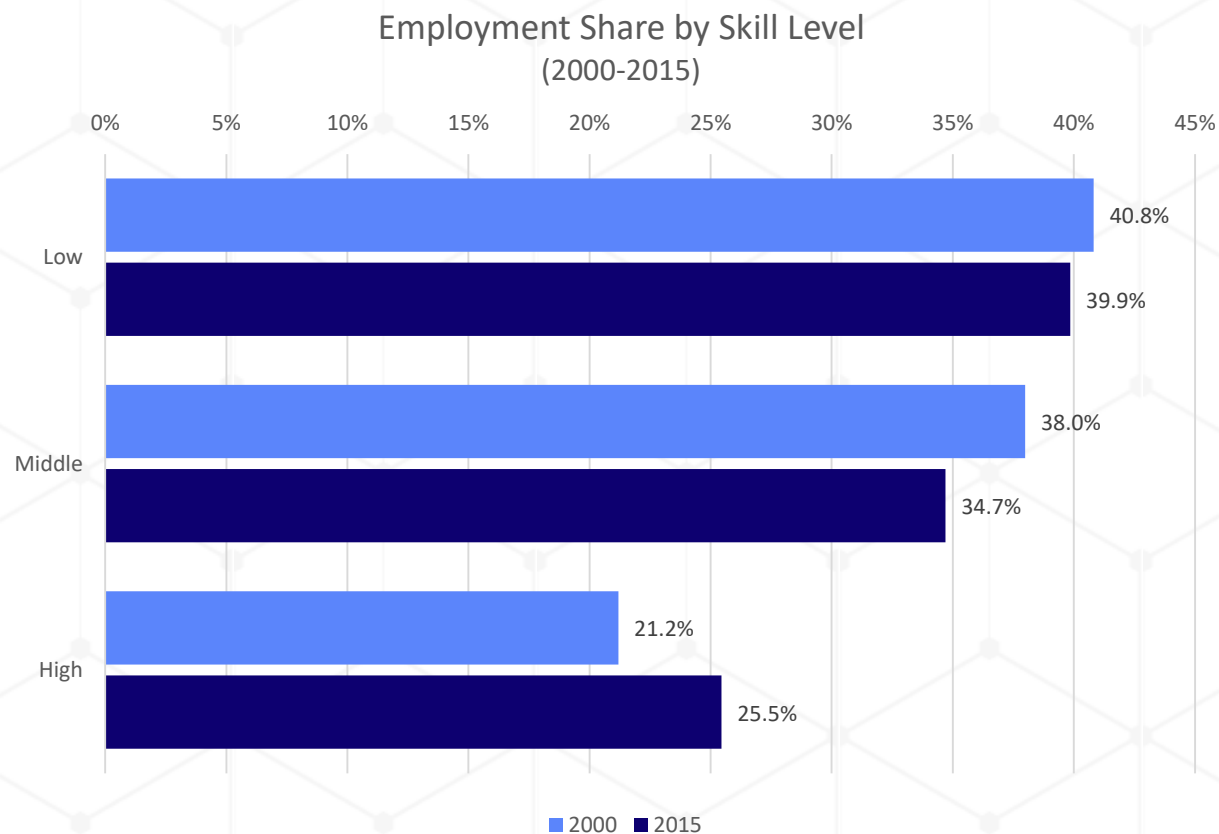
Notable middle skill jobs: Career ladders?

Title	Total Employment (000s) 2015	Hourly Median Wage \$2015
Heavy and Tractor-Trailer Truck Drivers	1,678	19.36
Bookkeeping, Accounting, & Auditing Clerks	1,580	17.91
First-Line Supervisors of Office & Administrative Support Workers	1,424	25.30
Sales Representatives, Wholesale & Manufacturing, except Technical and Scientific Products	1,409	26.79
Maintenance & Repair Workers, General	1,314	17.61
Team Assemblers	1,115	13.98
Sales Representatives, Wholesale & Manufacturing, Technical and Scientific Products	886	24.86
Carpenters	639	20.24
Automotive Service Technicians & Mechanics	638	18.20
First-Line Supervisors of Production & Operating Workers	603	27.09
Electricians	592	24.94
Computer Support Specialists	585	23.38

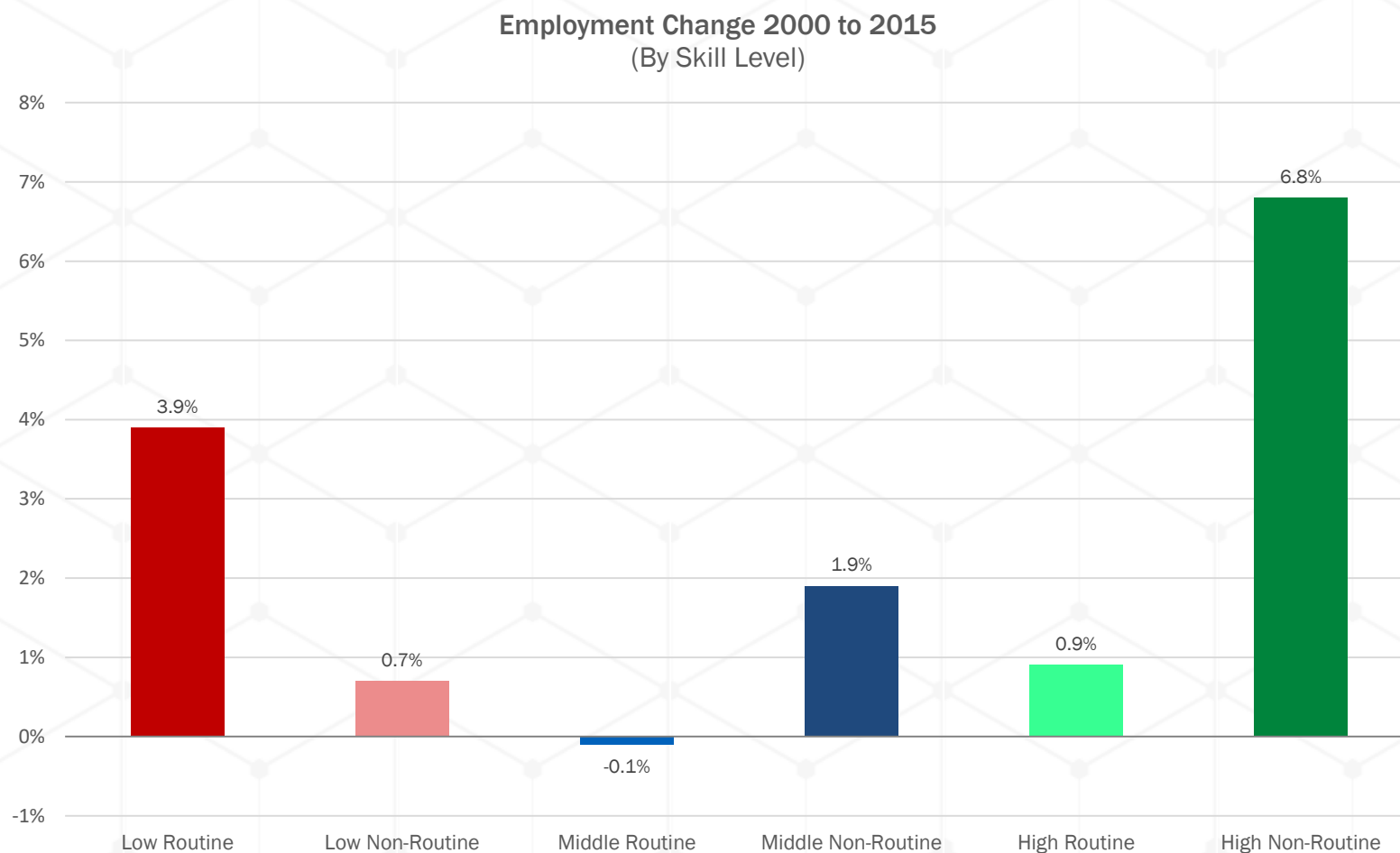
Middle skill employment shares



Middle skill employment growth/decline



Middle skill employment trend



Warren Buffett queried on AI

- Buffett said that AI could be "enormously disruptive," yet beneficial in making the economy more efficient.
- "I would certainly think [AI] would result in significantly less employment in certain areas," he said. "It would be a good thing that would require enormous transformation in how people relate to each other, what they expect of government, all kinds of things."
- Buffett laid out a theoretical scenario at one of Berkshire's best-known companies, Geico. The insurer employs about 36,000 people, yet the financial services industry is seen as vulnerable to automation. Buffett asked: What if all of Geico's current functions, aided by AI, could be done by 10,000 people, or a third of the staff?

How do we pay for public services?

- If you assume worker displacement due to AI
- State and local governments across the U.S. are funded by:
 - Income taxes
 - Sales taxes
 - Property
 - Real
 - Personal
 - User fees, excise taxes, permit fees and others
- How do we support population and services?

Questions and comments?

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