

Wisconsin's Growing Workforce Challenges

Changing Demographics and Their Impact
on Wisconsin Counties

Wisconsin Counties Association
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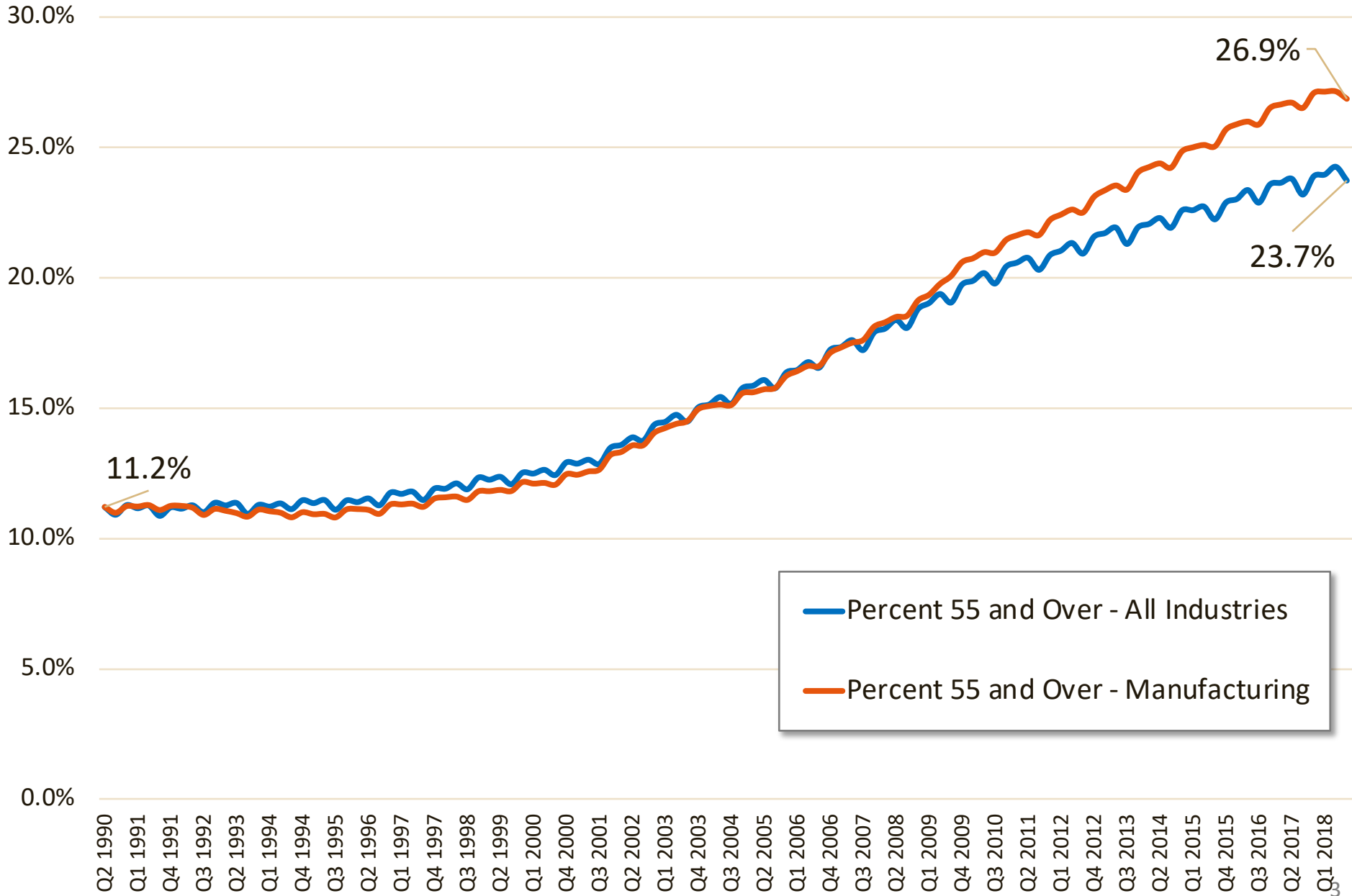


Extension

UNIVERSITY OF WISCONSIN-MADISON

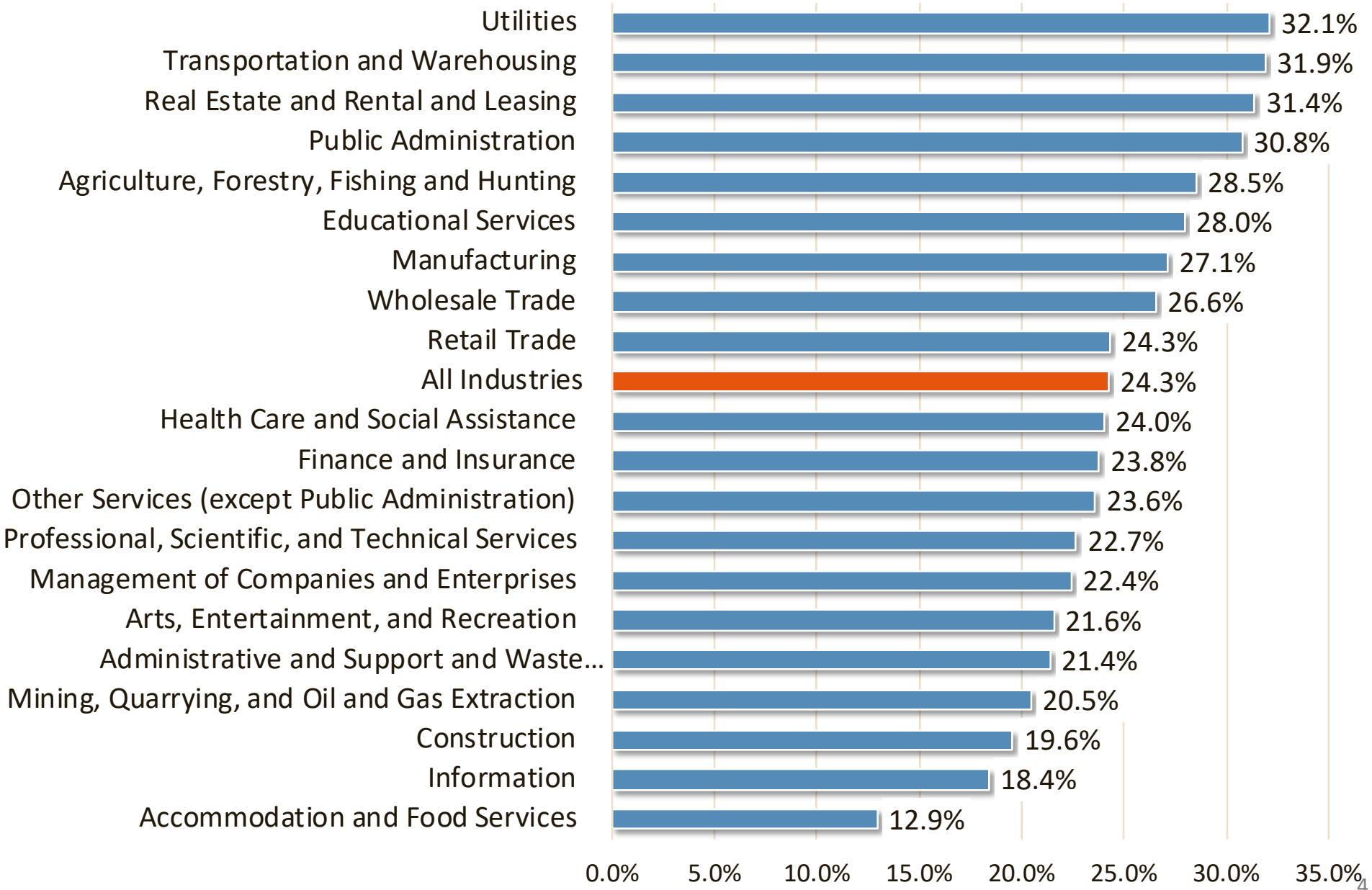
Labor Supply in Wisconsin from Age Structure and Labor Participation Rate Perspectives

Wisconsin Employees Age 55 and Older as a Percent of All Employees - 1990 to 2018



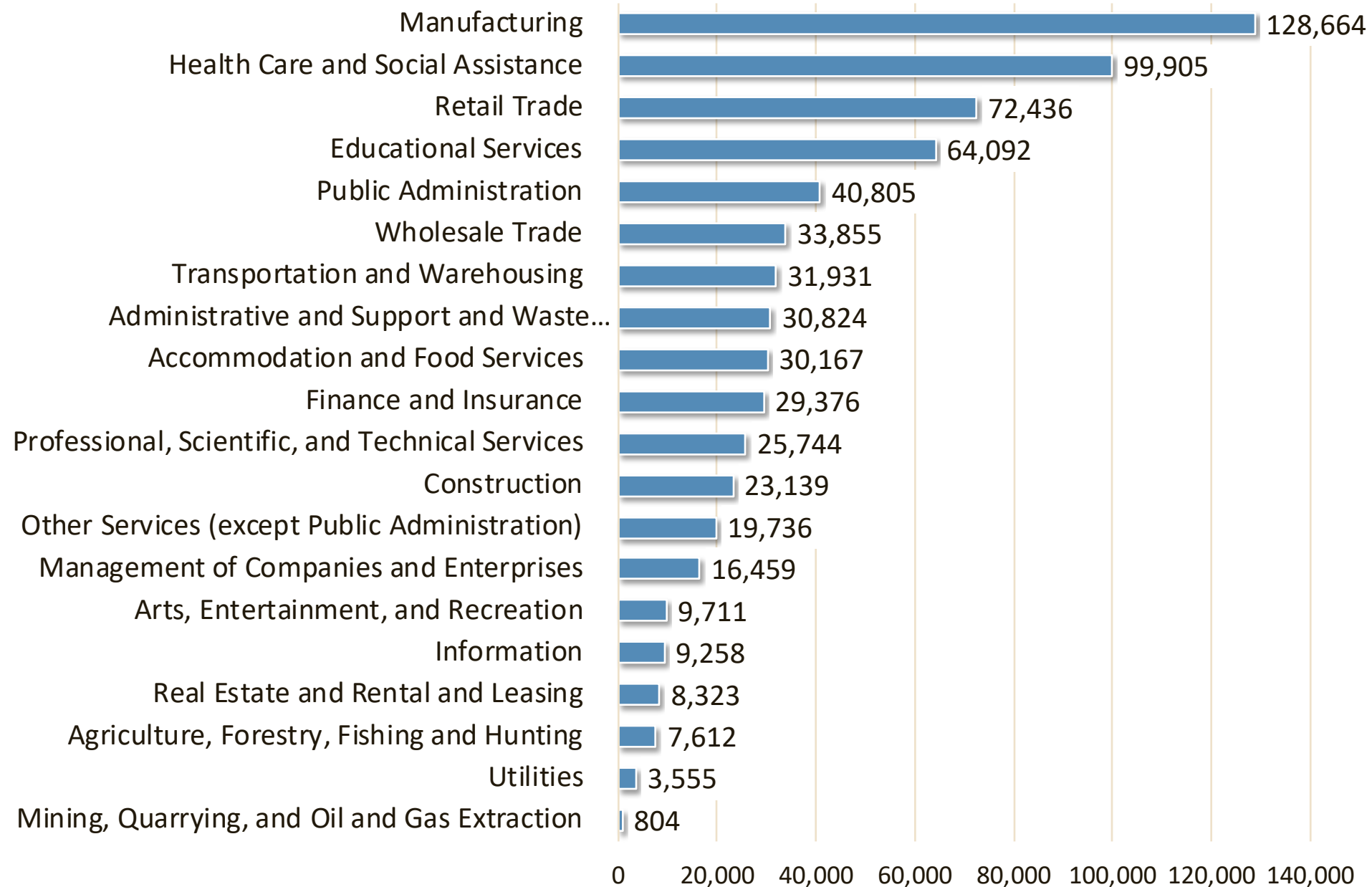
State of Wisconsin Employees Age 55 and Over by Industry Sector

Share of Total Employment - Q2 2018



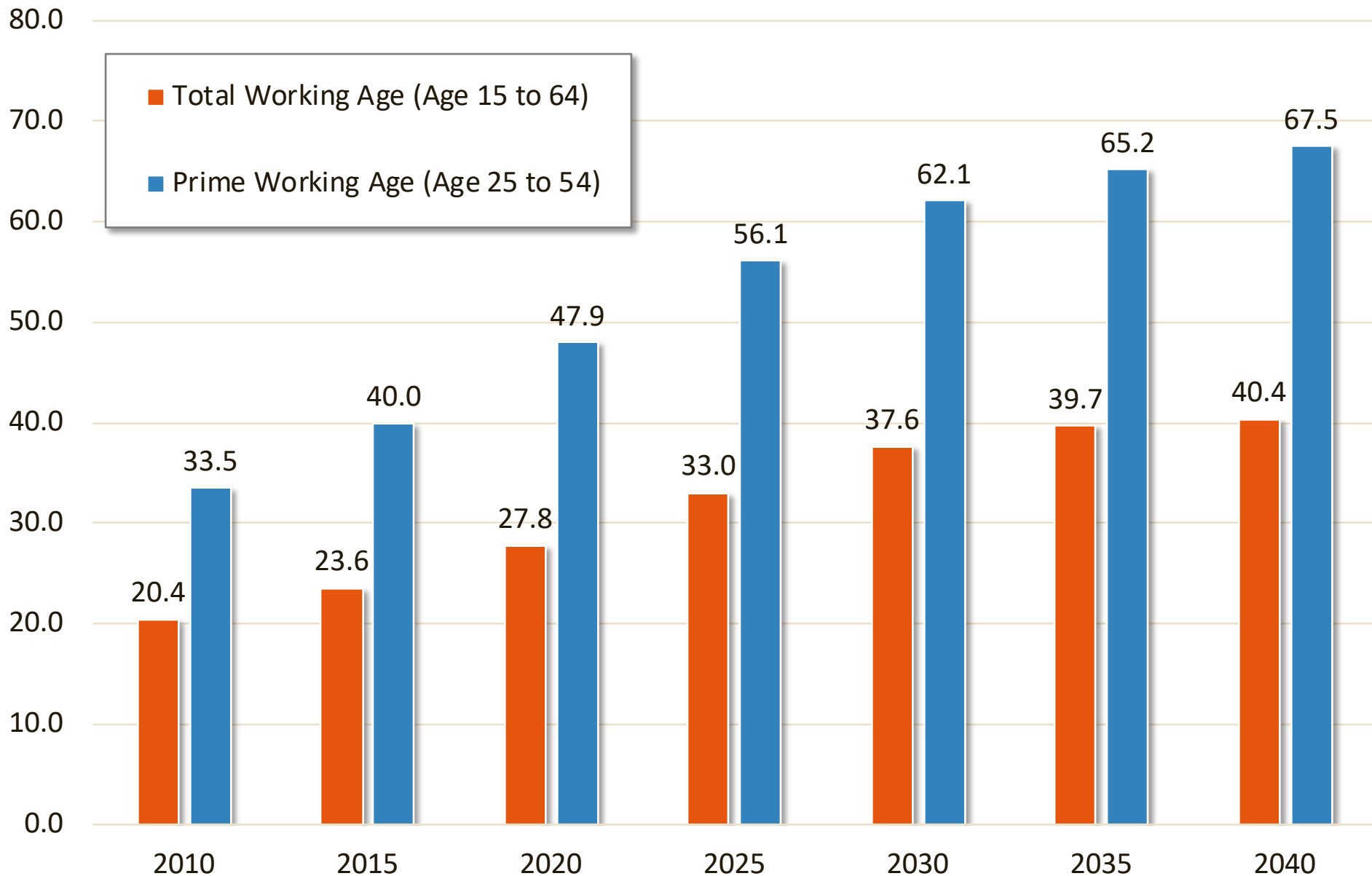
State of Wisconsin Employees Age 55 and Over by Industry Sector

Number of Employees - Q2 2018



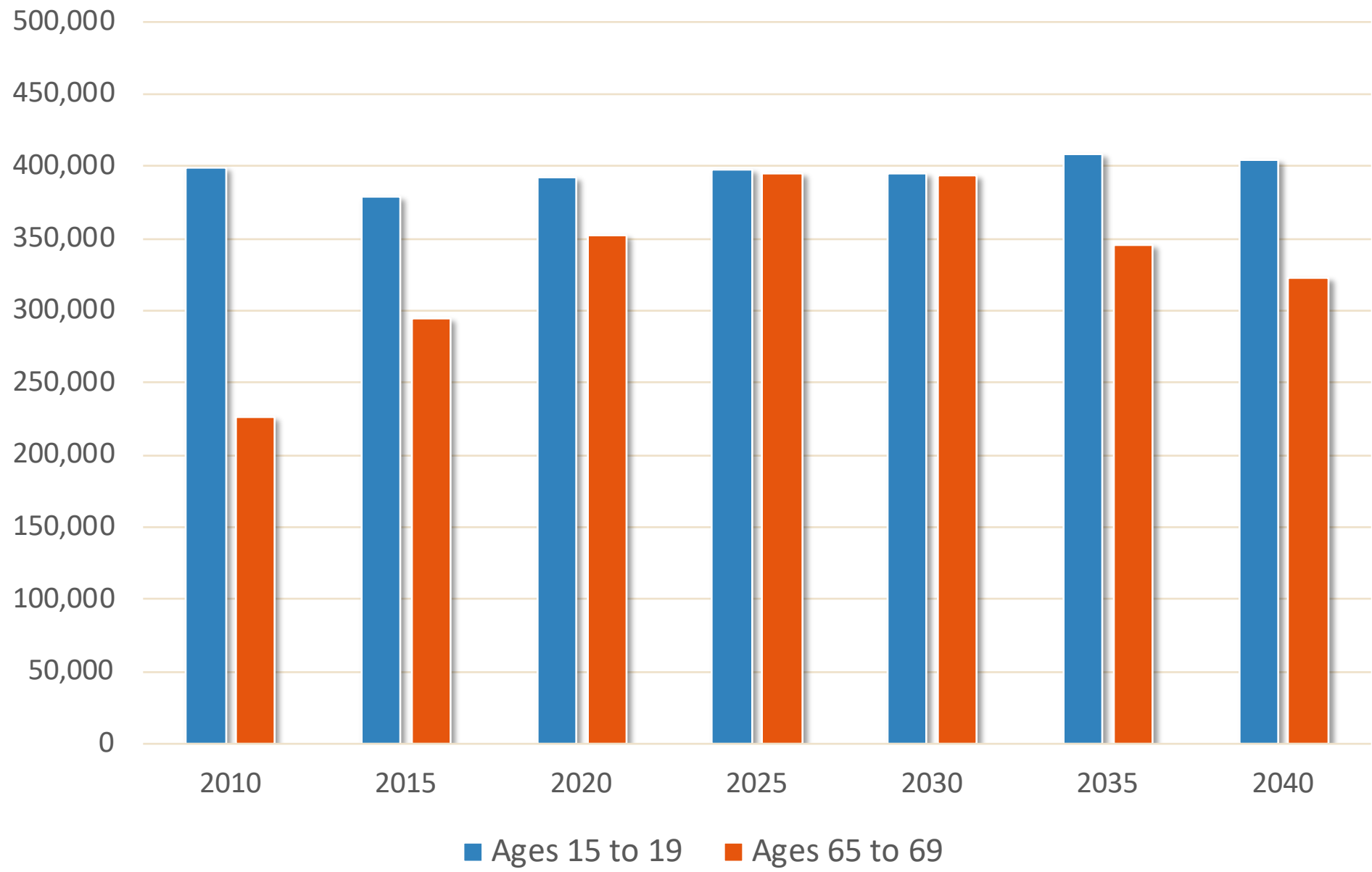
Number of Residents Age 65 and Over per 100 Working Age Residents

State of Wisconsin 2010 Census to 2040 Projections



Convergence of the Population Ages 15 to 19 and Ages 65 to 69

2010 Census to 2040 Projections

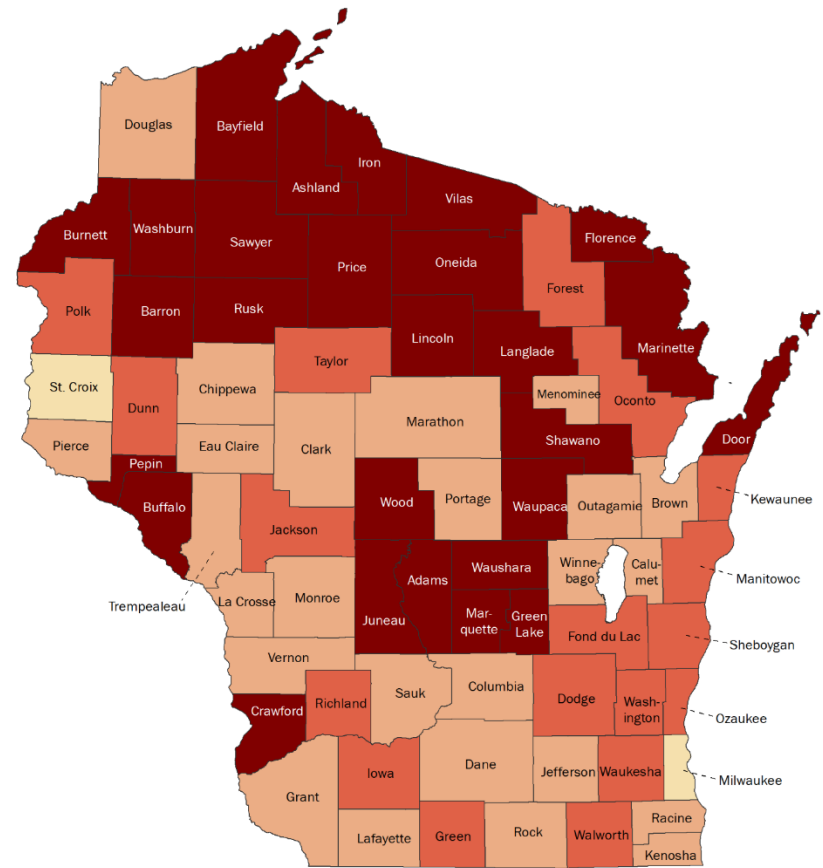
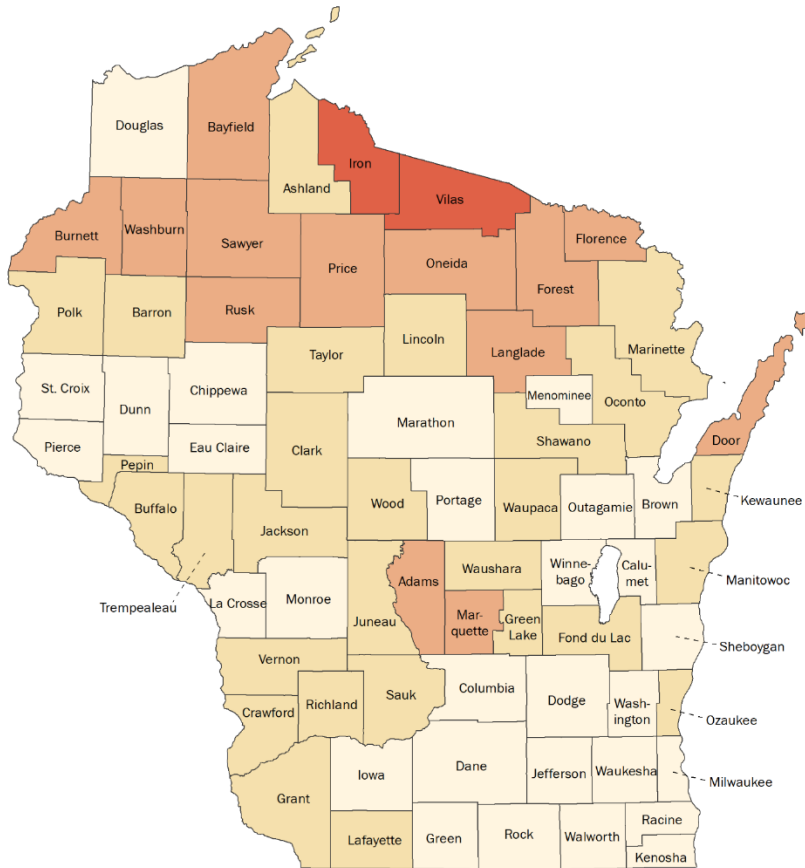


Data Source: Wisconsin Department of Administration and Author's Calculations

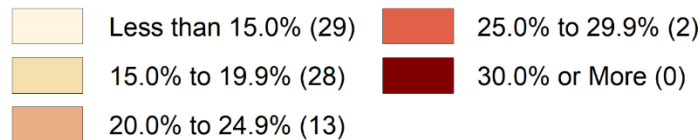
Projected Change in Population Age 65 and Over - 2010 to 2040

Share of County Population Age 65 or Older - 2010 Census

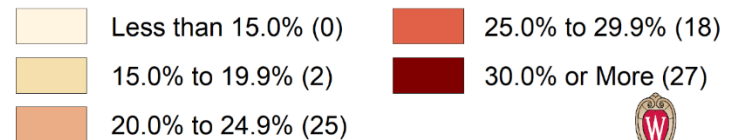
Share of County Population Age 65 and Over - 2040 Projection



**Share of Population Age 65 and Over - 2010 Census
(Number of Counties)**



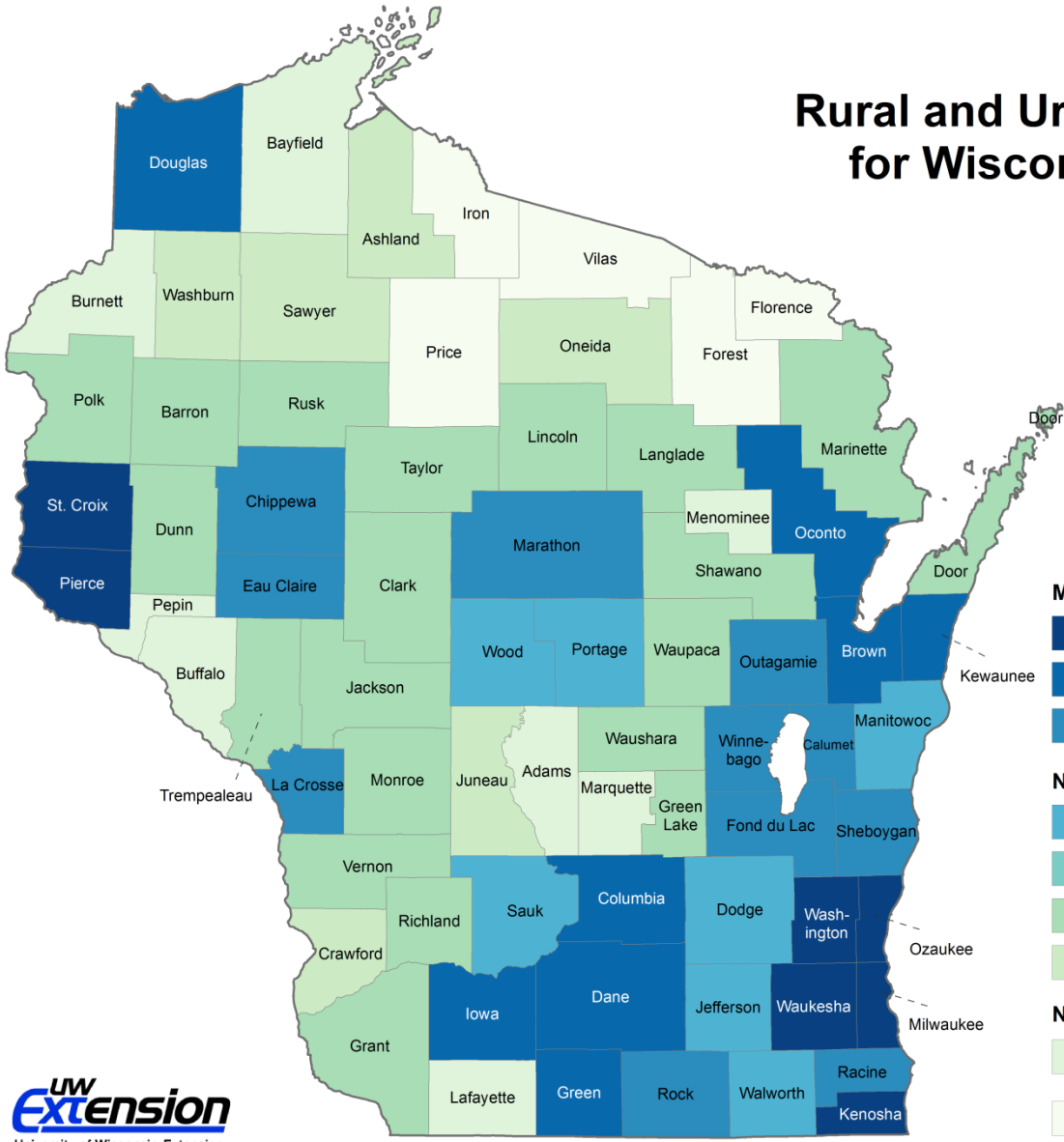
**Share of Population Age 65 and Over - 2040 Projection
(Number of Counties)**



Rural-Urban Continuum Codes

Code	Description
Metro Counties	
1	Counties in metro areas of 1 million population or more
2	Counties in metro areas of 250,000 to 1 million population
3	Counties in metro areas of fewer than 250,000 population
Non-Metro Counties	
4	Urban population of 20,000 or more, adjacent to a metro area
5	Urban population of 20,000 or more, not adjacent to a metro area
6	Urban population of 2,500 to 19,999, adjacent to a metro area
7	Urban population of 2,500 to 19,999, not adjacent to a metro area
8	Completely rural or less than 2,500 urban pop., adjacent to a metro area
9	Completely rural or less than 2,500 urban pop., not adjacent to a metro area

Rural and Urban Continuum Codes for Wisconsin Counties - 2013



Metro Counties

- 1 - Counties in an MSA with 1 million people or more
- 2 - Counties in an MSA with 250,000 to 1 million people
- 3 - Counties in an MSA with fewer than 250,000 people

Non-Metro Counties - Urban Population Greater than 2,500

- 4 - Urban pop. of 20,000 or more, adjacent to MSA
- 5- Urban pop. of 20,000 or more, not adjacent to MSA
- 6 - Urban pop. of 2,500 to 19,999, adjacent to MSA
- 7 - Urban pop. of 2,500 to 19,999, not adjacent to MSA

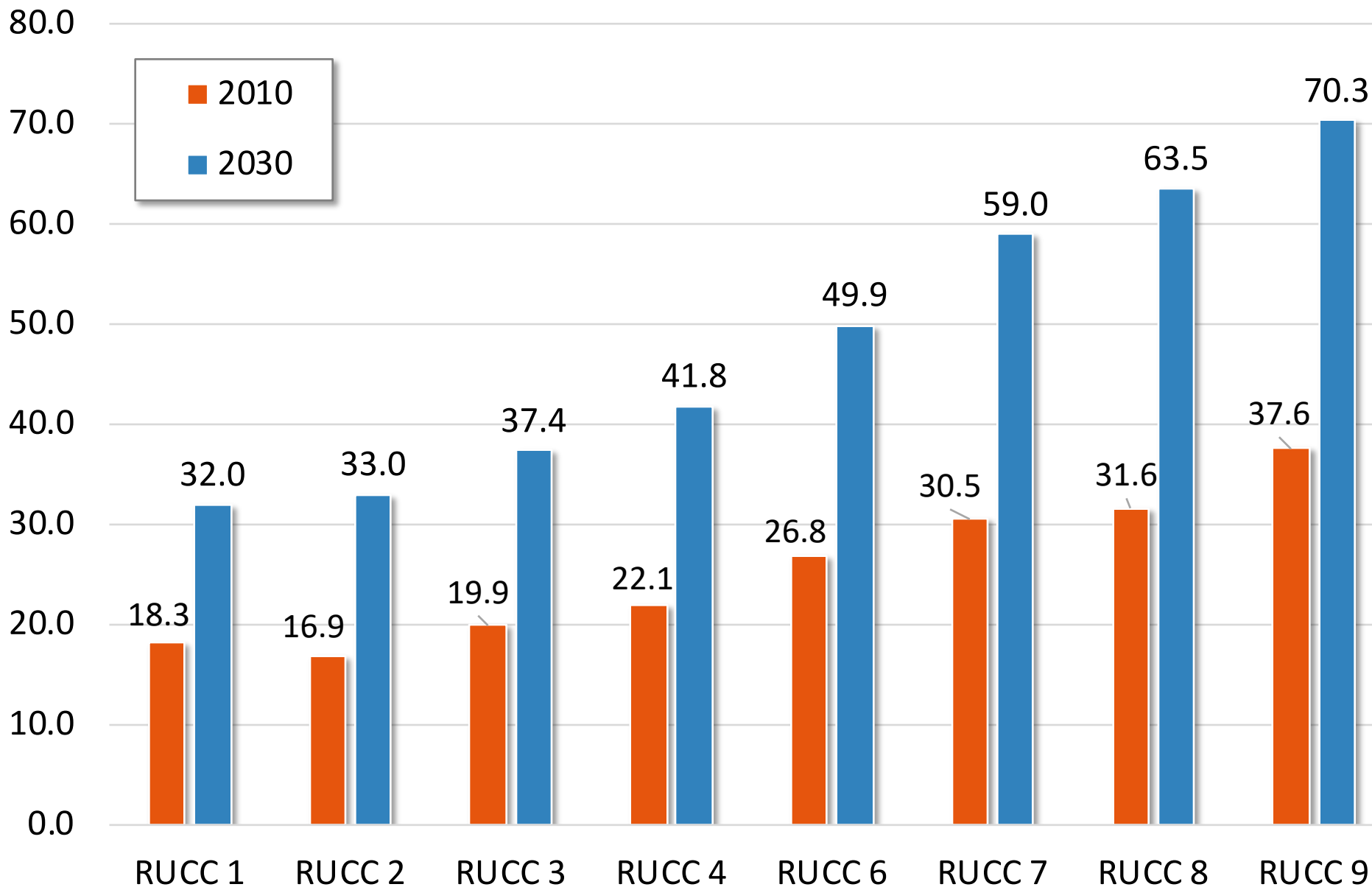
Non-Metro Counties - Urban Population less than 2,500

- 8 - Completely rural or less than 2,500 urban pop., adjacent to an MSA
- 9 - Completely rural or less than 2,500 urban pop., not adjacent to an MSA



Source: USDA Economic Research Service (ERS)
 Map produced by UW-Extension Center for Community and Economic Development

Number of Residents Age 65 or Over per 100 Residents Age 15 to 64 by Rural-Urban Continuum Codes - 2010 Census and 2030 Projections



Understanding Employment Conditions – *Unemployment and Labor Participation*

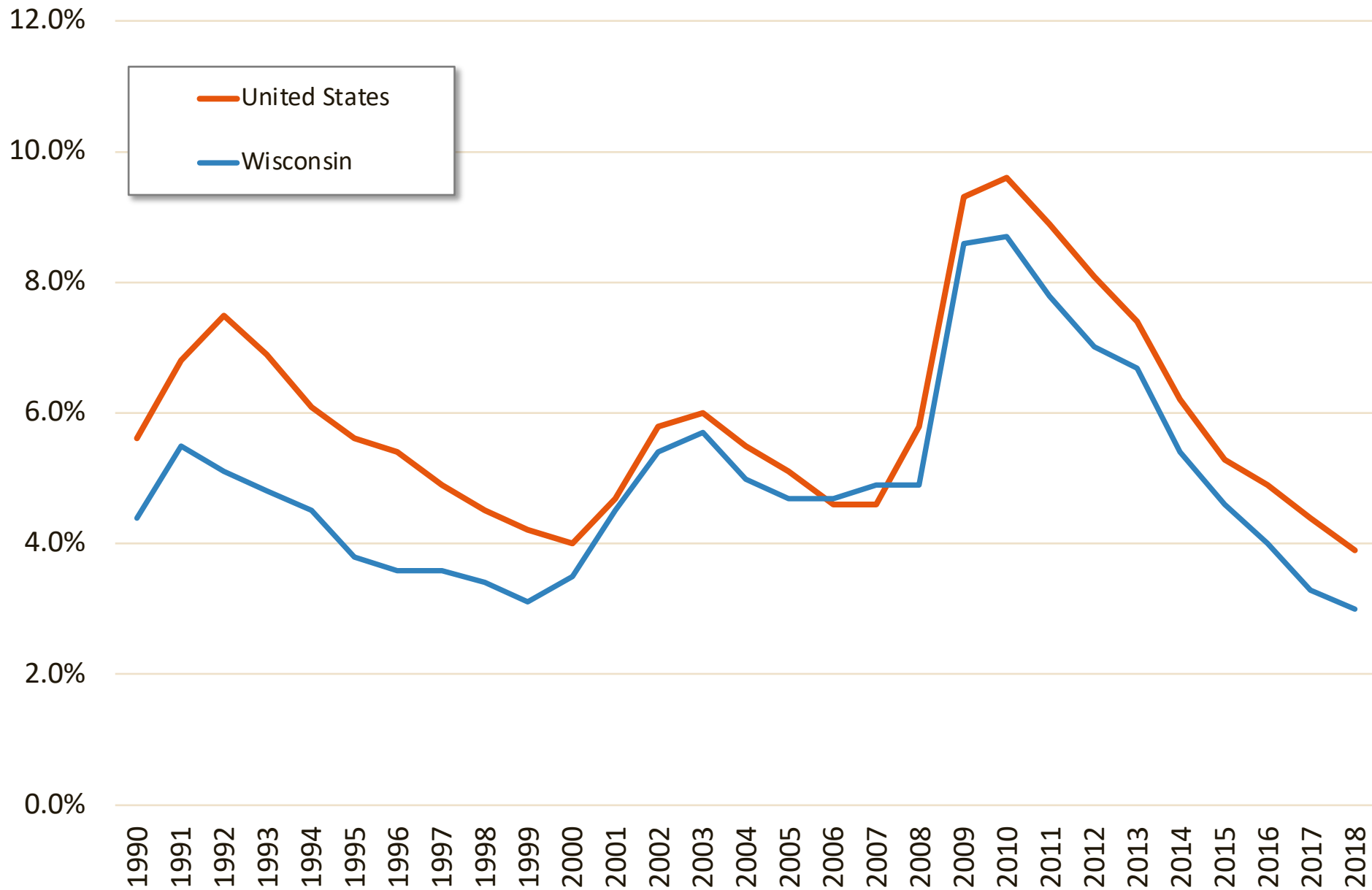
- **Labor Participation Rate** – Percent of the civilian population that is either employed or unemployed *and* actively seeking a job
- **Unemployment Rate** – Percent of the civilian labor force that is without a job and actively seeking one.

Unemployment rates and participation rates do not include people who are not in the labor force. Individuals not in the labor force can include:

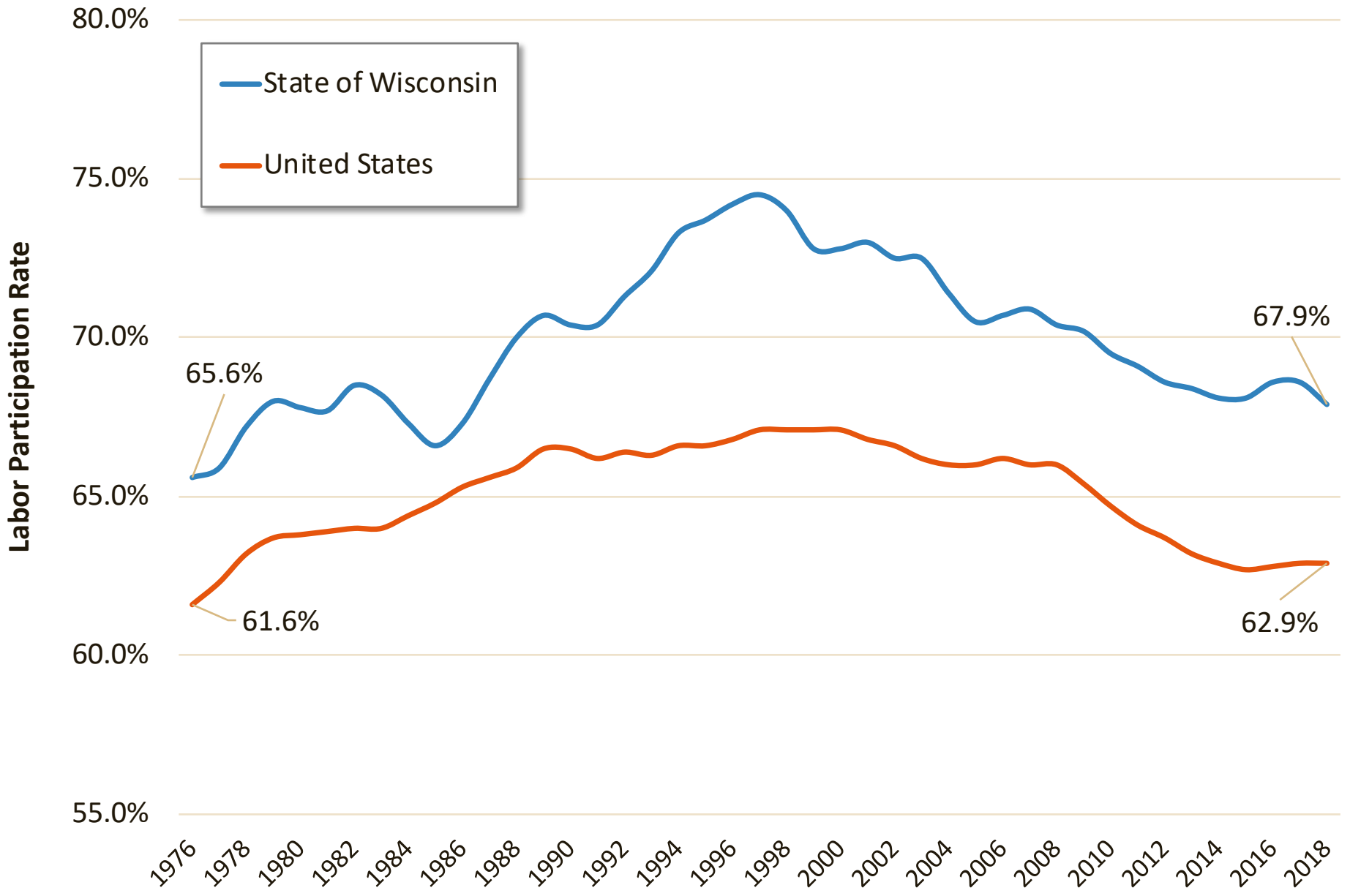
- Discouraged workers (those not actively seeking employment);
- Students;
- Retirees;
- Seasonal workers surveyed in the off-season;
- Institutionalized individuals;
- People doing incidental unpaid family work;



Annual Average Unemployment Rate (U3) *State of Wisconsin 1990 to 2018*

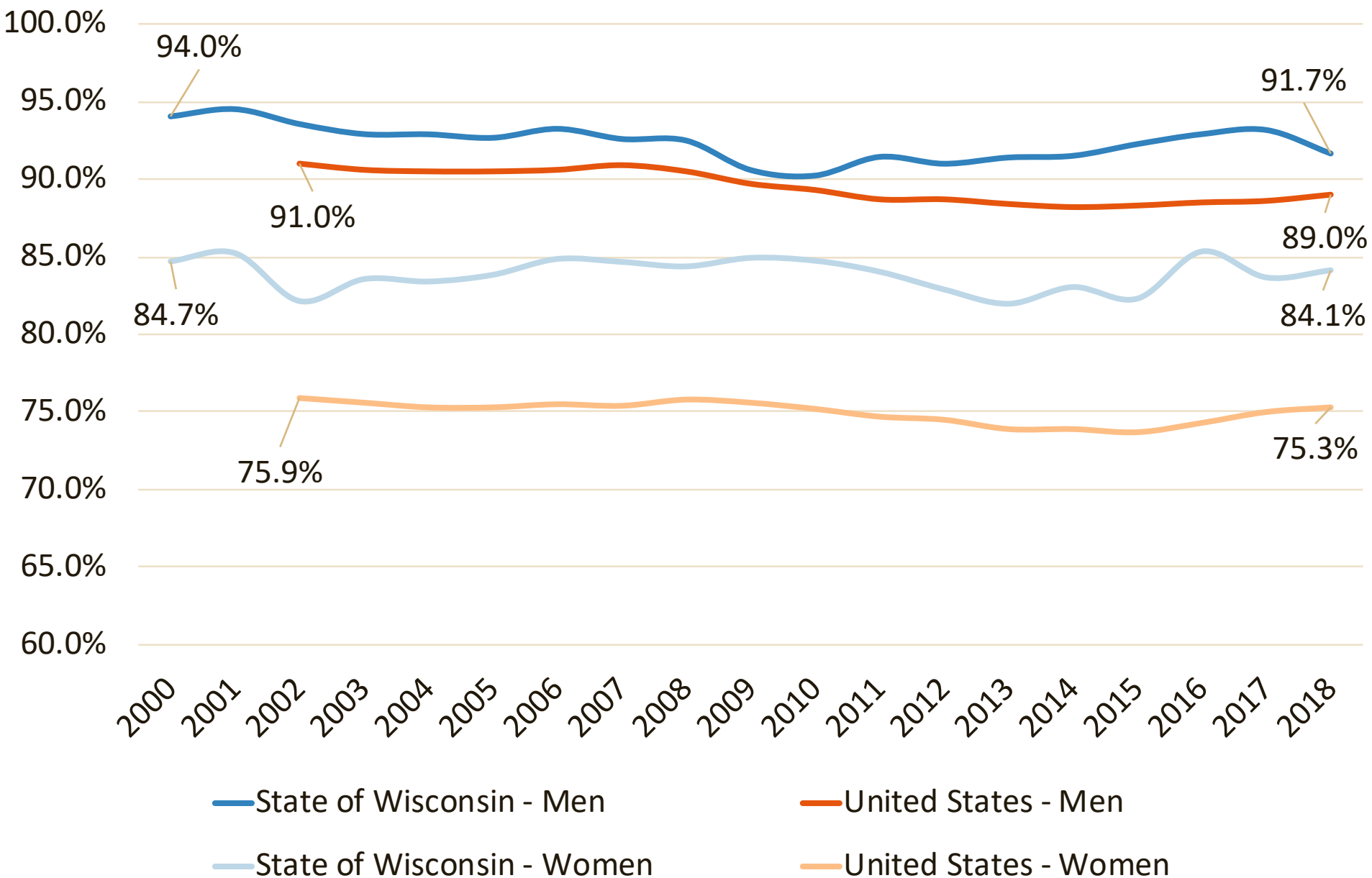


Change in Labor Participation Rates 1976 to 2018 (Age 16 and Over)

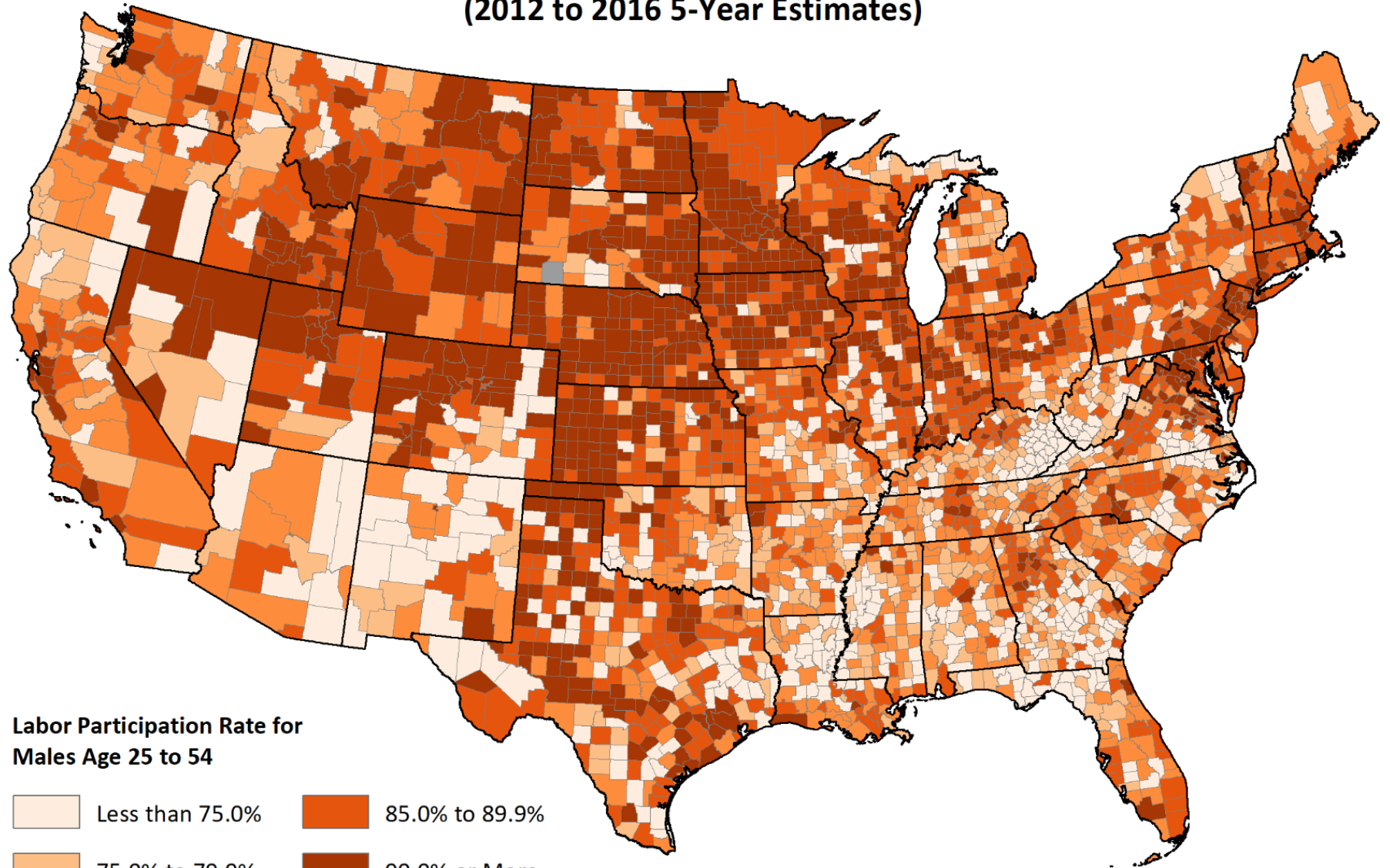


Source: Author's Calculations, Bureau of Labor Statistics, U.S. Census Bureau, Current Population Survey

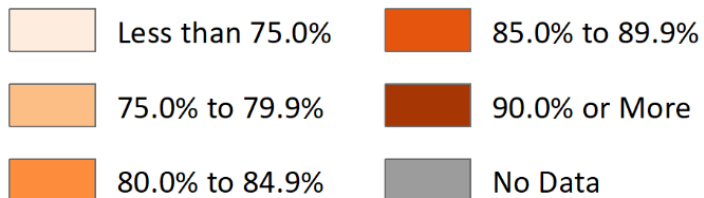
Labor Participation Rates for the Population Ages 25 to 54



Labor Participation Rate for Males Age 25 to 54 (2012 to 2016 5-Year Estimates)



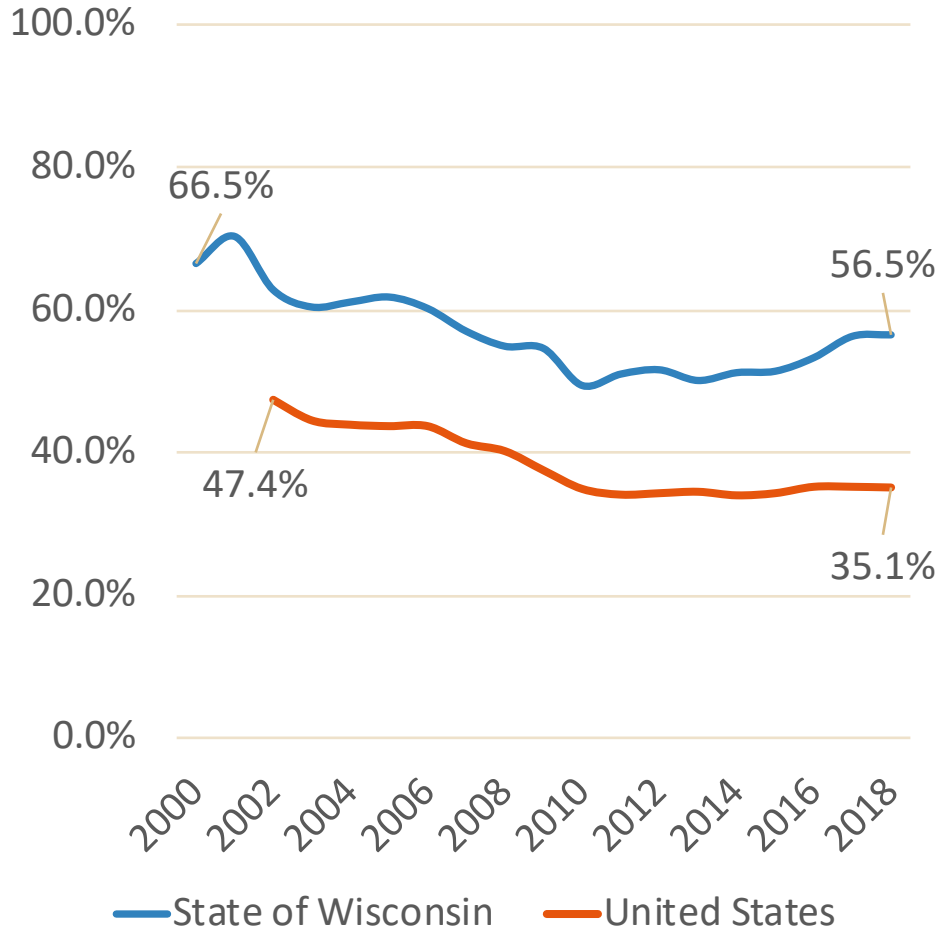
Labor Participation Rate for Males Age 25 to 54



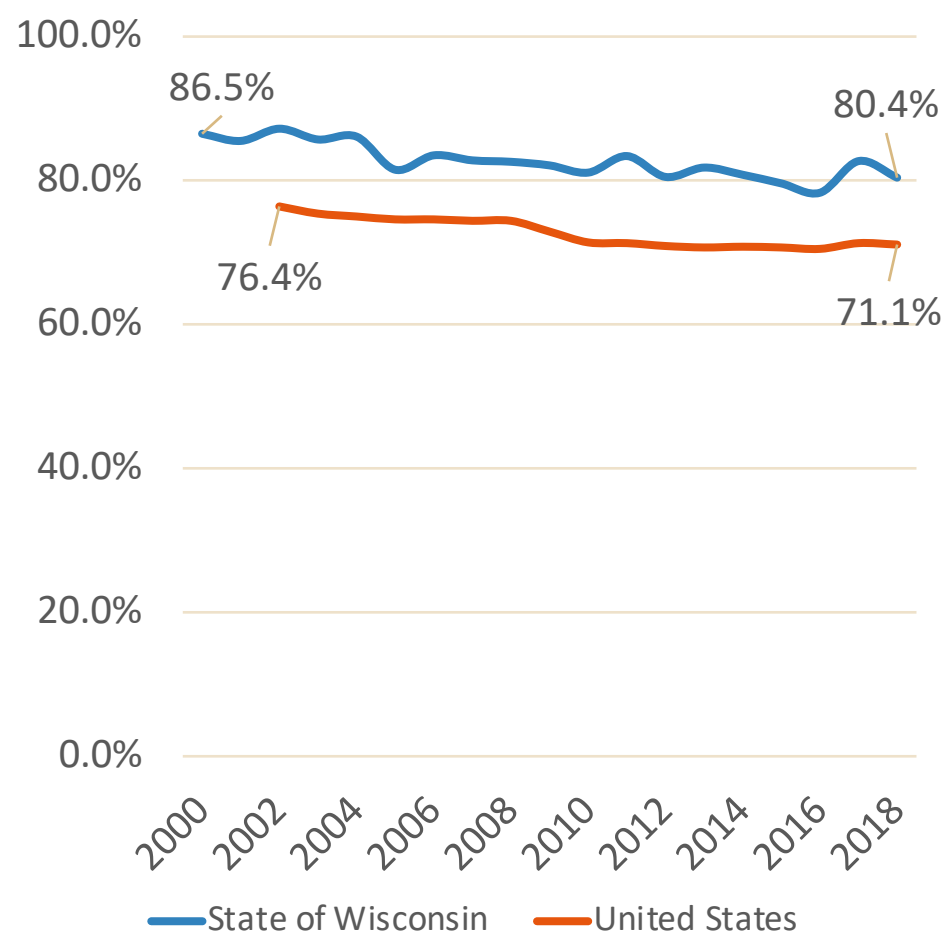
Data Source: U.S. Census Bureau 2012-2016 American Community Survey.
Numbers are subject to a margin of error.

Changes in Labor Participation Rates

Labor Participation Rate - Ages 16 to 19

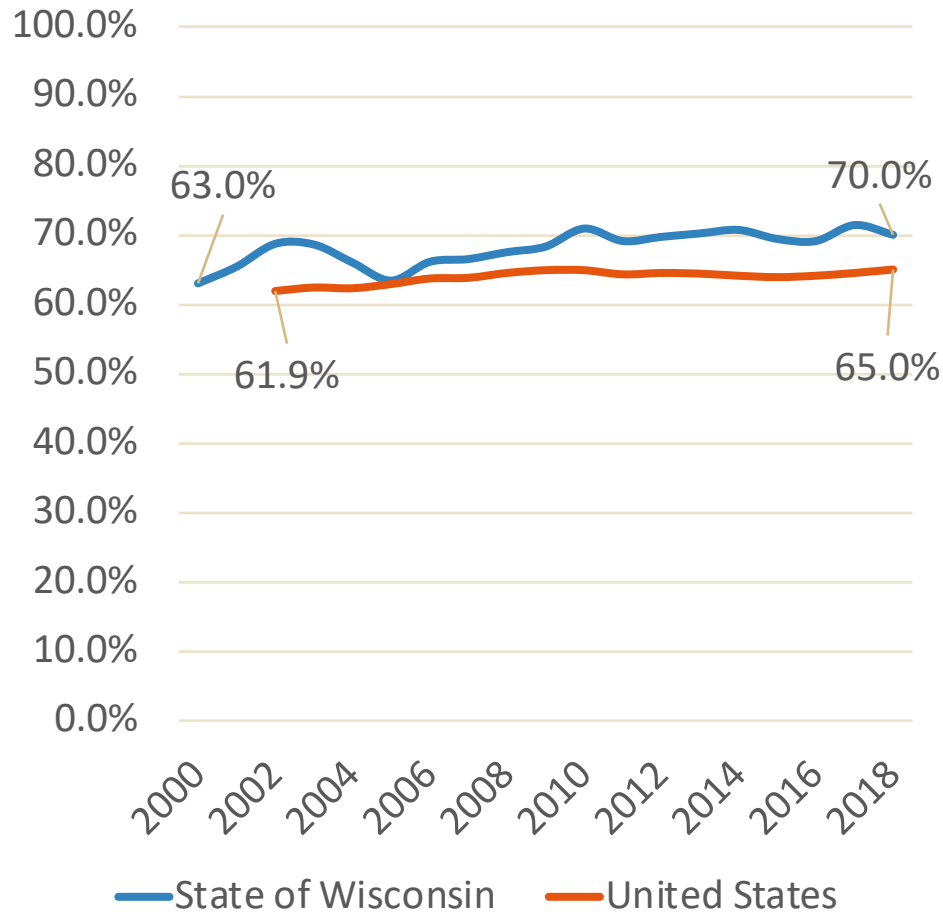


Labor Participation Rate - Ages 20 to 24

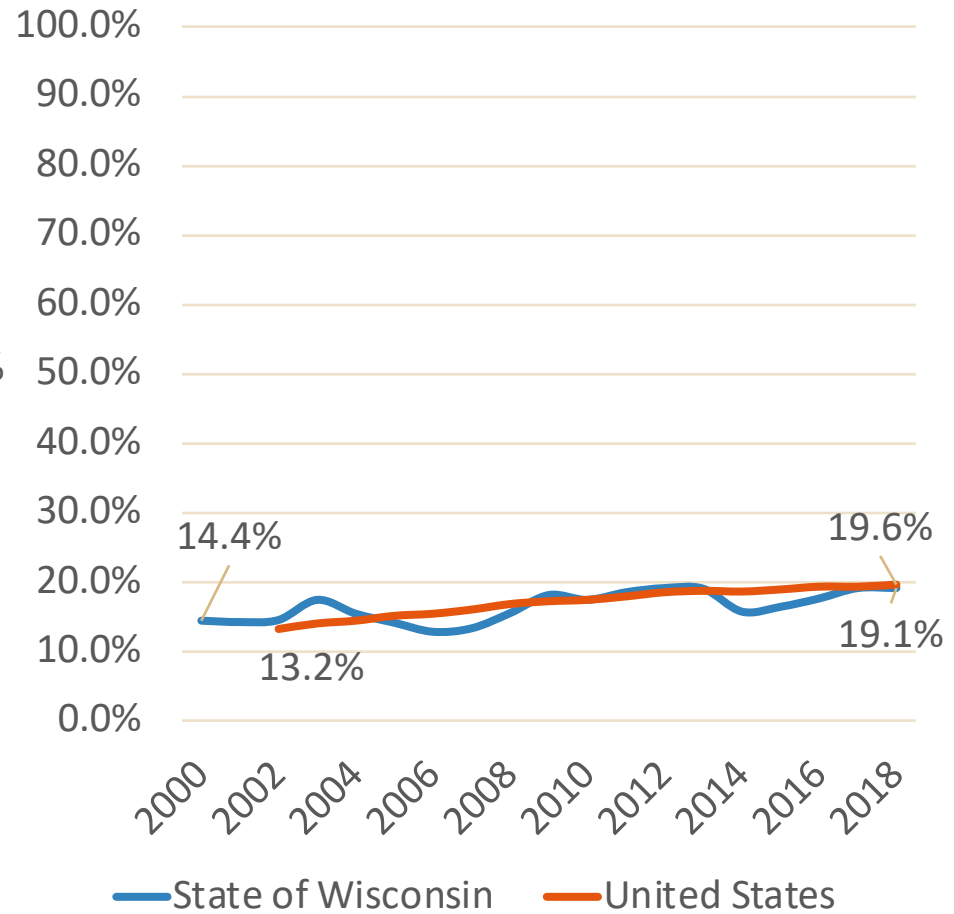


Changes in Labor Participation Rates

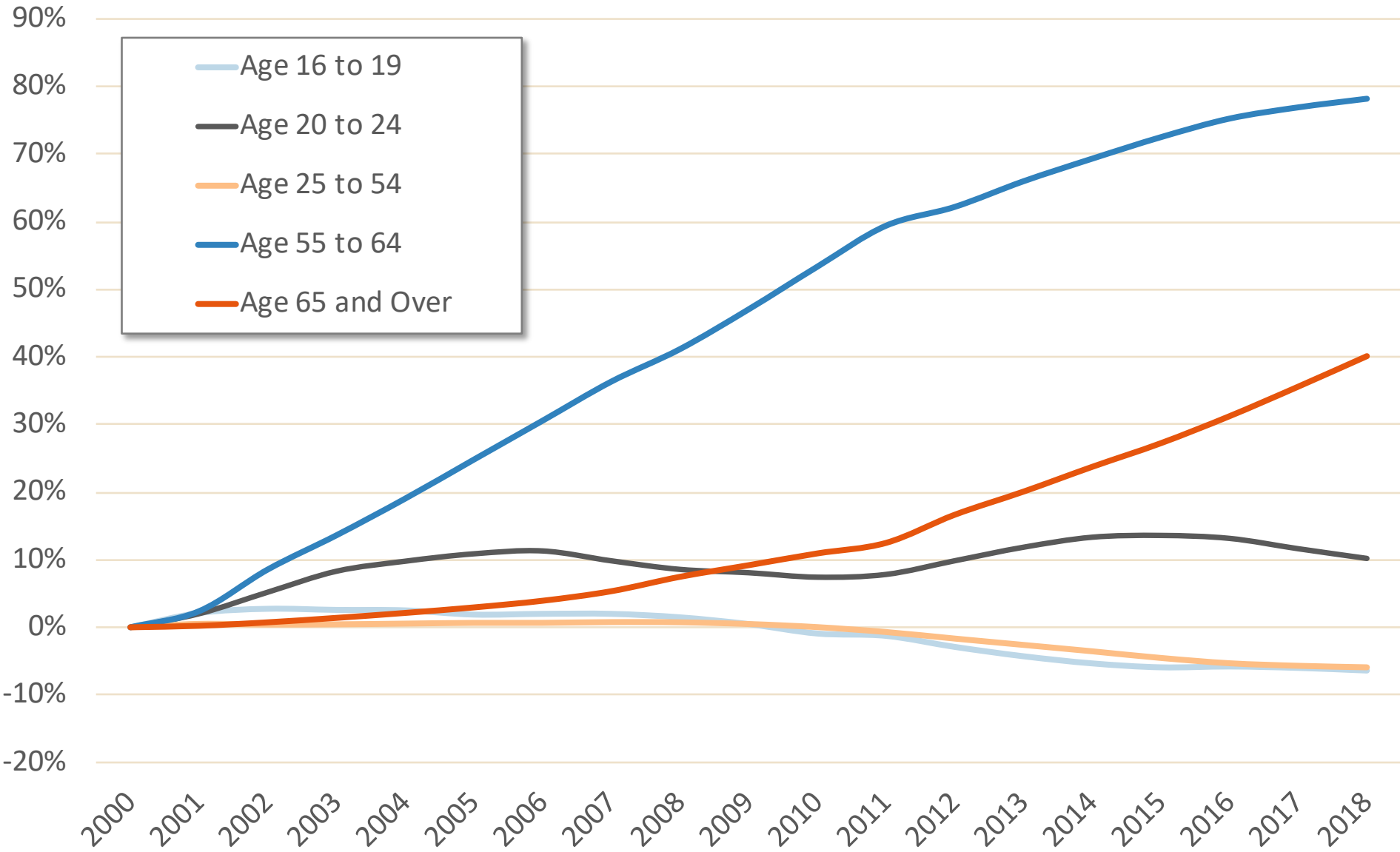
Labor Participation Rate - Ages 55 to 64



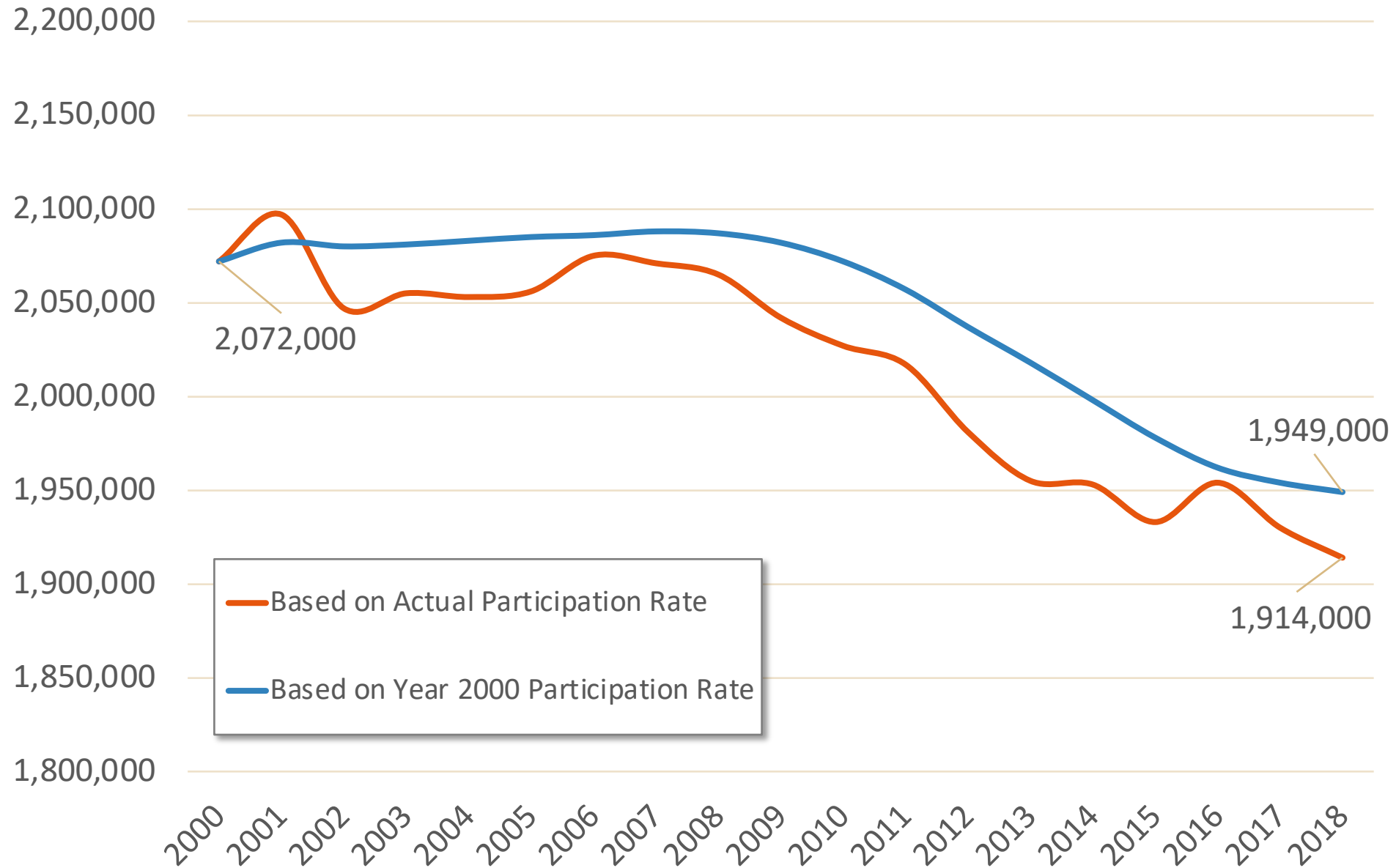
Labor Participation Rate - Ages 65 and Over



Percent Change in Wisconsin Population by Age Group (2000-2018)

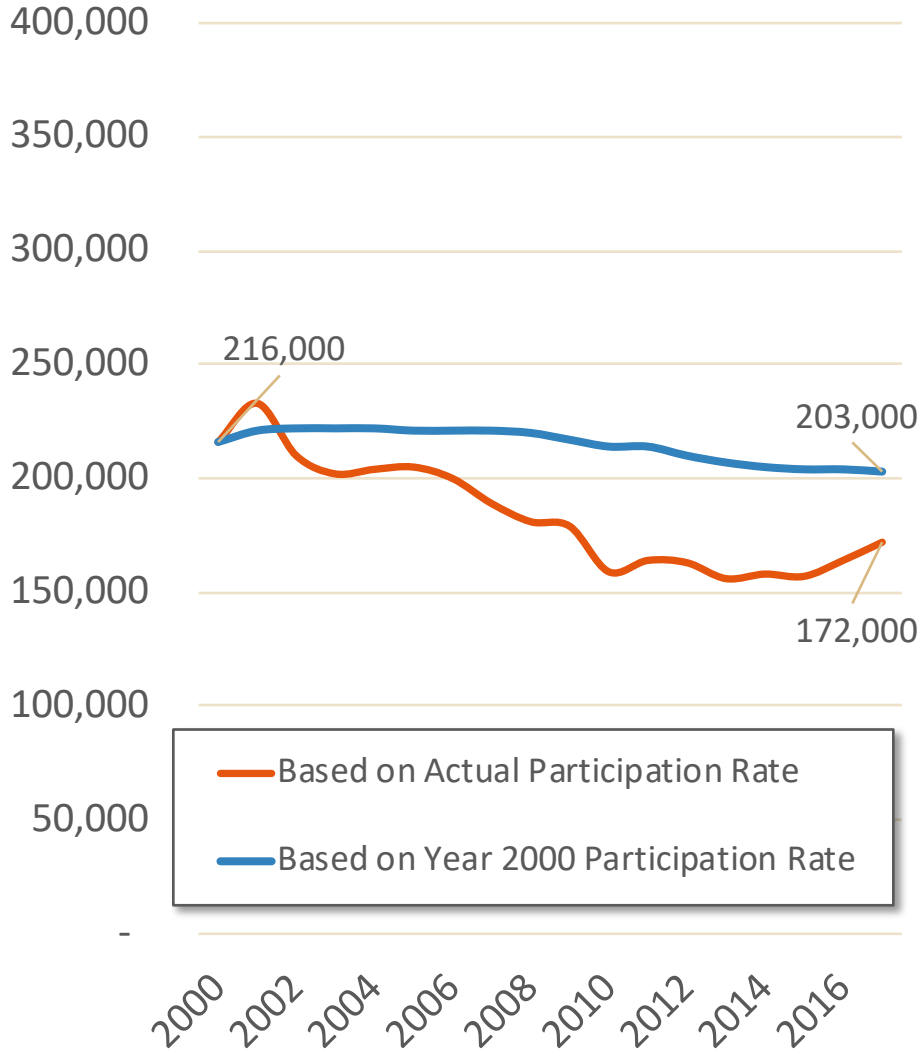


Total Individuals in the Labor Force Ages 25 to 54 State of Wisconsin 2000 to 2018

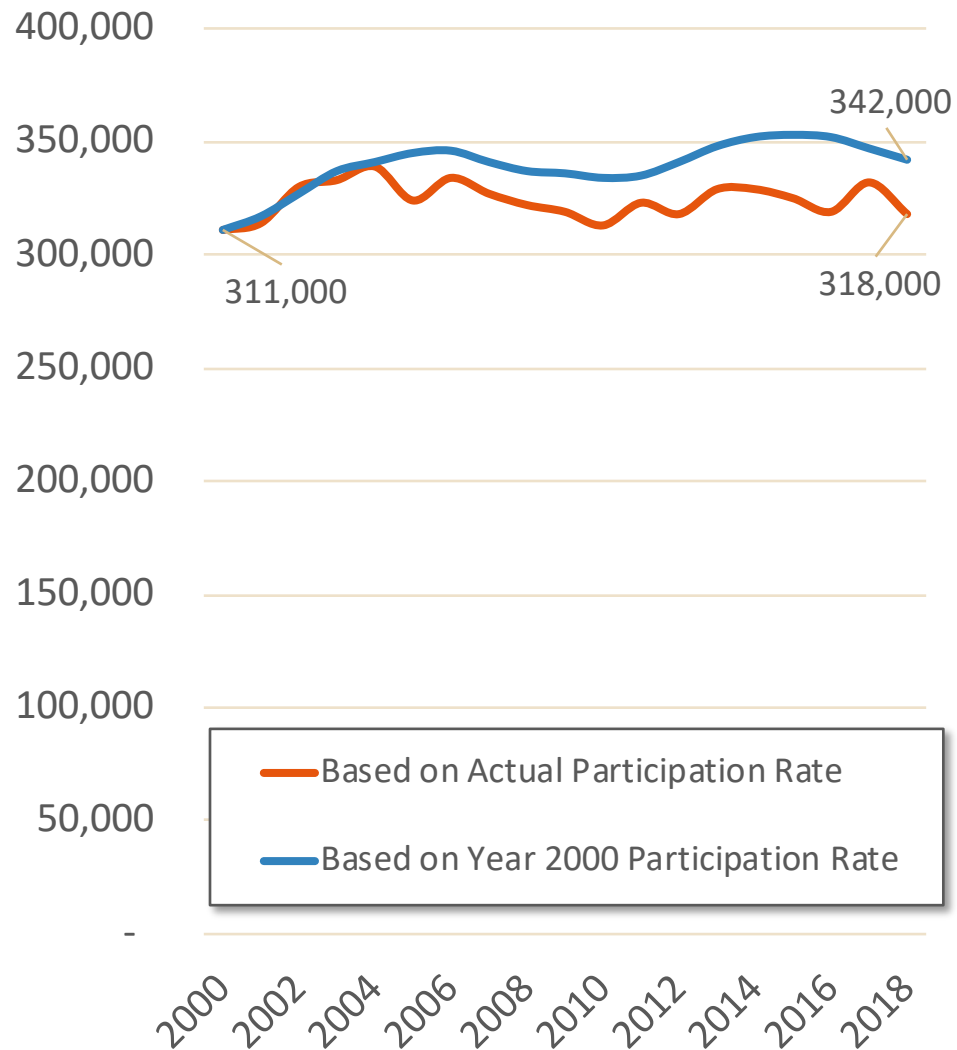


Total Individuals in the Labor Force Ages 16 to 19 and Ages 20 to 24 State of Wisconsin 2000 to 2018

Ages 16 to 19

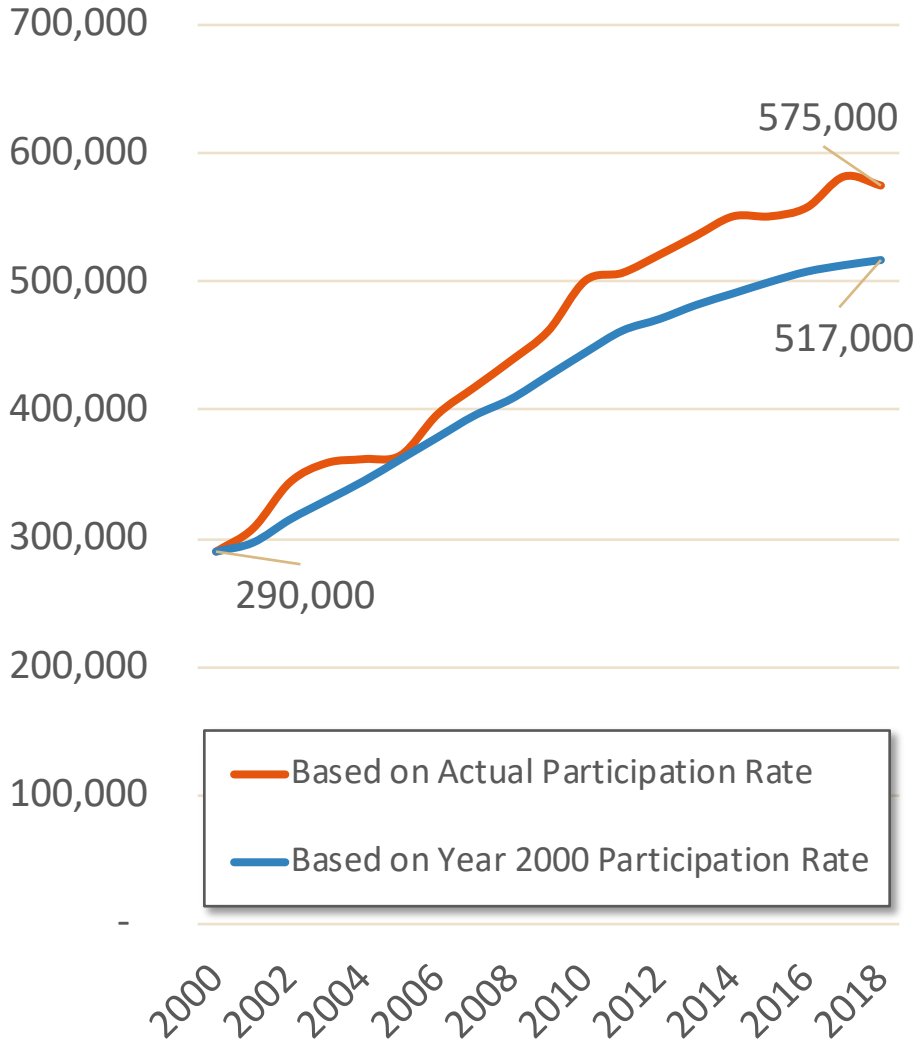


Ages 20 to 24

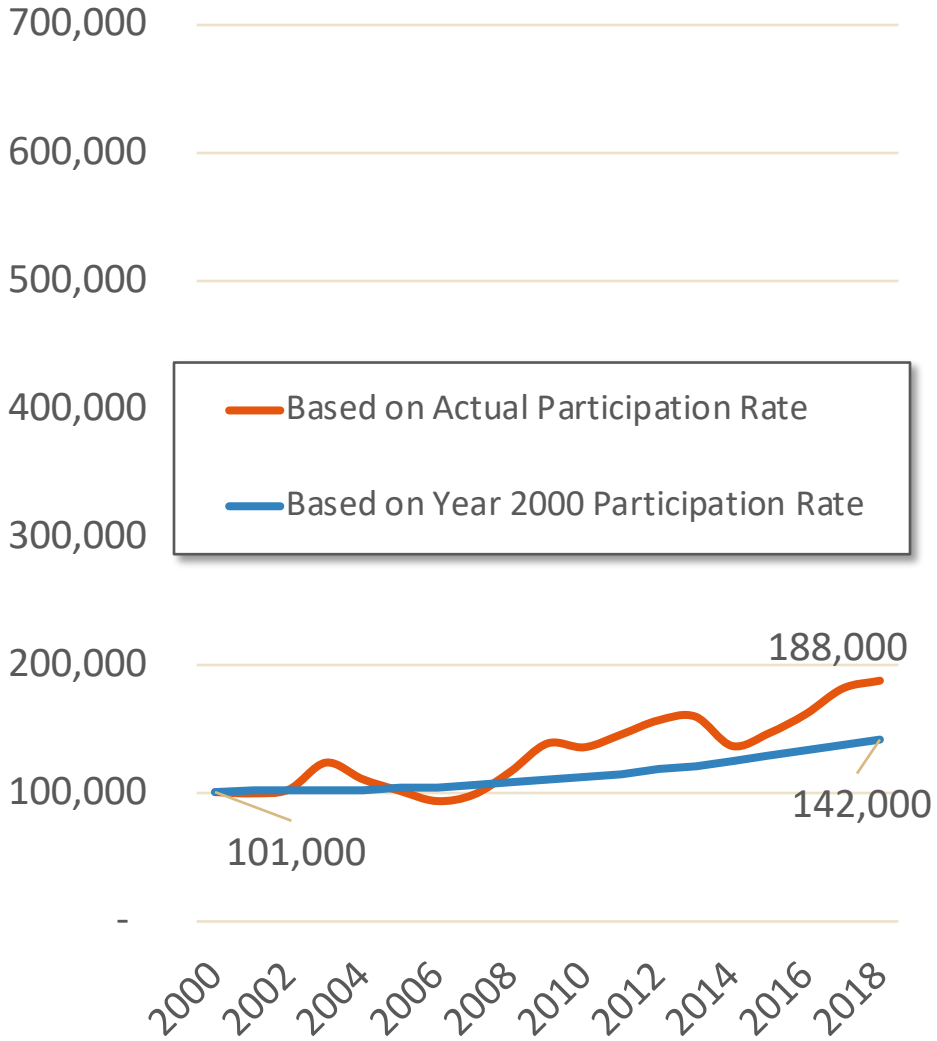


Total Individuals in the Labor Force Ages 55 to 64 and Ages 65 and Over State of Wisconsin 2000 to 2018

Age 55 to 64



Age 65 and Over



Labor Supply in Wisconsin from a Workforce Development Perspective

Defining Workforce Development

“...The system of programs, policies and institutions that help workers and employers connect to each other and make investments in workforce skills and human capital towards the goals of household economic self-sufficiency, business success and place prosperity.” (Schrock, 2013)

“...workforce development implies more than employment training in the narrow sense; it means substantial employer engagement, deep community connections, career advancement, integrative human supports, contextual and industry-driven education and training, and the connective tissue of networks.” (Giloith, 2000)



Workforce Development Strategies, Organizations & Stakeholders

Examples of WD Organizations & Stakeholders

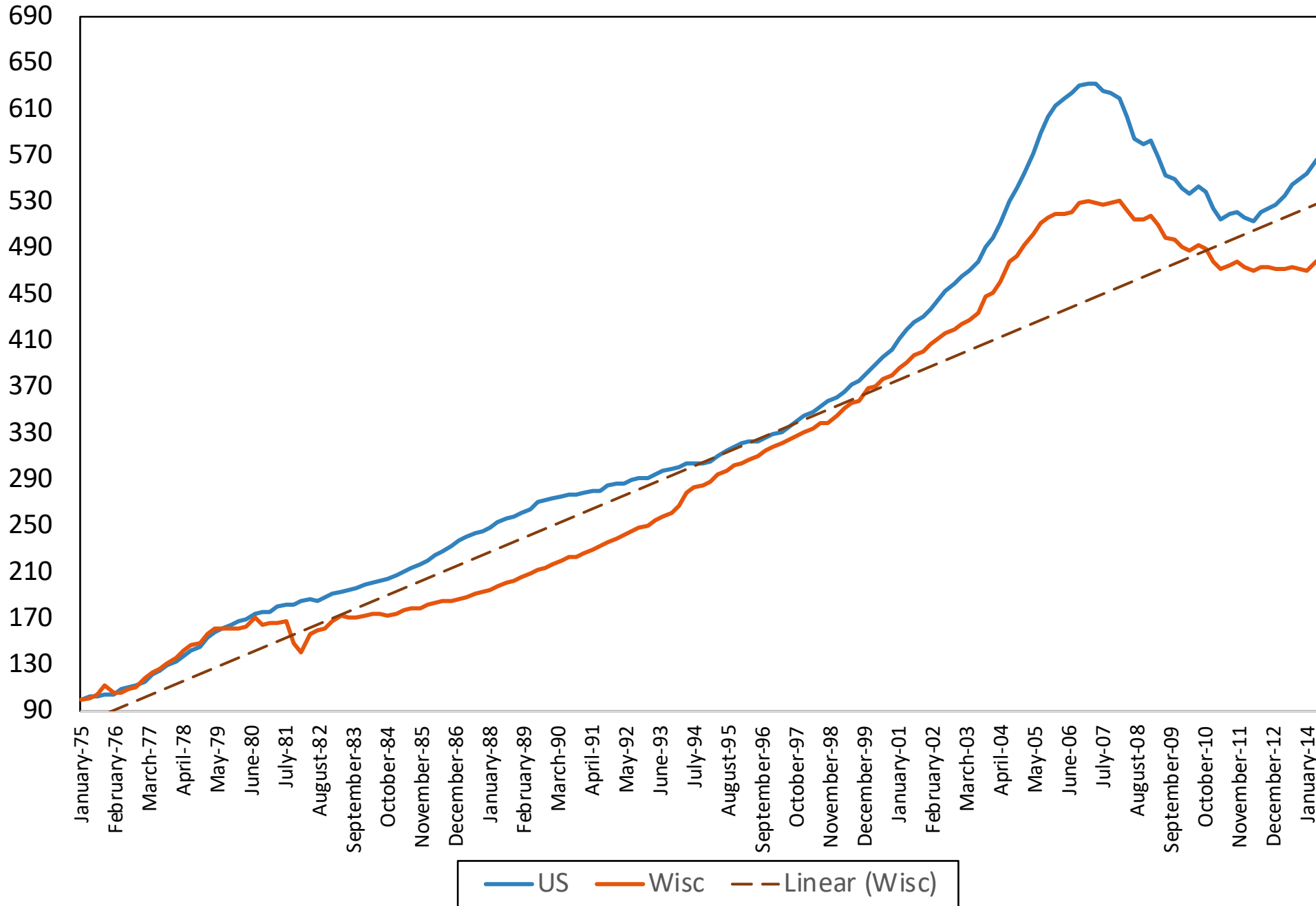
- Community Colleges and Technical Schools
- K-12 System
- Universities
- Local, State and Federal Government
- Community & Faith-Based Organizations
- Social Service Agencies
- Economic Development & Workforce Development Organizations
- Employers
- Labor Organizations

Examples of Strategies:

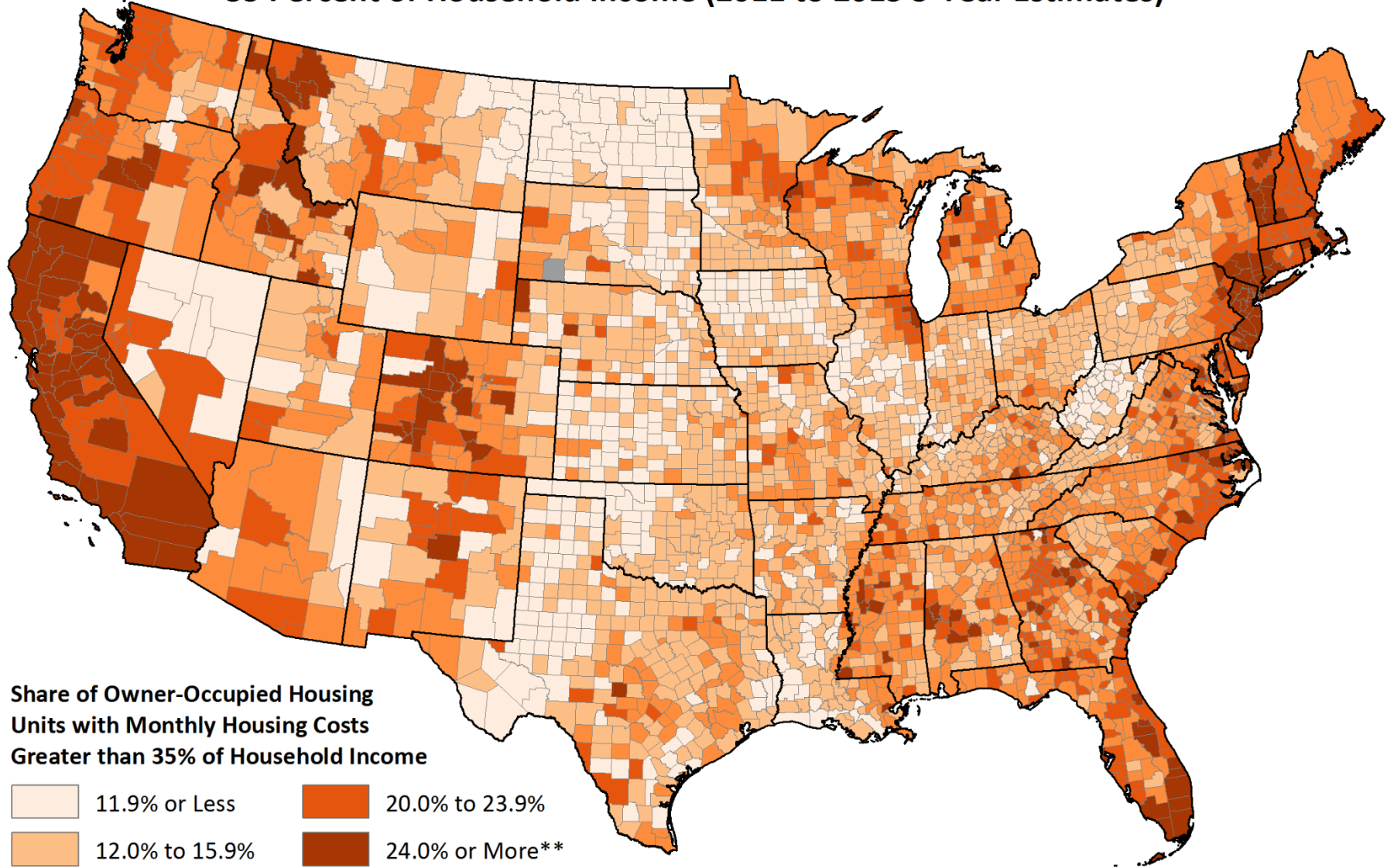
- Talent attraction and retention;
- Assisting in the development of career pathways;
- Identifying opportunities for individuals with particular needs (childcare, dislocated workers, veterans, etc.);
- Developing non-traditional schedules (flexible, seasonal, job sharing, etc.);
- Capital improvement funds;
- Automation/Computerization;
- Placemaking;
- Telecommuting;
- Phased retirement programs;
- Knowledge transfer and reverse mentoring.



All-Transactions House Price Index Quarterly (1975 Q1=100)



Share of Owner-Occupied Housing Units with Monthly Housing Costs Greater than 35 Percent of Household Income (2011 to 2015 5-Year Estimates)



Share of Owner-Occupied Housing Units with Monthly Housing Costs Greater than 35% of Household Income

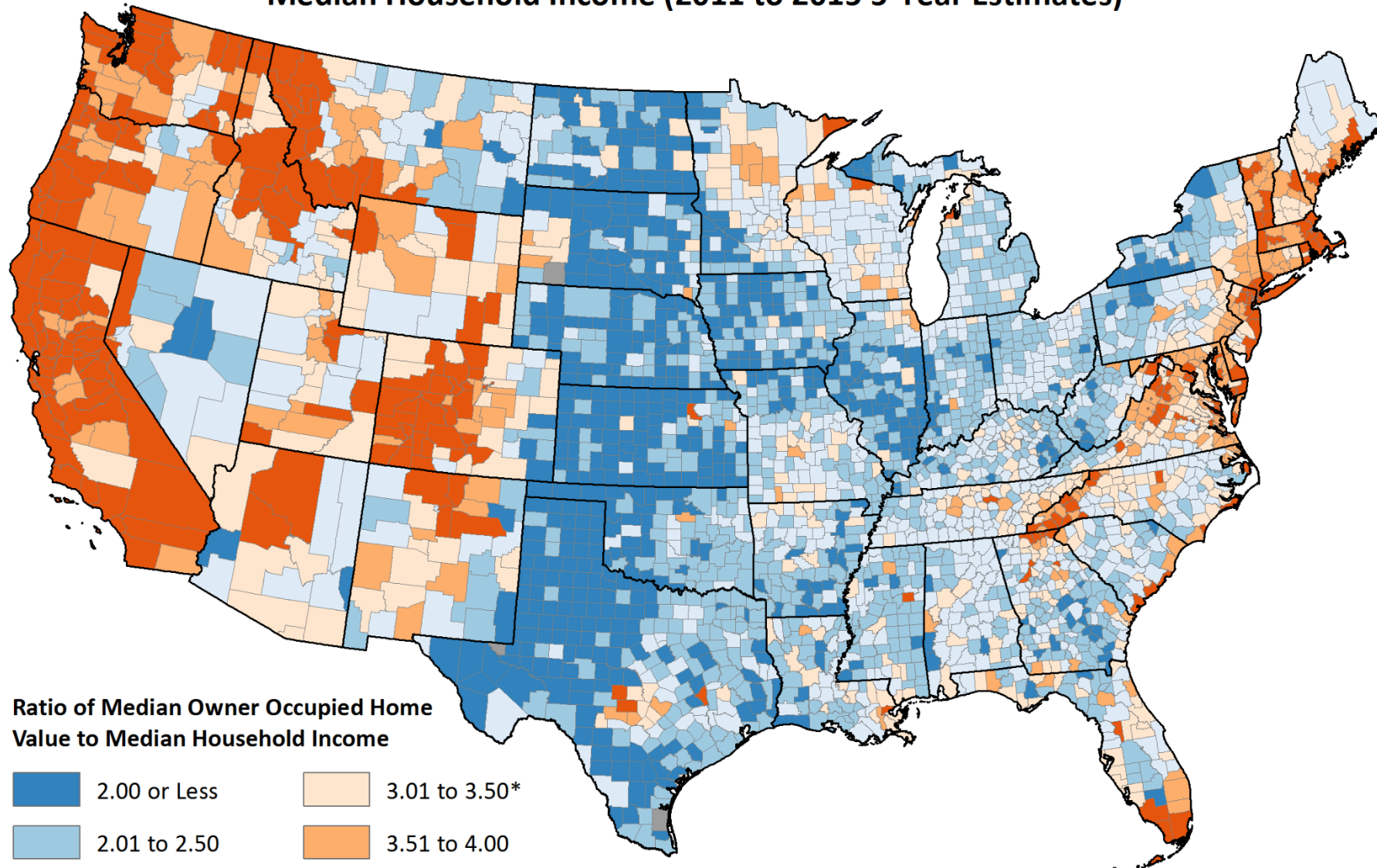
11.9% or Less	20.0% to 23.9%
12.0% to 15.9%	24.0% or More**
16.0% to 19.9%*	No Data

* U.S. Average is 19.9%








**Maximum value is 43.6% (Dukes County, MA)

Data Source: U.S. Census Bureau 2011-2015 American Community Survey. Numbers are subject to a margin of error.

Ratio of Median Owner Occupied Home Value to Median Household Income (2011 to 2015 5-Year Estimates)



Ratio of Median Owner Occupied Home Value to Median Household Income

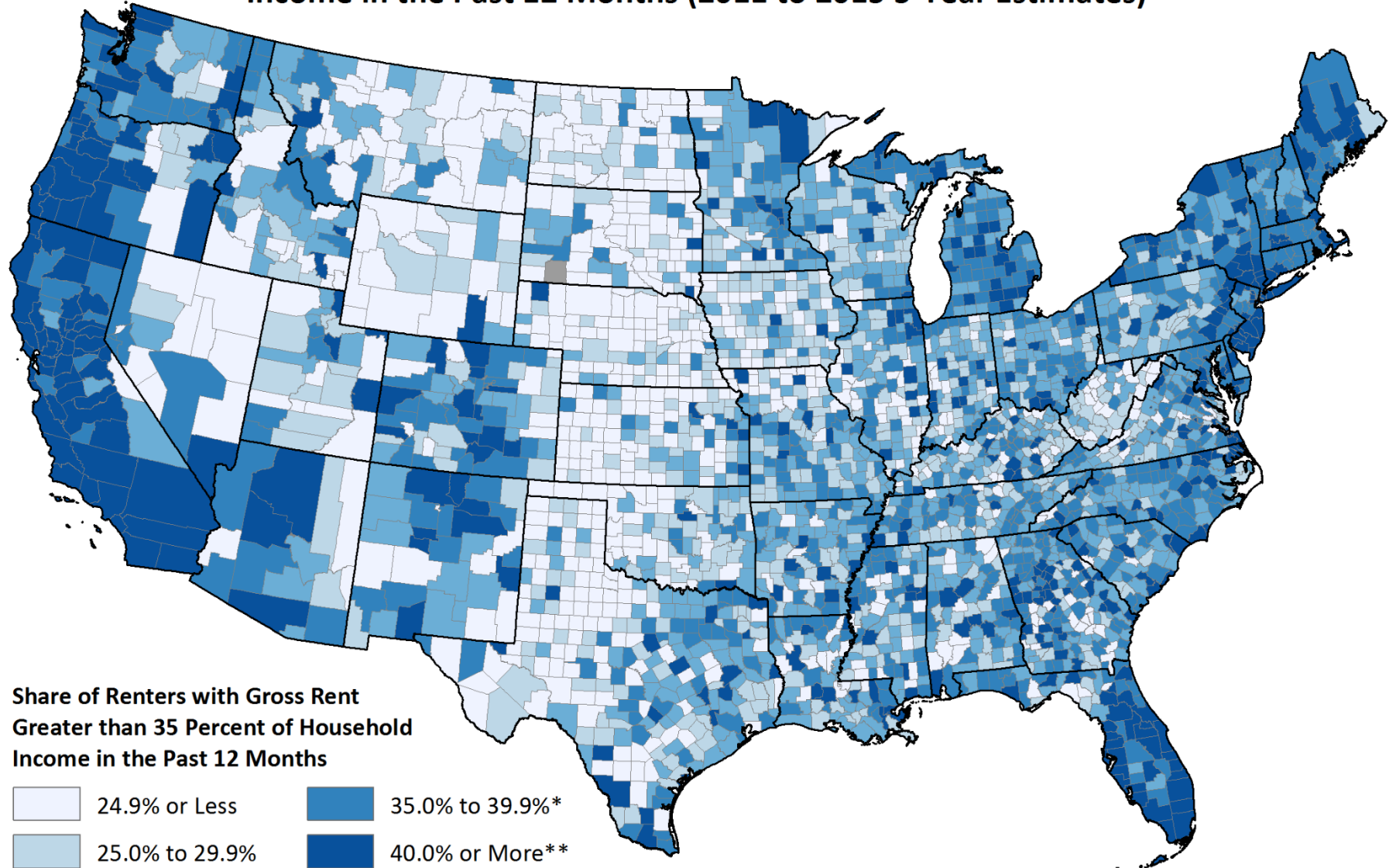
	2.00 or Less		3.01 to 3.50*
	2.01 to 2.50		3.51 to 4.00
	2.51 to 3.00		4.00 or More**
	No Data		

* U.S. Average is 3.31

**Maximum value is 11.83% (Kings County, NY)

Data Source: U.S. Census Bureau 2011-2015 American Community Survey. Numbers are subject to a margin of error.

Share of Renters with Gross Rent Greater than 35 Percent of Household Income in the Past 12 Months (2011 to 2015 5-Year Estimates)



Share of Renters with Gross Rent Greater than 35 Percent of Household Income in the Past 12 Months

- 24.9% or Less
- 25.0% to 29.9%
- 30.0% to 34.9%
- 35.0% to 39.9%*
- 40.0% or More**
- No Data

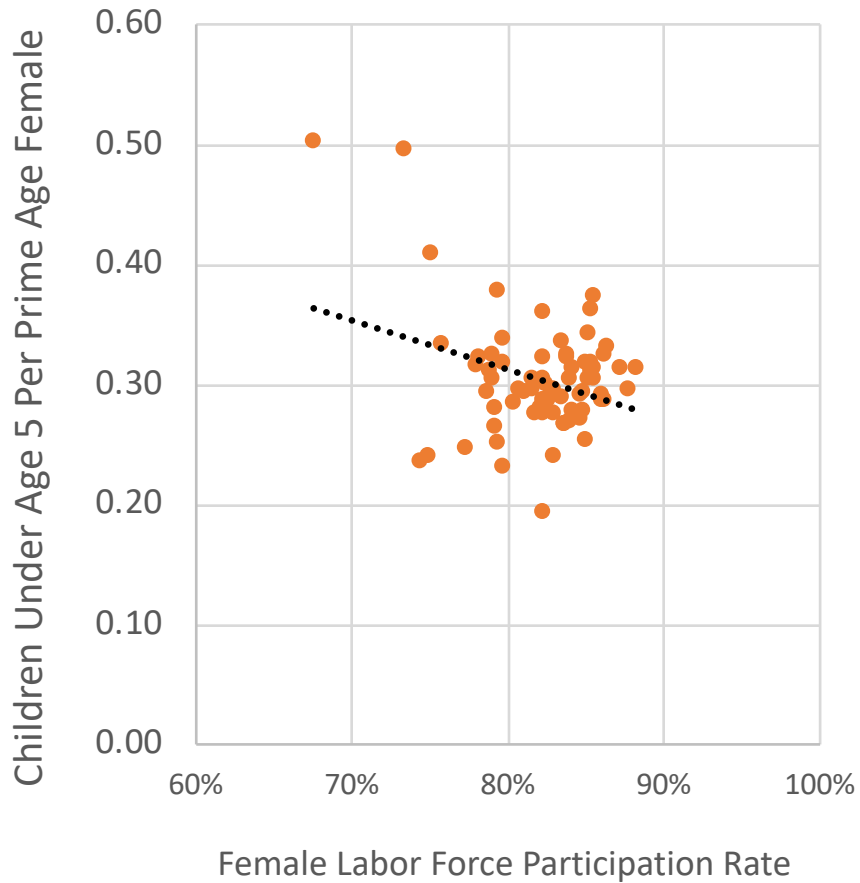
* U.S. Average is 39.5%

**Maximum value is 60.5% (Watauga County, NC)

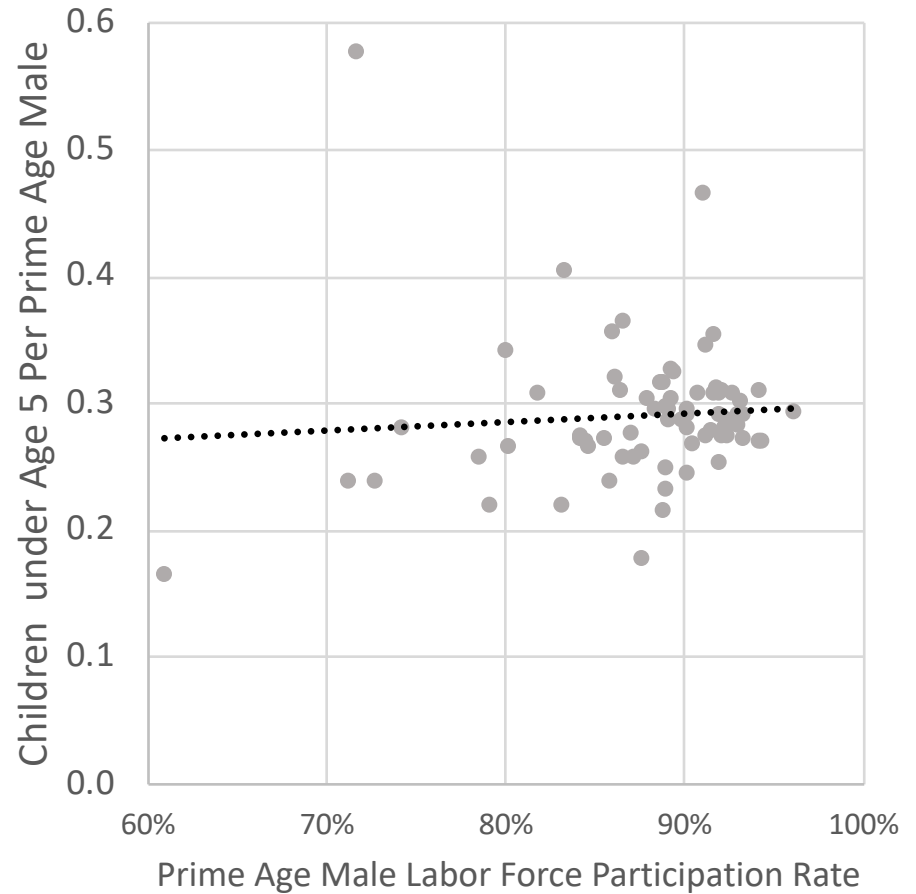
Data Source: U.S. Census Bureau 2011-2015 American Community Survey. Numbers are subject to a margin of error.

Child Care as a Workforce Development Strategy

Correlation Female Labor Force Participation Rate and Children Per Prime Age Female
Wisconsin Counties, 2016

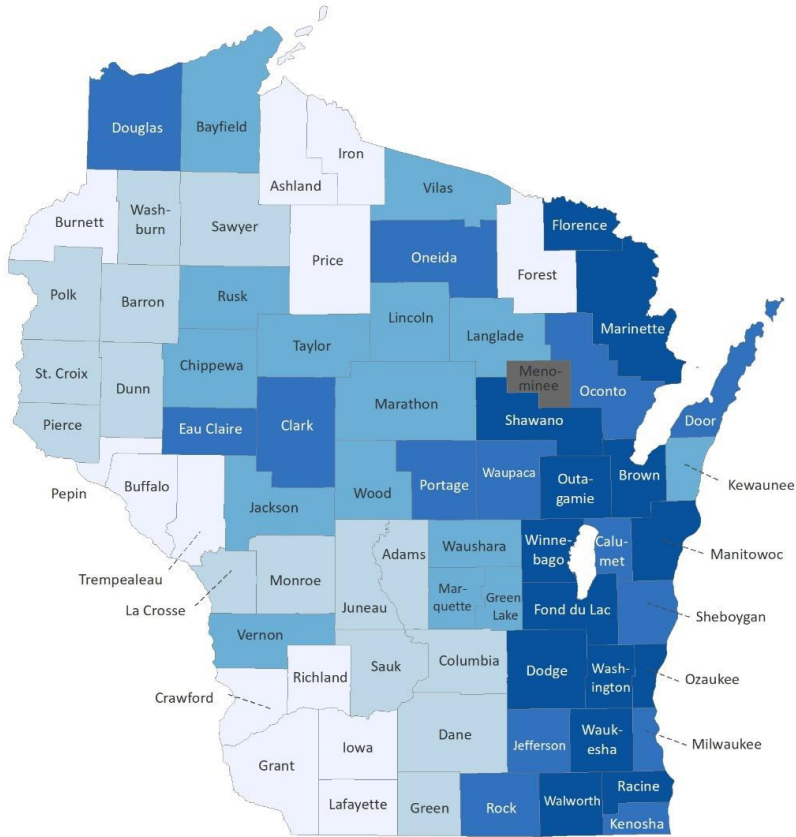


Correlation Male Labor Force Participation Rate and Children Per Prime Age Male
Wisconsin Counties, 2016



Child Care as a Workforce Development Strategy

Figure 4 - Number of Children Under Age 5 per Childcare Establishment

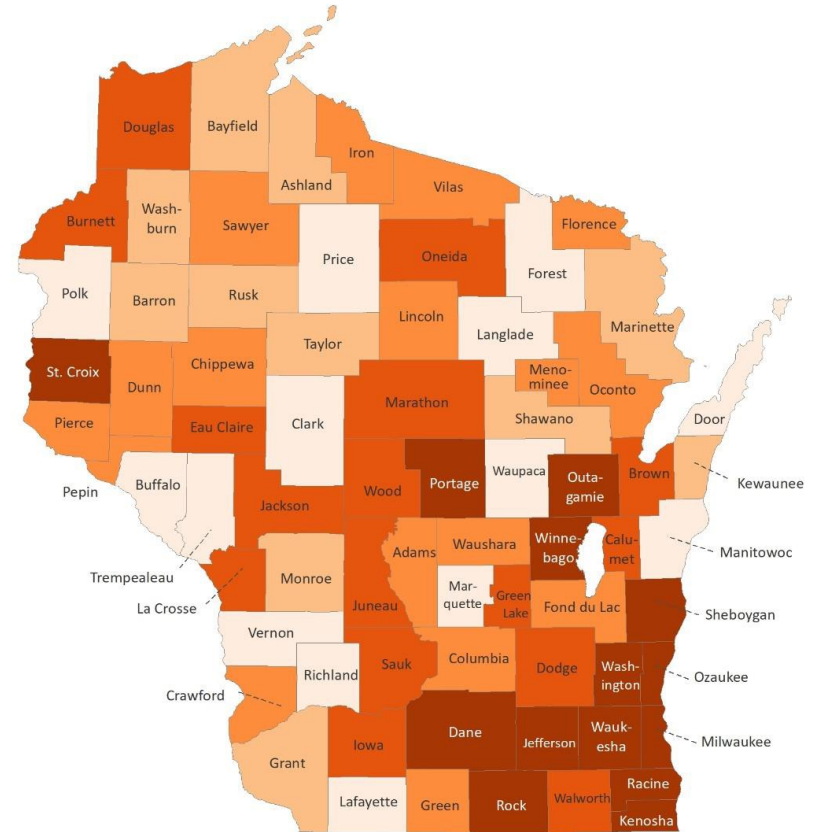


Number of Children Under Age 5 per Childcare Establishment (by Quintile)



Sources: U.S. Census Bureau, 2016 County Business Patterns and 2016 Nonemployer Statistics

Figure 5 - Wisconsin Household Survival Budget
Monthly Child Care for Households with 2 Adults, 1 Infant and 1 Preschooler



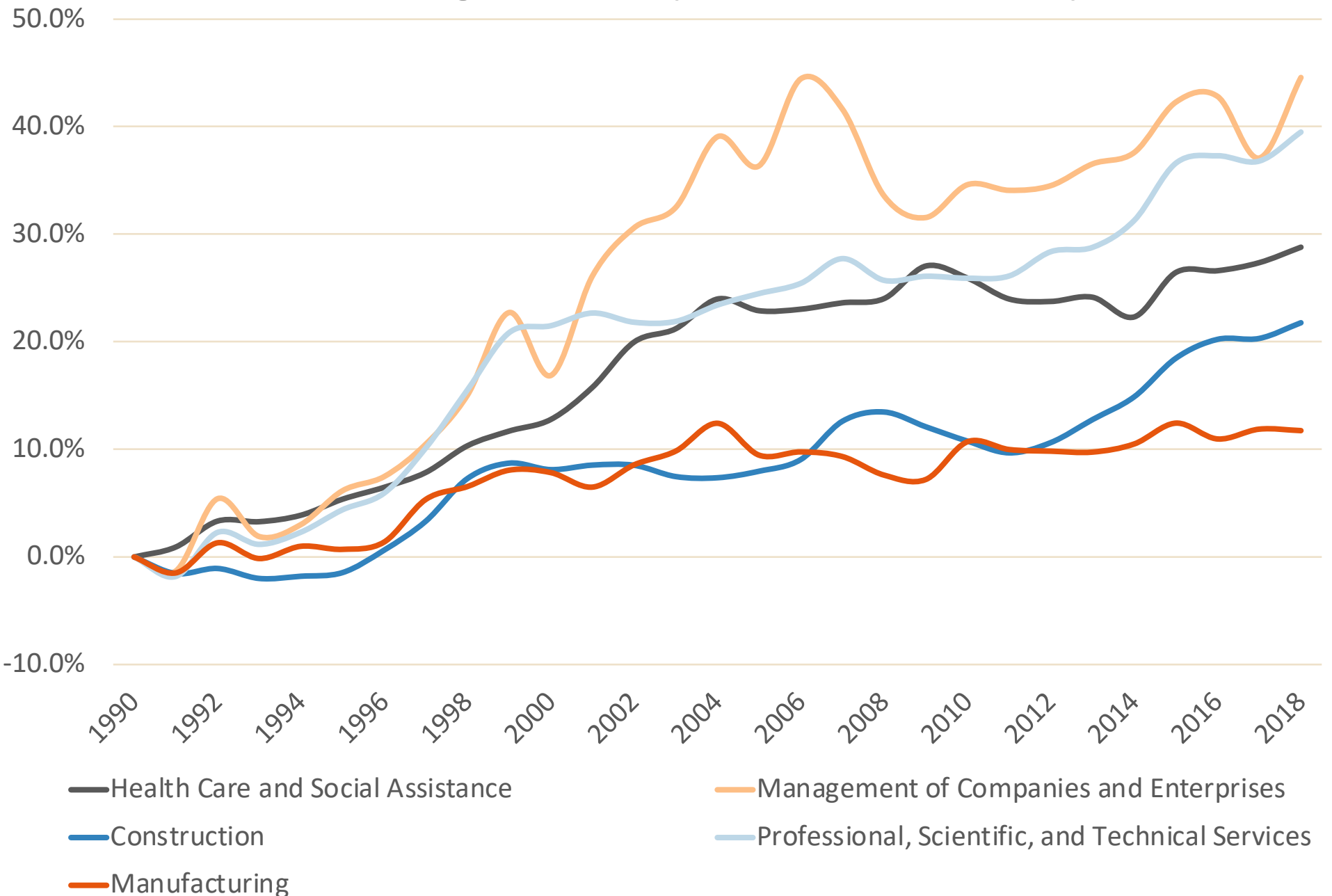
Monthly Child Care for Households with 2 Adults, 1 Infant and 1 Preschooler



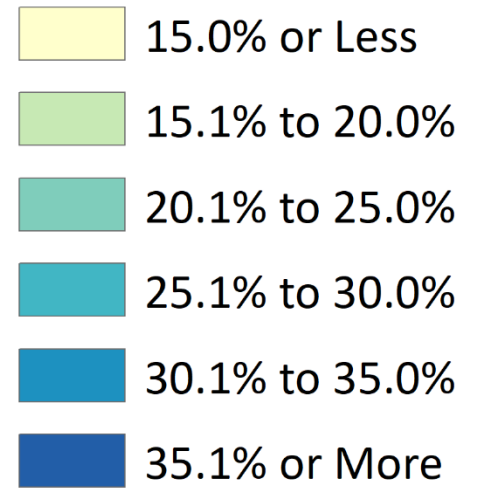
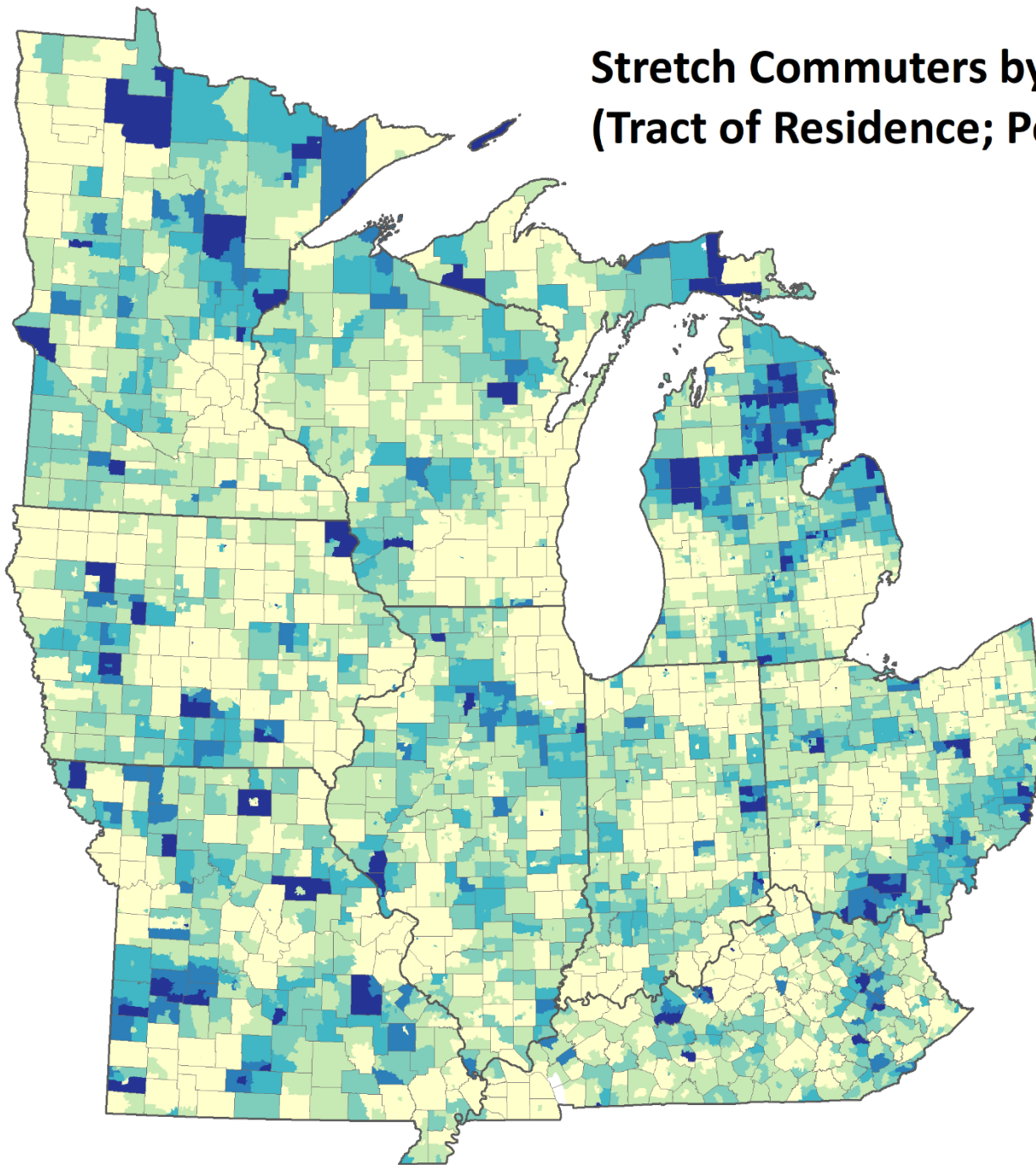
Data Source: United Way ALICE <https://www.unitedwayalice.org/wisconsin>

Annual Average Wage Growth for Selected Industries

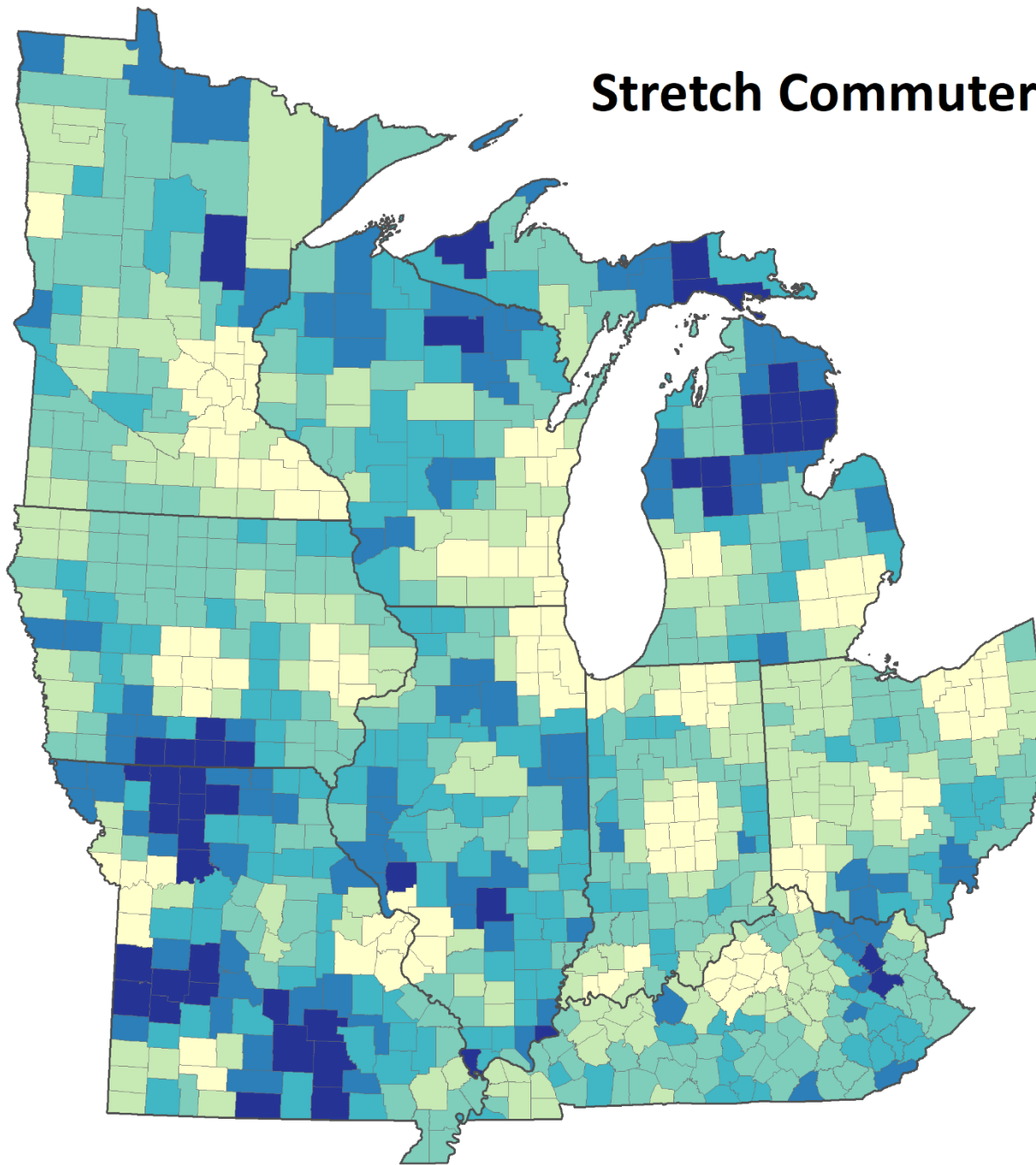
Percent Change since 1990 (Based on Constant \$2017)



Stretch Commuters by Census Tract in 2002 (Tract of Residence; Percent of All Workers)



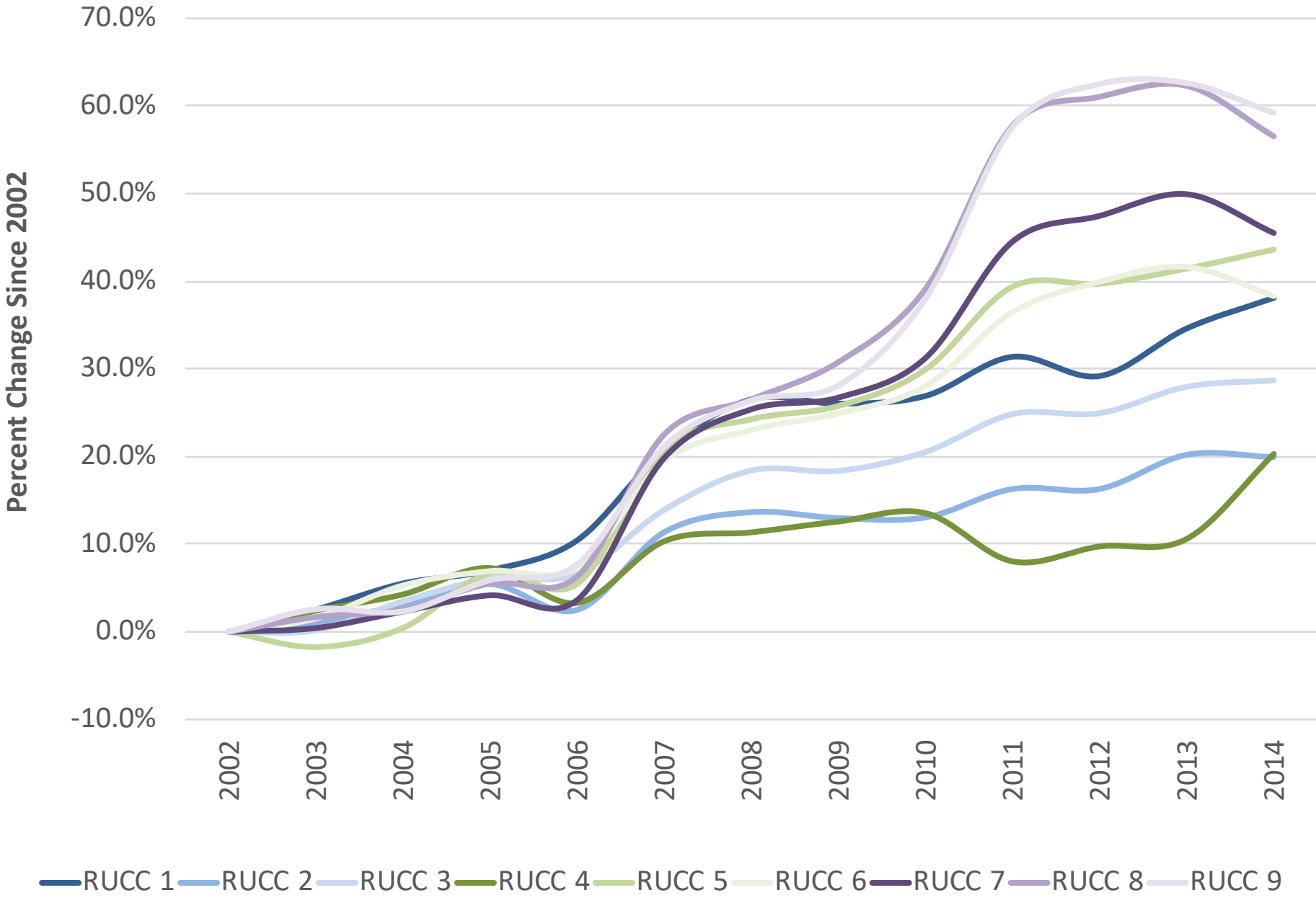
Stretch Commuters by County - 2014



County of Residence (Percent of All Workers)

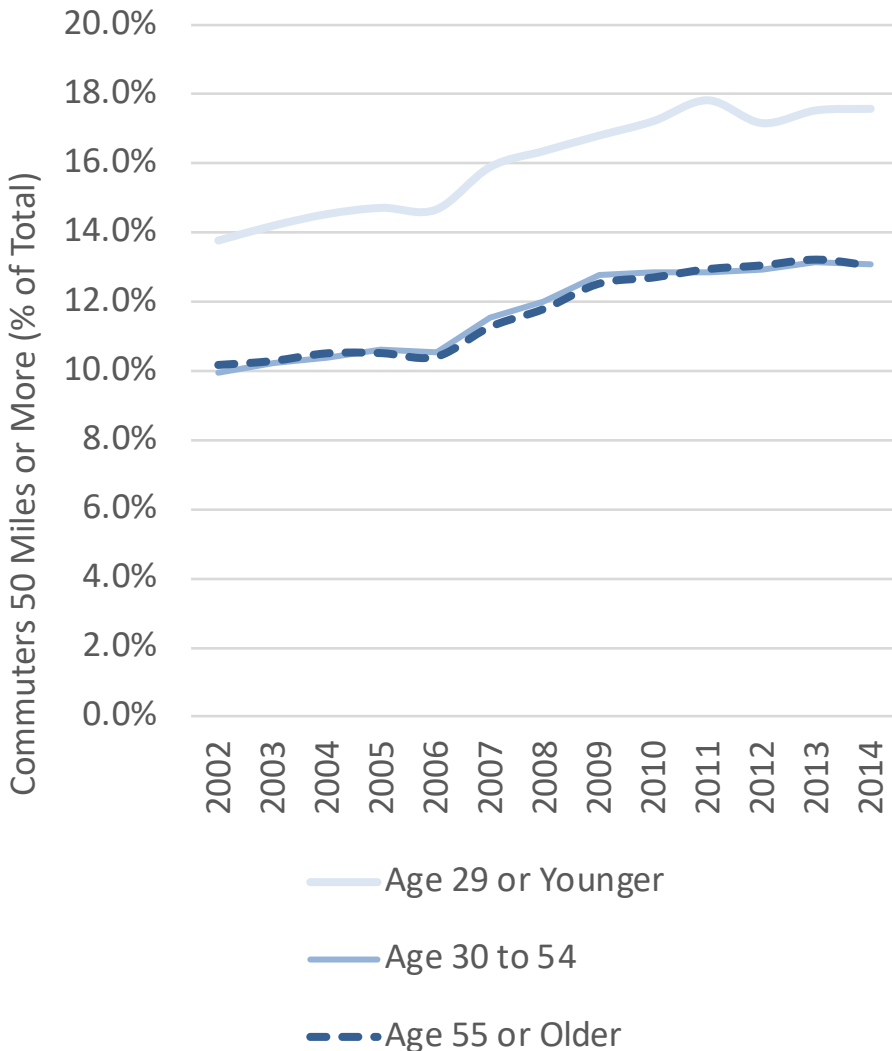
- 15.0% or Less
- 15.1% to 20.0%
- 20.1% to 25.0%
- 25.1% to 30.0%
- 30.1% to 35.0%
- 35.1% or More

Percent Change in Long Distance Commuting (50 Miles or More) Since 2002 by Rural-Urban Continuum Code

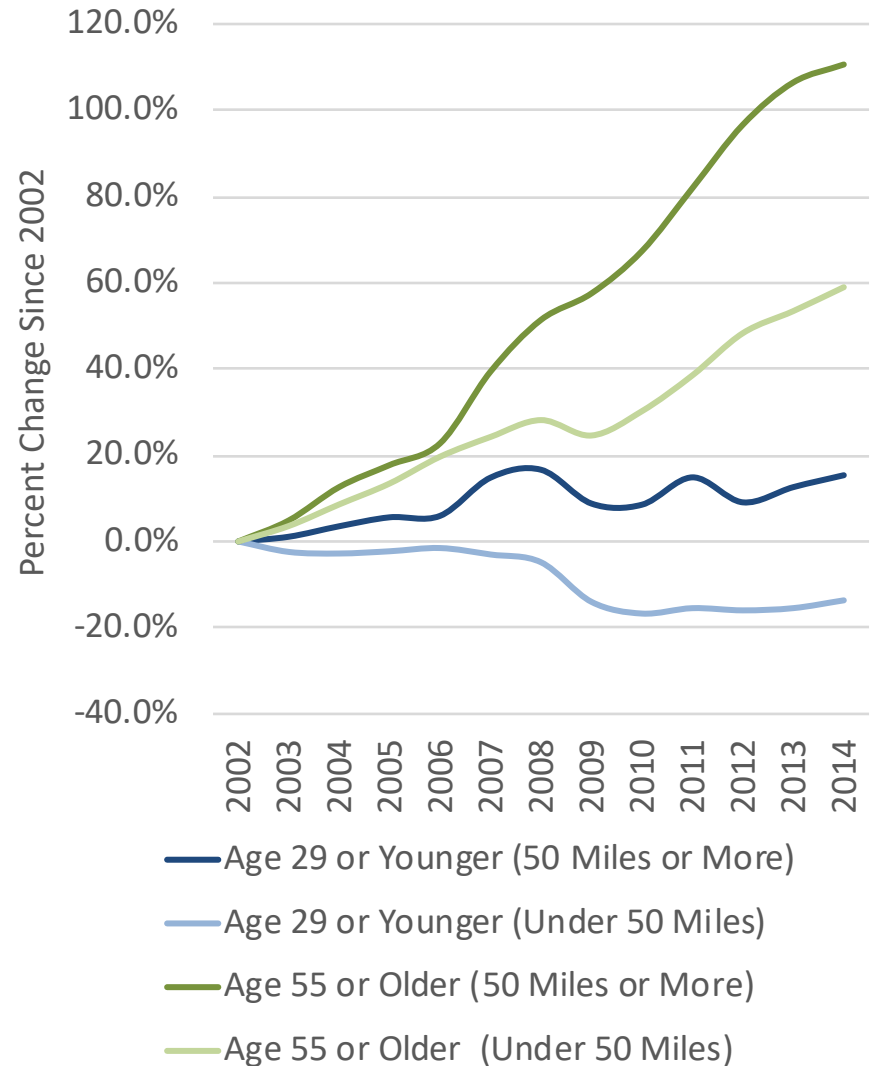


Change by Age Group – 50 Miles or More

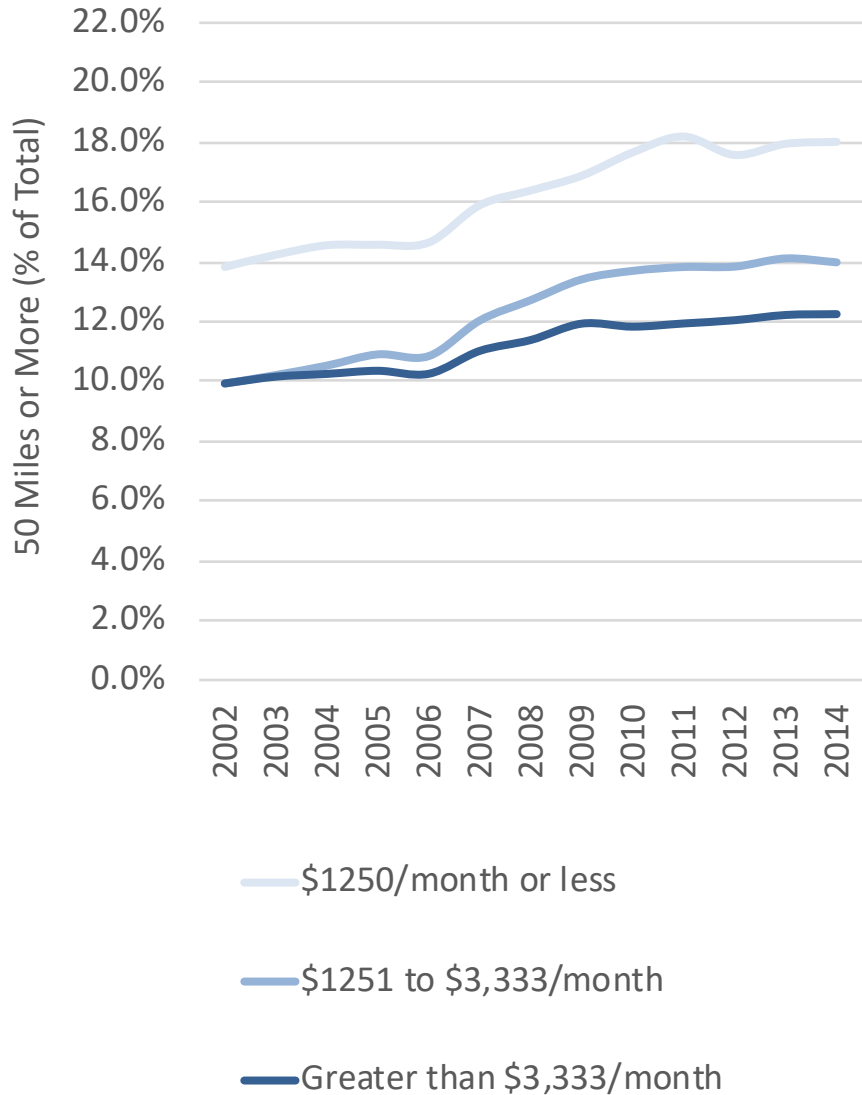
Commuters (50 Miles or More) as a Share of All Workers by Age Group



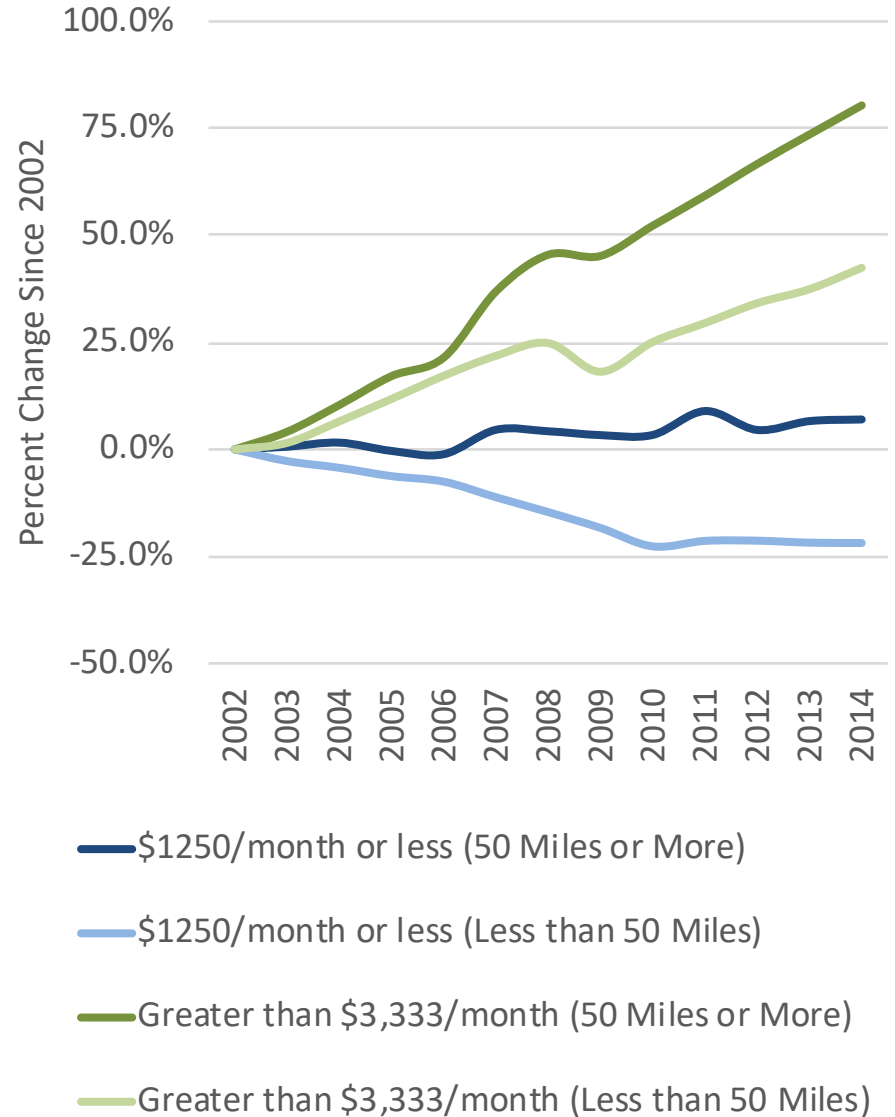
Percent Change in Workers by Age Group Since 2002 – 50 Miles or more and Under 50 Miles



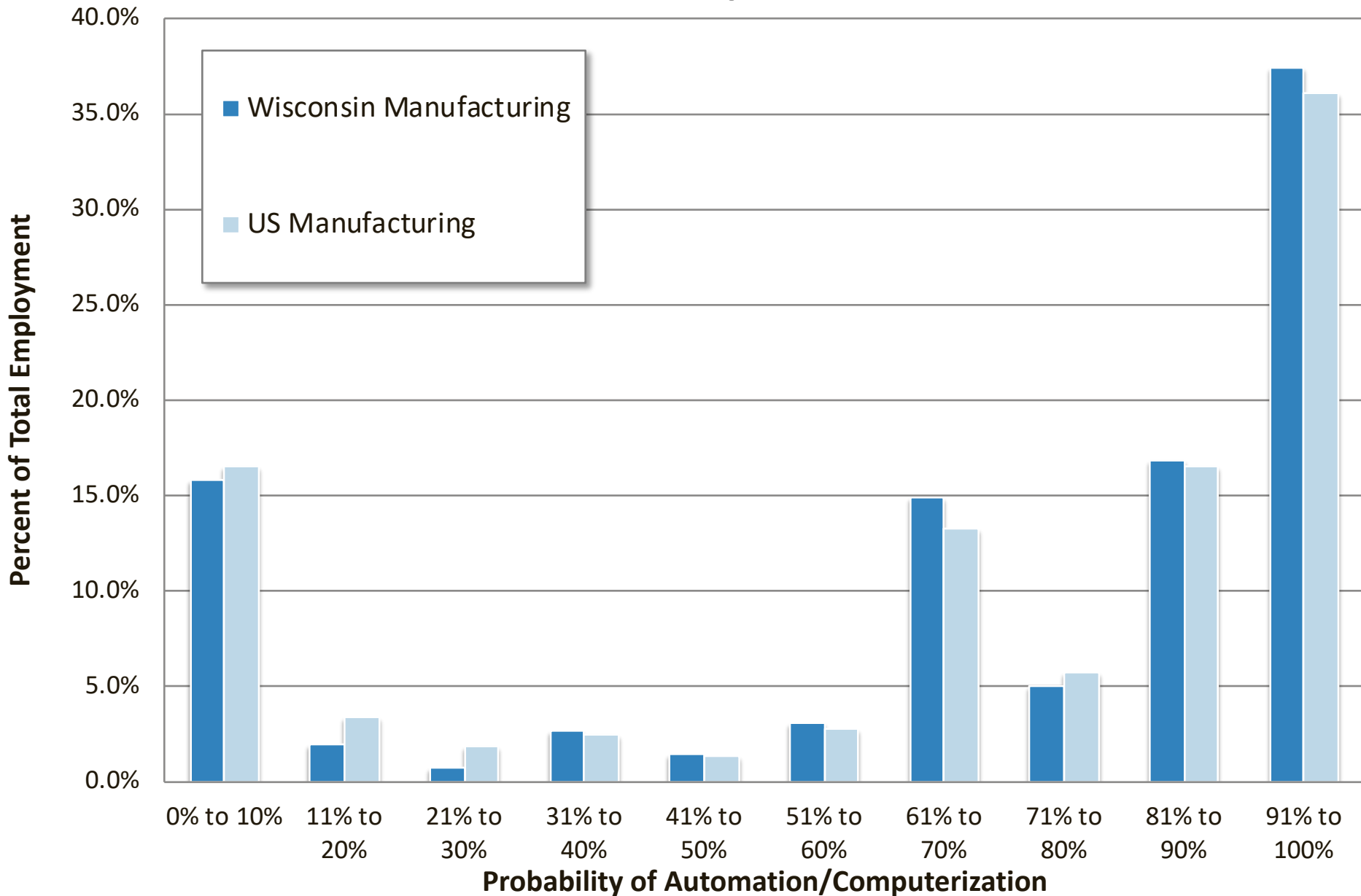
Long Distance Commuters as a Share of All Workers by Monthly Earnings



Percent Change in Workers by Earnings Since 2002 - 50 Miles or more and Under 50 Miles



Distribution of Employment by Probability of Automation/Computerization

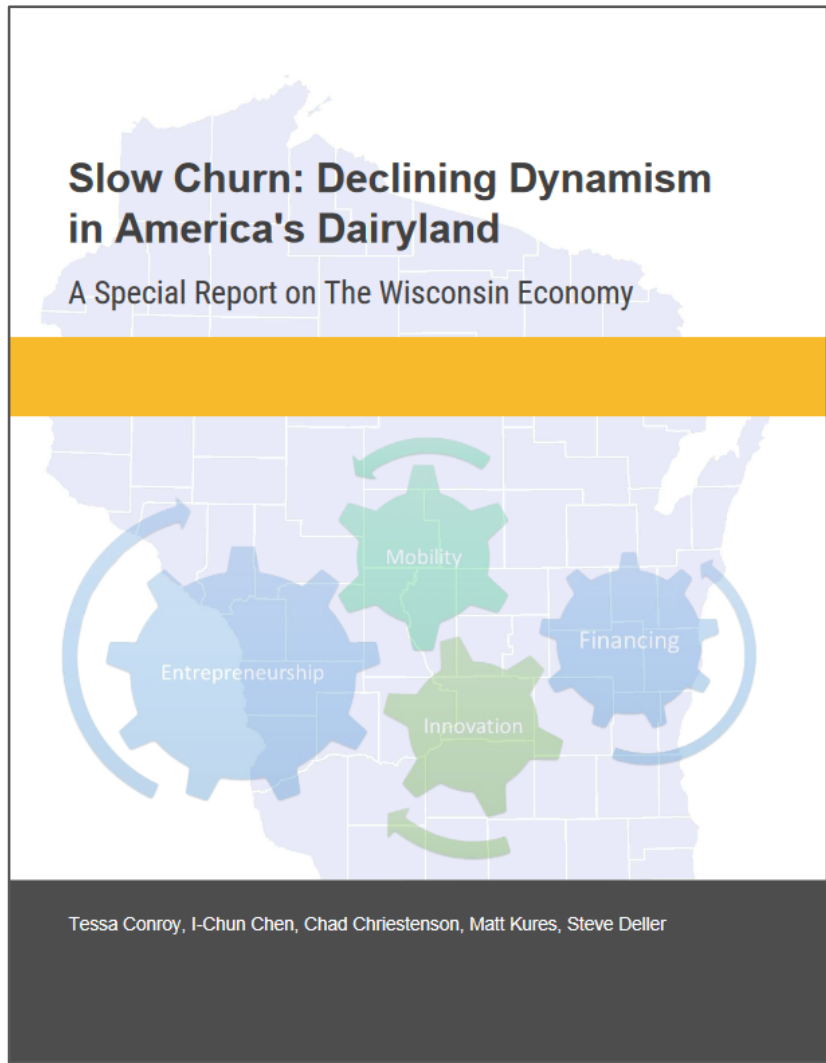


Wisconsin's Manufacturing Sector – 15 Most Common Occupations and Probability of Automation/Computerization

NAICS and Industry Description	Number of Employees in WI Manufacturing	Automation Probability
Team Assemblers	32,310	97.0%
First-Line Supervisors of Production and Operating Workers	19,760	1.6%
Laborers and Freight, Stock, and Material Movers, Hand	14,770	85.0%
Machinists	13,080	65.0%
Welders, Cutters, Solderers, and Brazers	13,010	94.0%
Packaging and Filling Machine Operators and Tenders	11,860	98.0%
Inspectors, Testers, Sorters, Samplers, and Weighers	11,340	98.0%
Computer-Controlled Machine Tool Operators,	10,220	86.0%
Sales Representatives, Wholesale and Manufacturing	10,180	85.0%
Maintenance and Repair Workers, General	8,920	64.0%
Cutting, Punching, and Press Machine Setters, Operators, etc.	8,790	78.0%
Paper Goods Machine Setters, Operators, and Tenders	8,580	67.0%
Electrical and Electronic Equipment Assemblers	8,360	95.0%
Food Batchmakers	8,240	70.0%
Office Clerks, General	7,810	96.0%

Wisconsin's Workforce - Dynamism and Structural Perspectives

Defining Dynamism



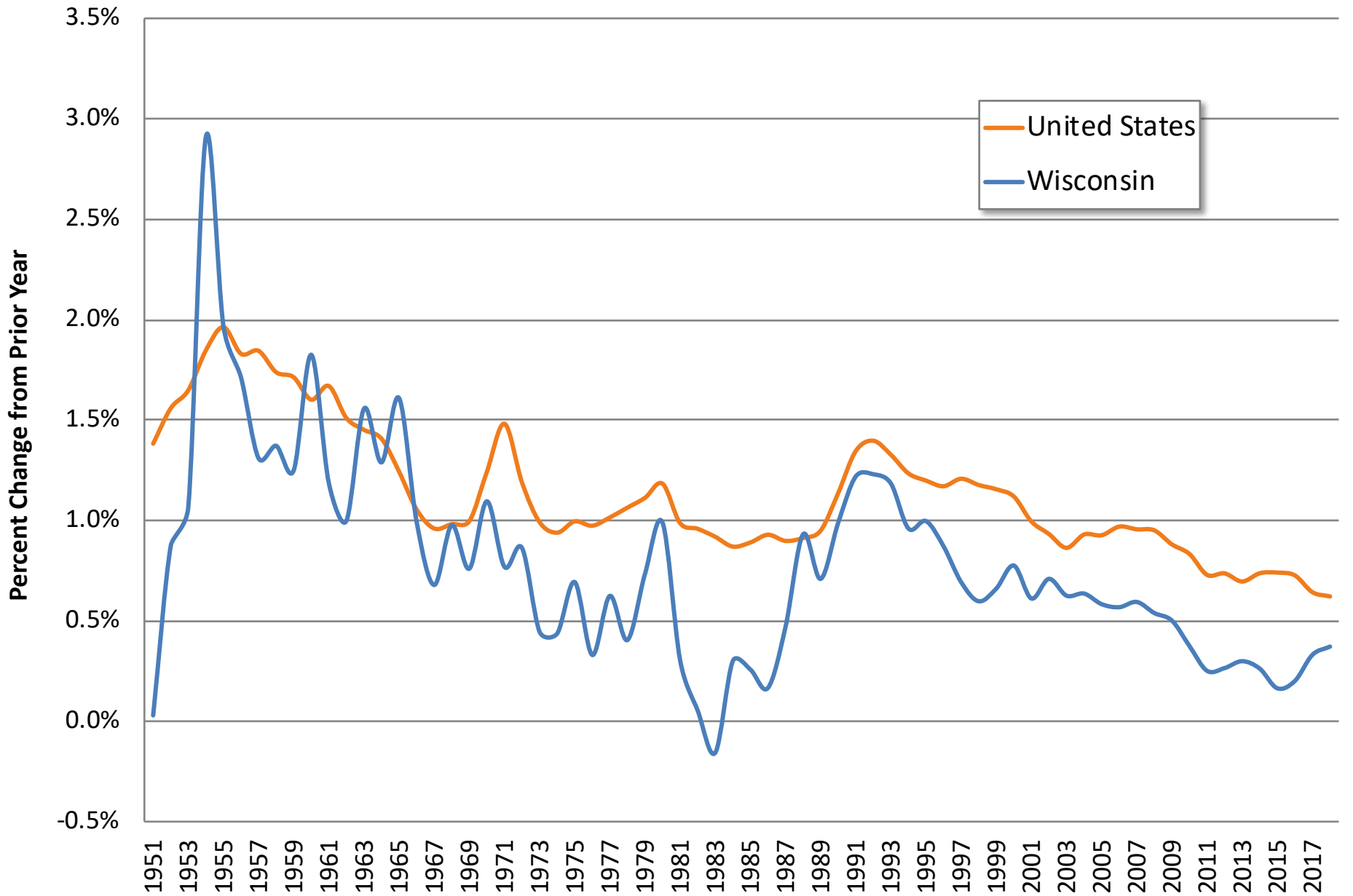
Dynamism—the speed and scope at which the economy can change.

- Measured by business activity, employment patterns, population mobility, spending on research and development, and lending activity by banks.
- Captures overall capacity for an economy to experiment and adjust.

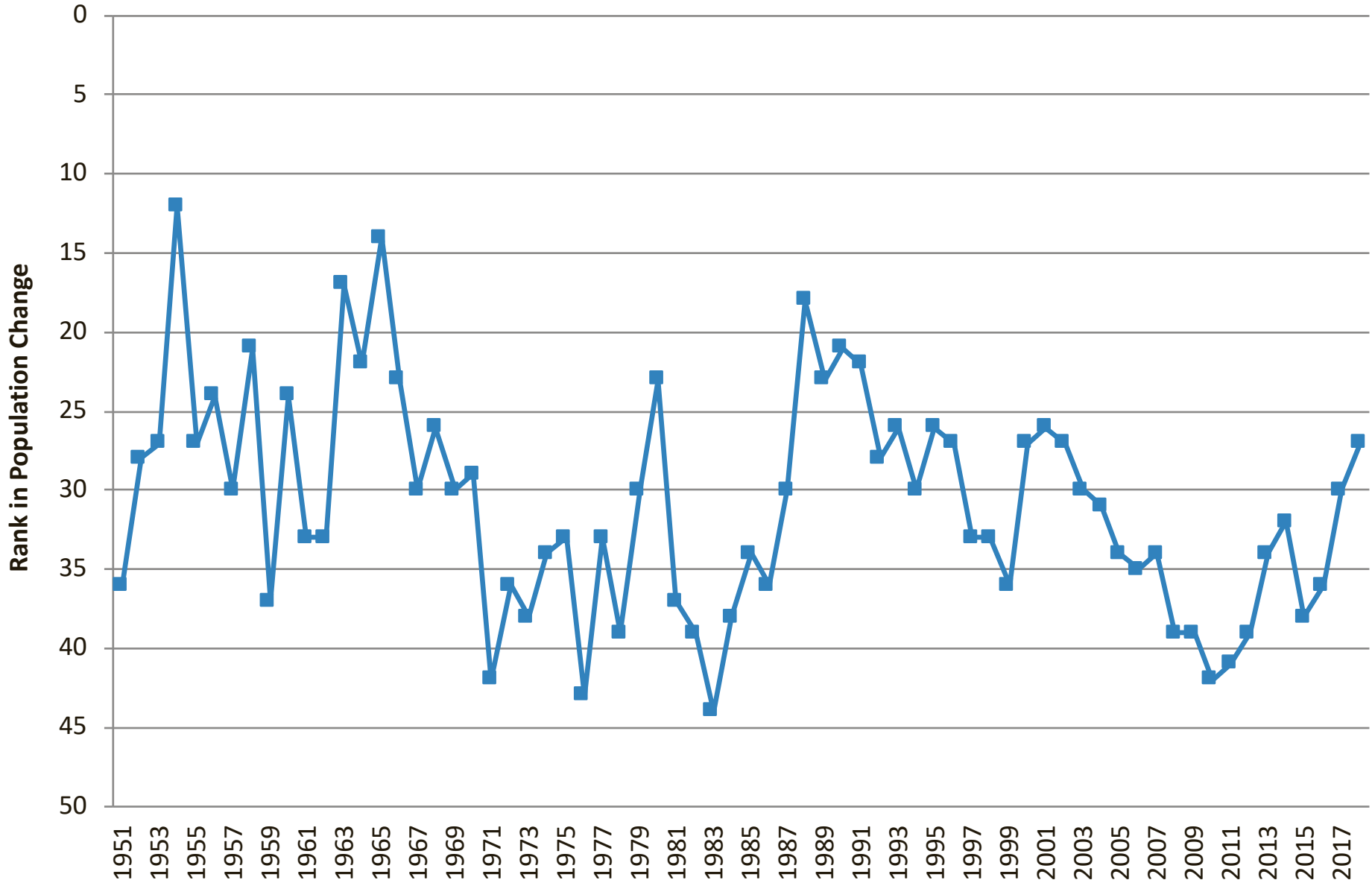


Population Change 1950 to 2018

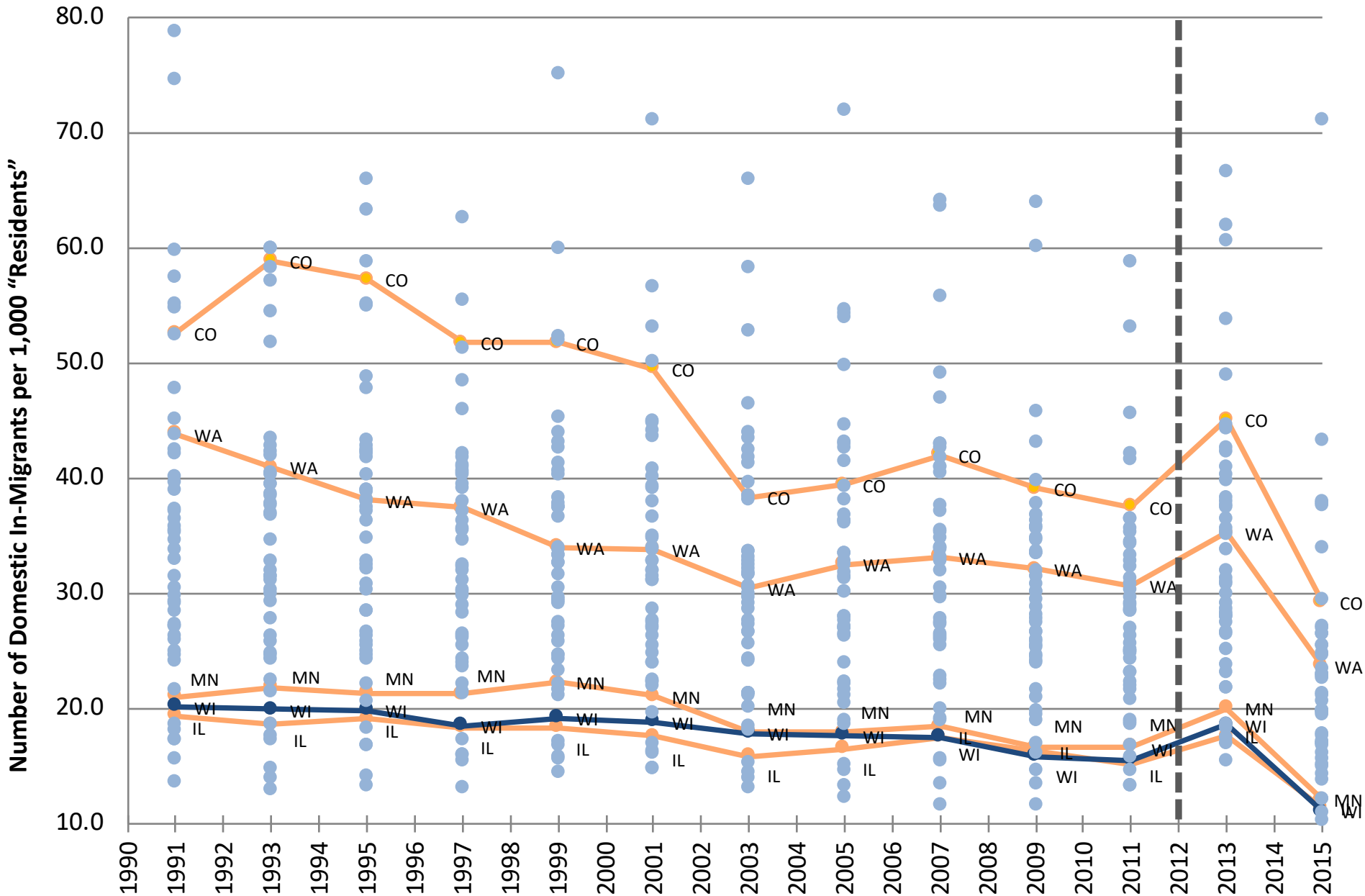
Percent Change in Population from the Prior Year



Wisconsin's Annual Ranking in Percent Population Change Among all States

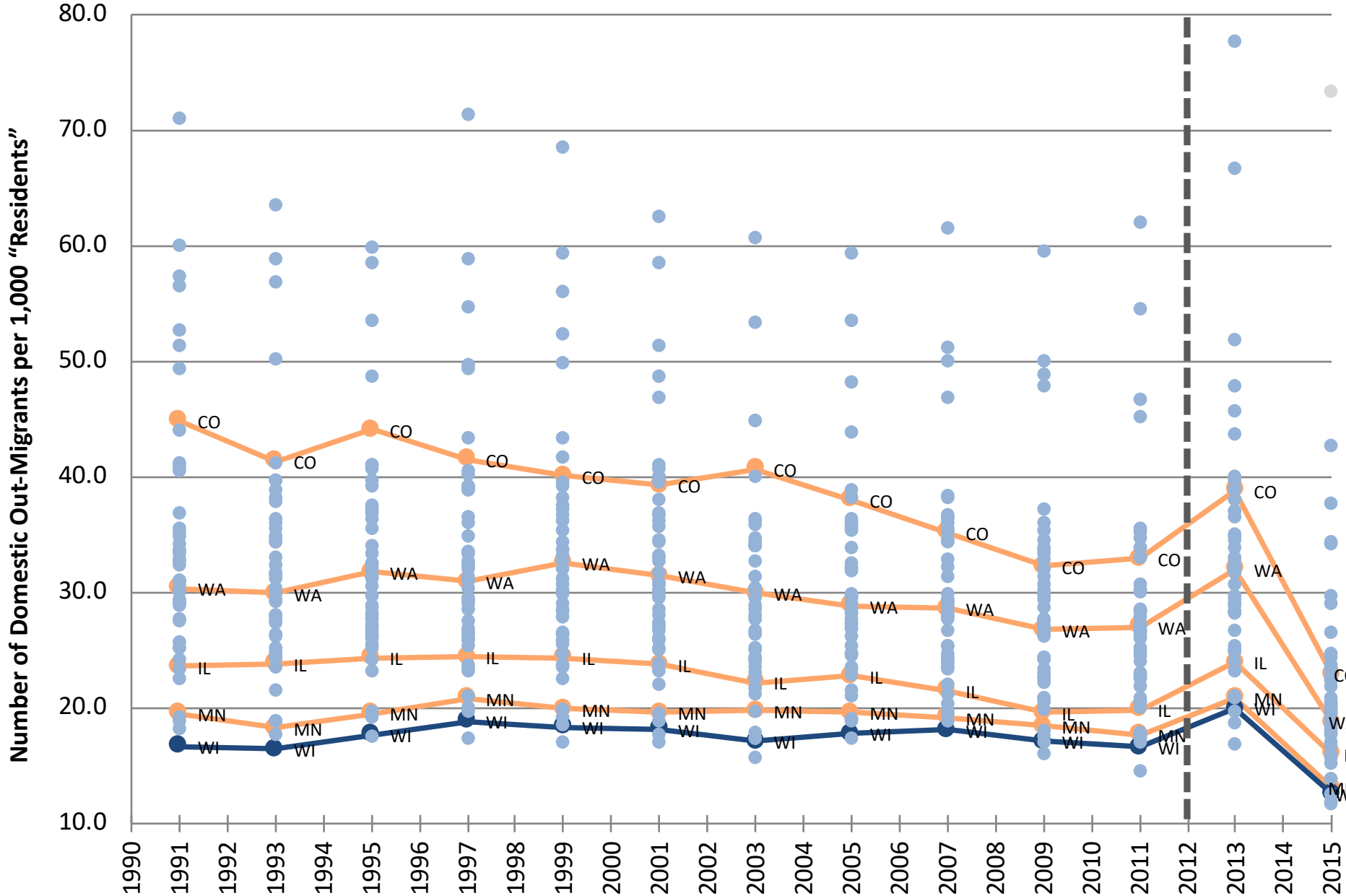


Domestic State In-Migration Rates - 1990 to 2011



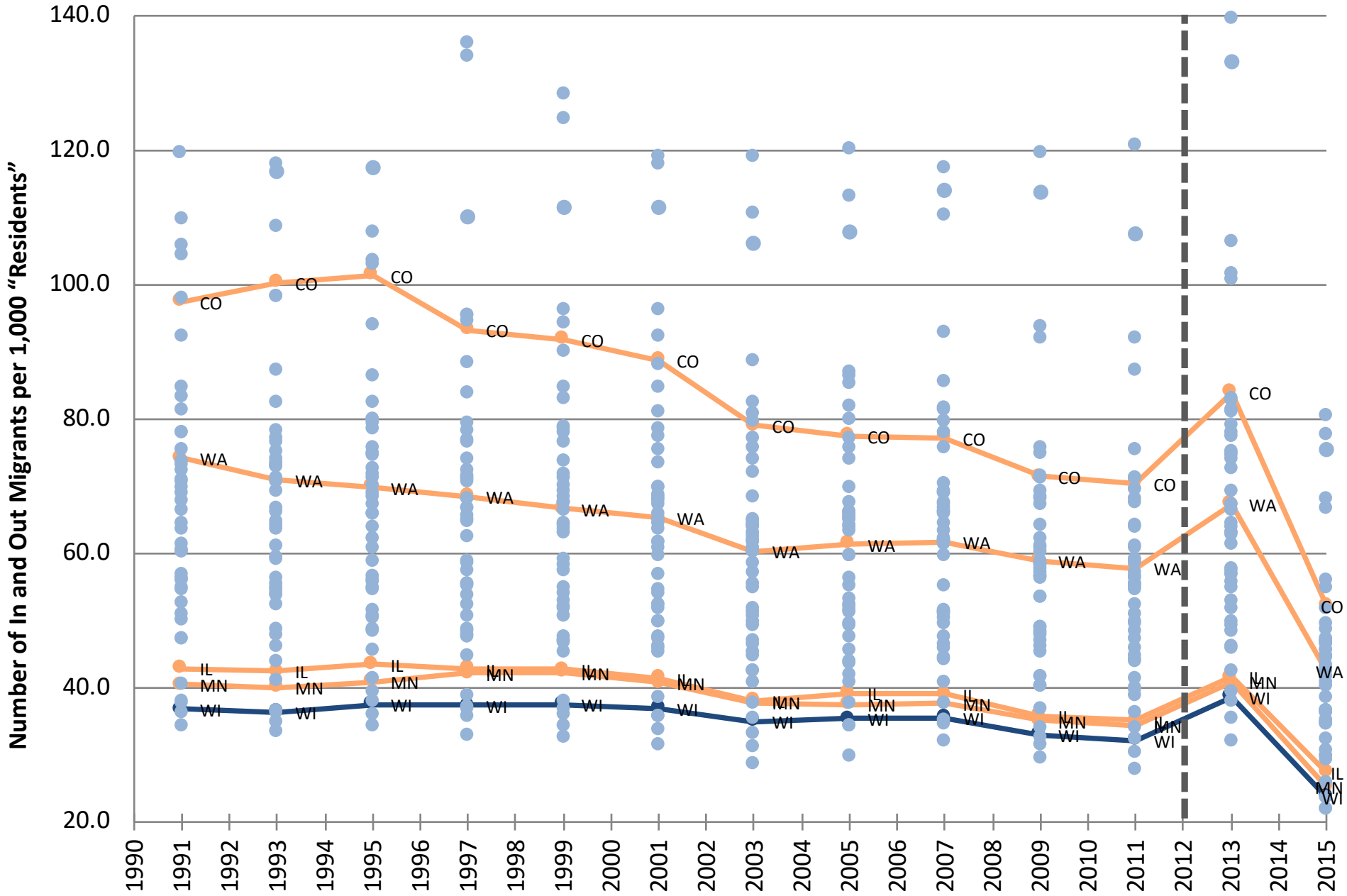
Source: Internal Revenue Service Migration Data and Author's Calculations

State Domestic Out-Migration Rates - 1990 to 2015



Source: Internal Revenue Service Migration Data and Author's Calculations

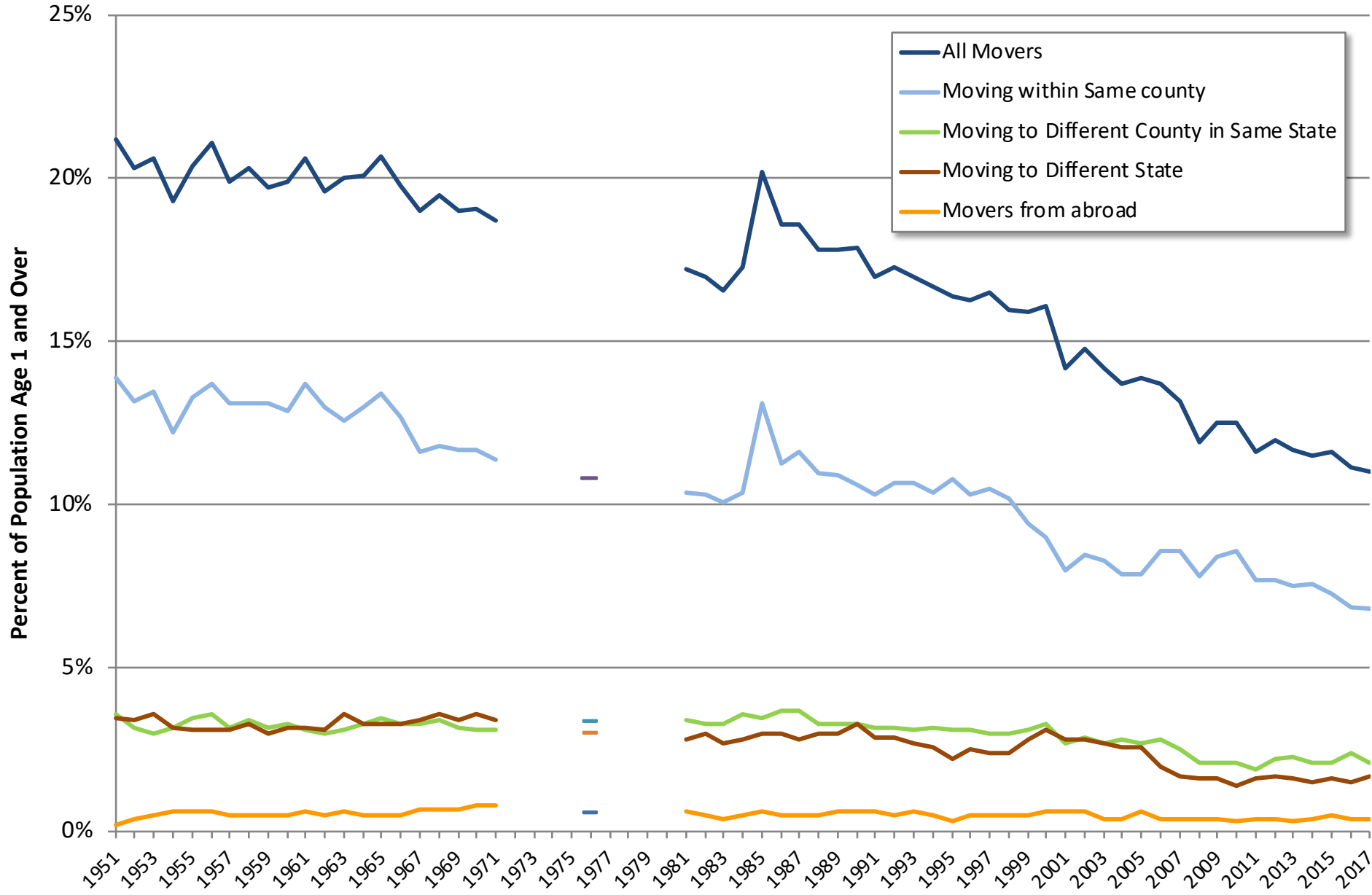
State Domestic Gross Migration Rates (Churn) – 1990 to 2015



Source: Internal Revenue Service Migration Data and Author's Calculations

Mobility Rates 1950 to 2017

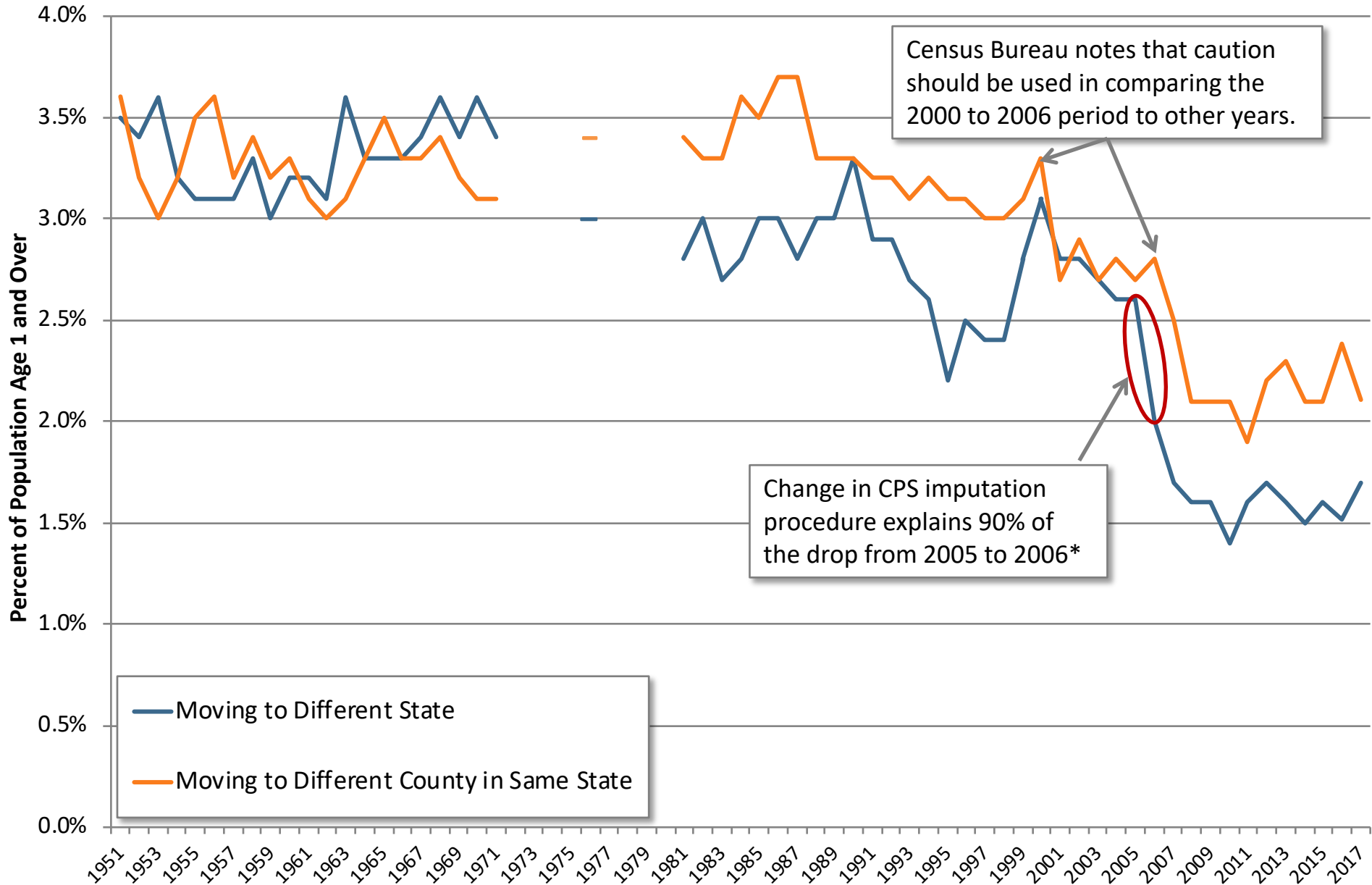
Percent of United States Population Moving (Age 1 and Over)



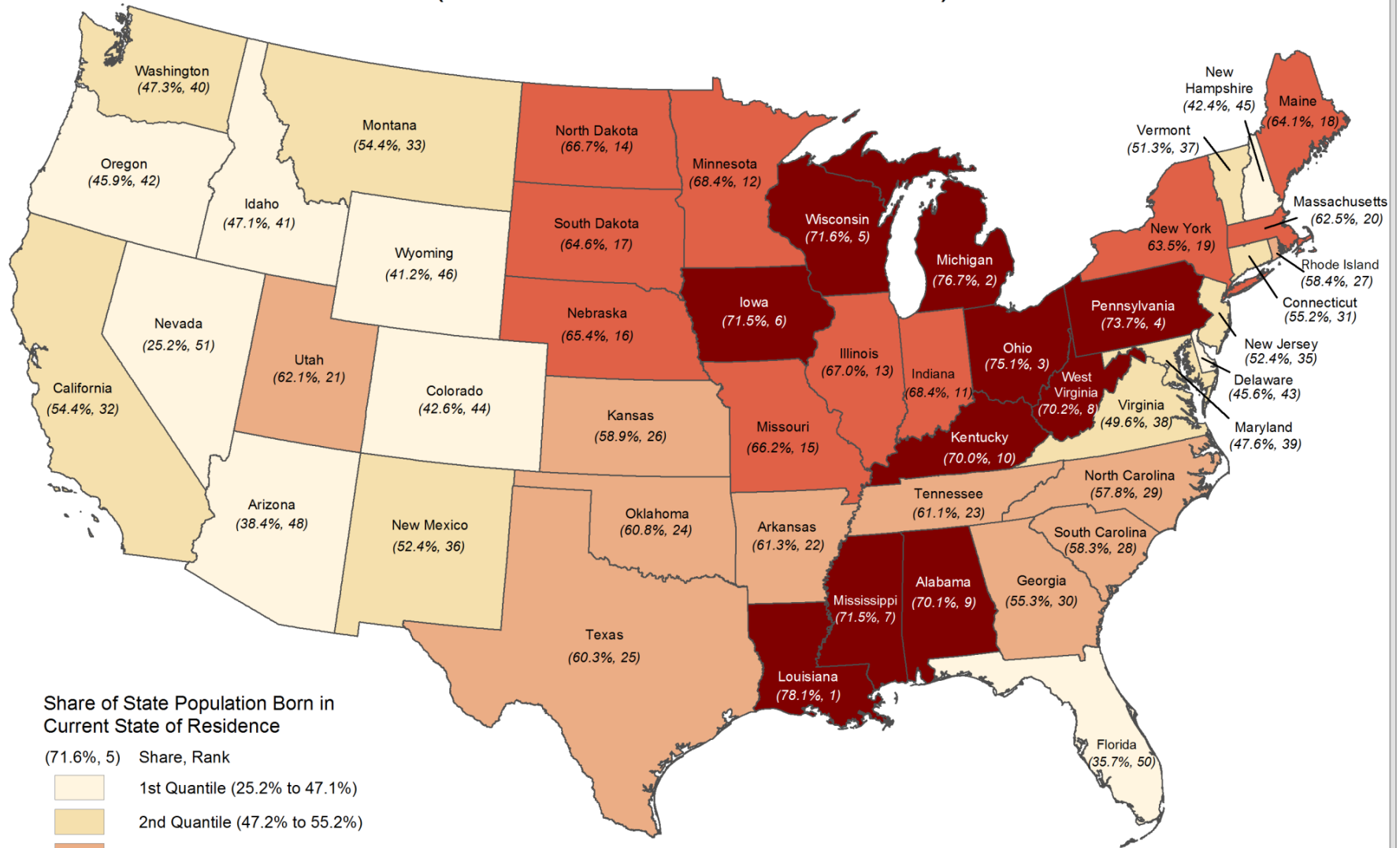
Source: US Census Bureau Current Population Survey

Inter-State and Inter-County Mobility 1950 to 2017

Percent of United States Population Moving Across State Lines (Age 1 and Over)

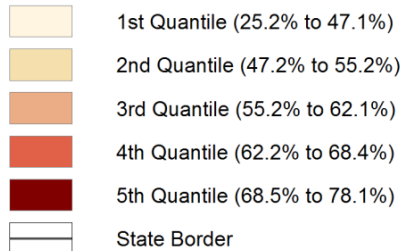


Share of State Population Born in Current State of Residence (2010 to 2014 Five Year Estimate)



Share of State Population Born in Current State of Residence

(71.6%, 5) Share, Rank



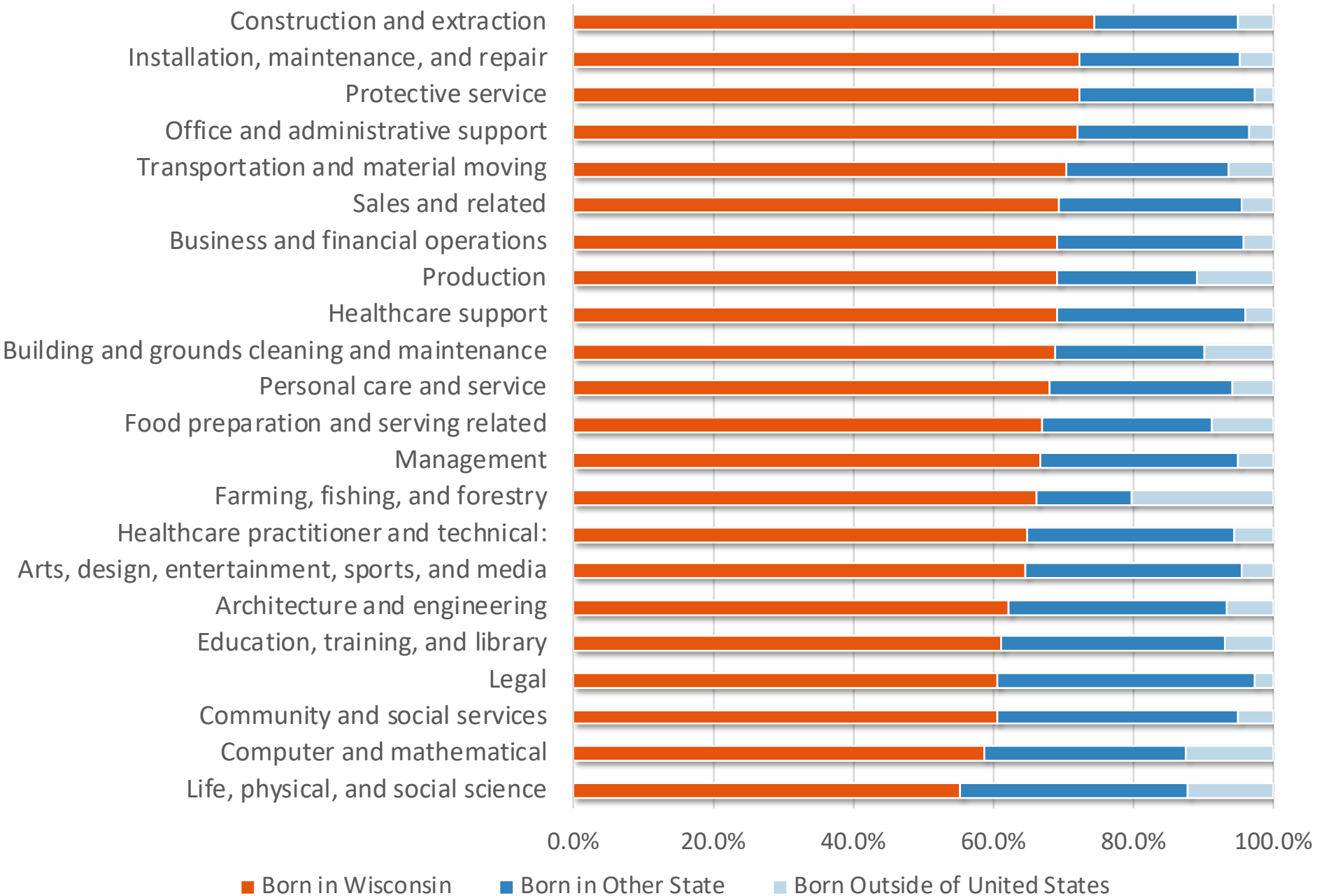
Alaska (40.6%, 47), Washington DC (36.9%, 49), and Hawaii (54.0%, 34) are not shown on the map.

Sources: U.S. Census Bureau 2010-2014 American Community Survey 5-Year Estimates.

Note: Values are based on a 90-percent confidence interval

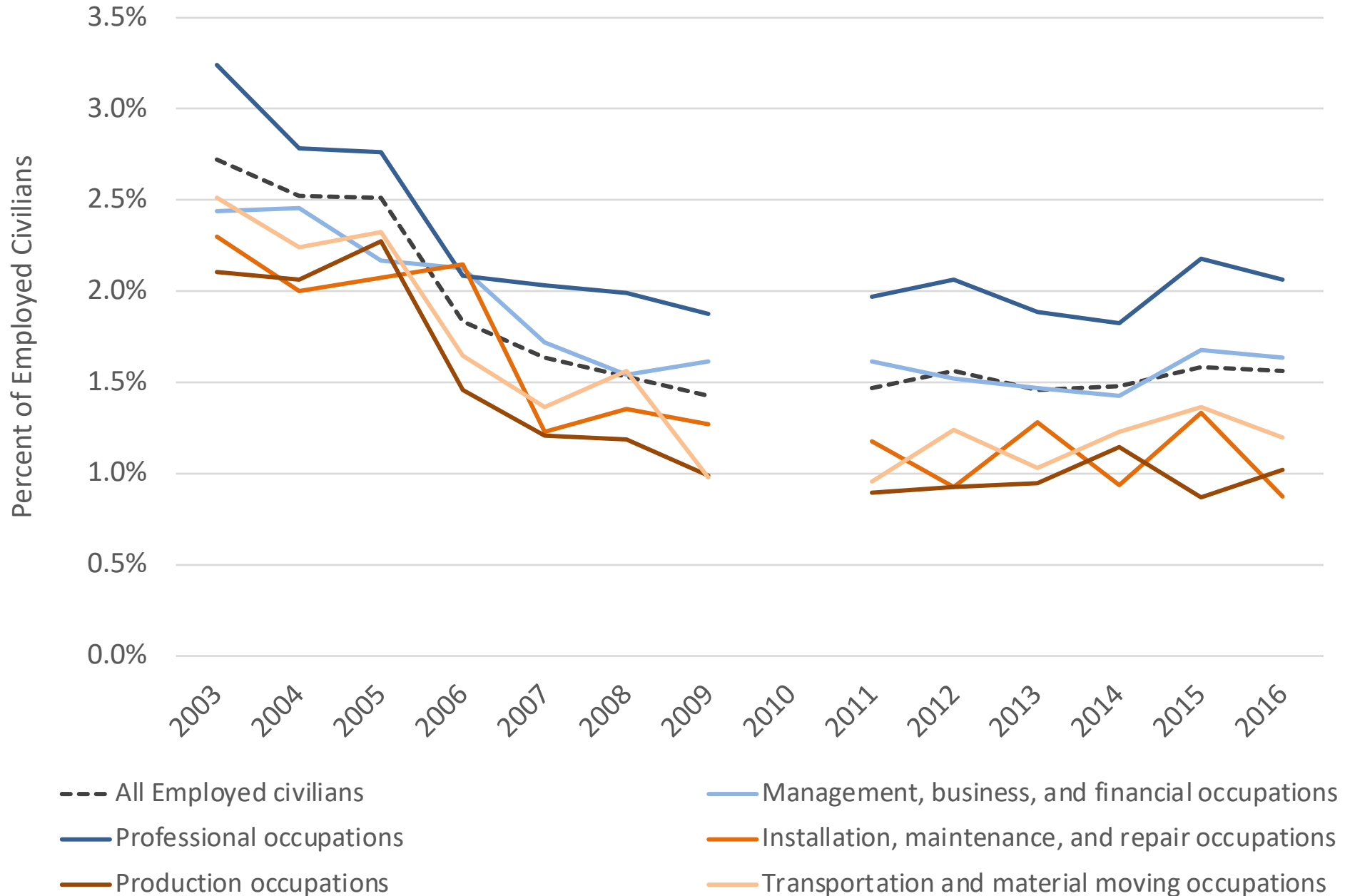
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Place of Birth by Occupation

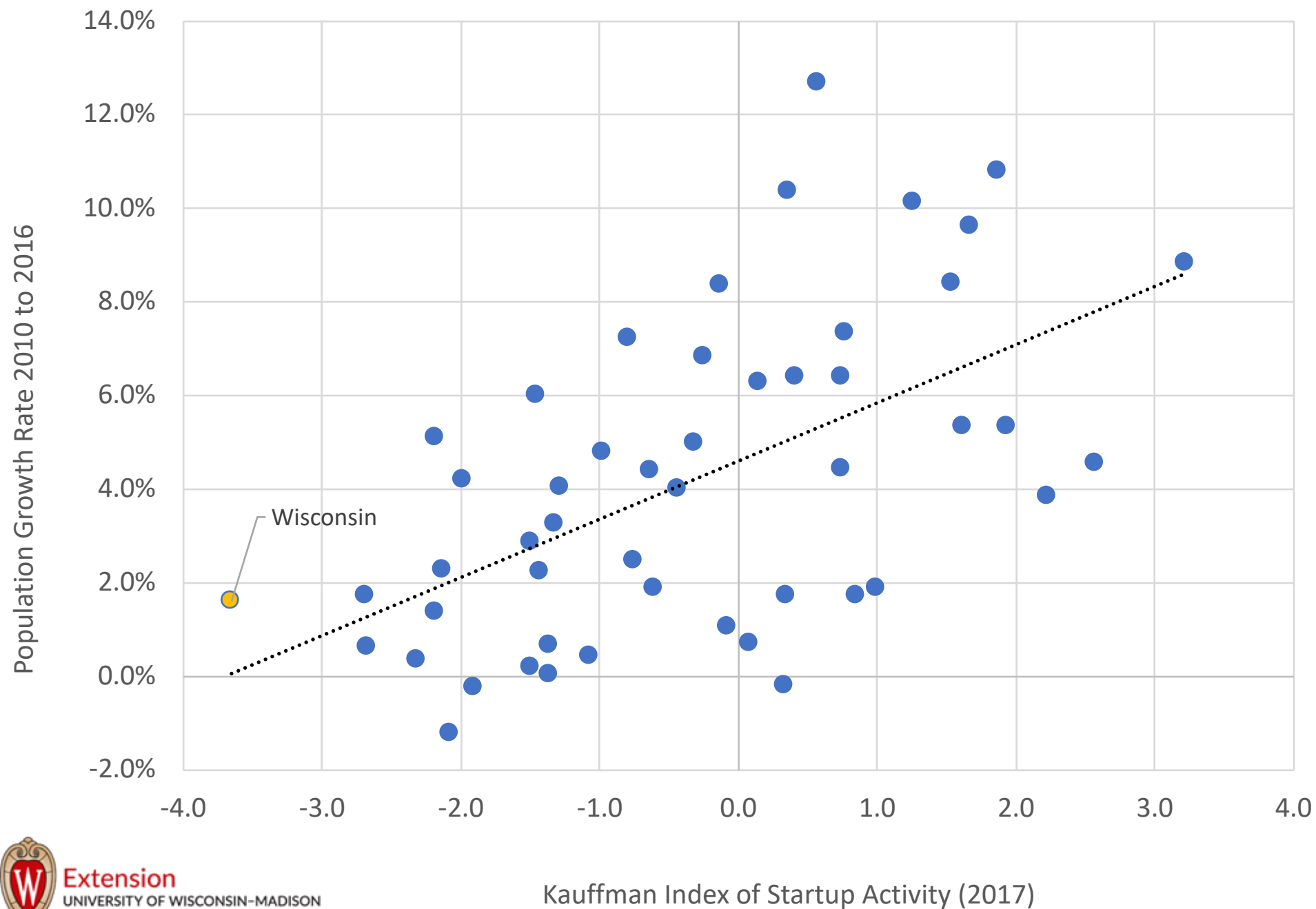


Source: American Community Survey data extracted from IPUMS-USA, University of Minnesota, www.ipums.org and Authors' Calculations

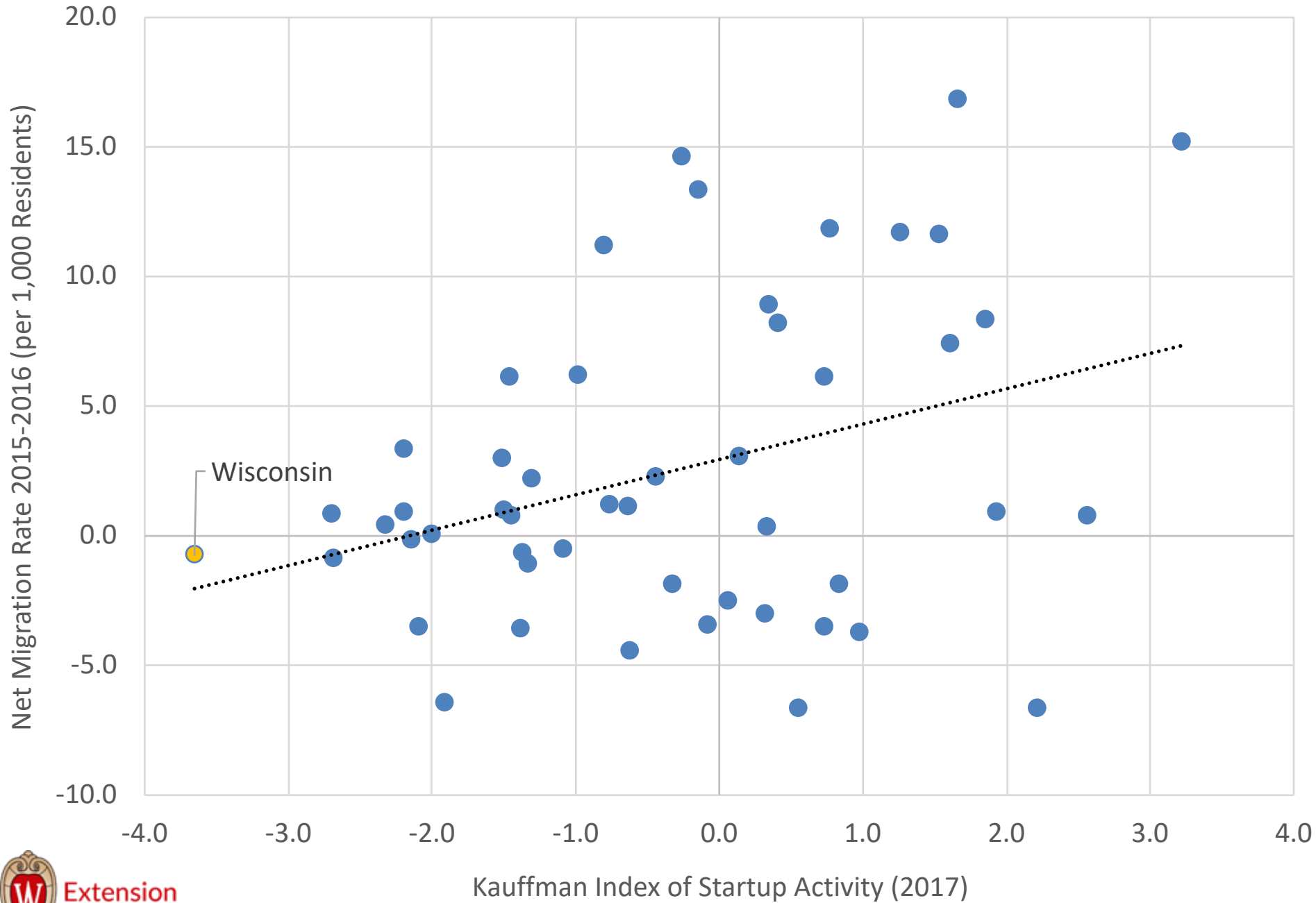
Share of Employed Civilians Moving Across State Lines by Occupation (2003 to 2015)



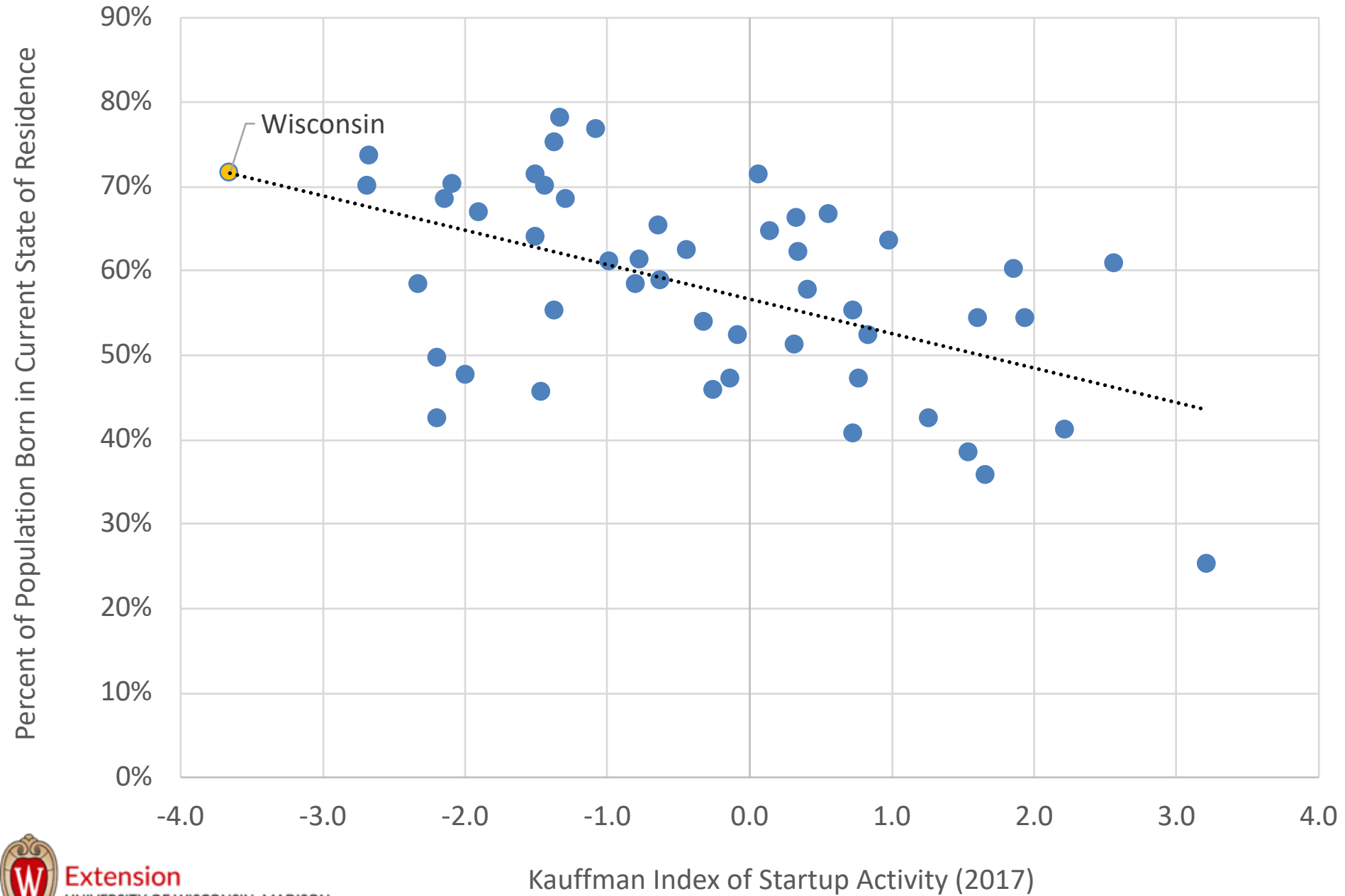
State Population Growth Rate and Kauffman Index



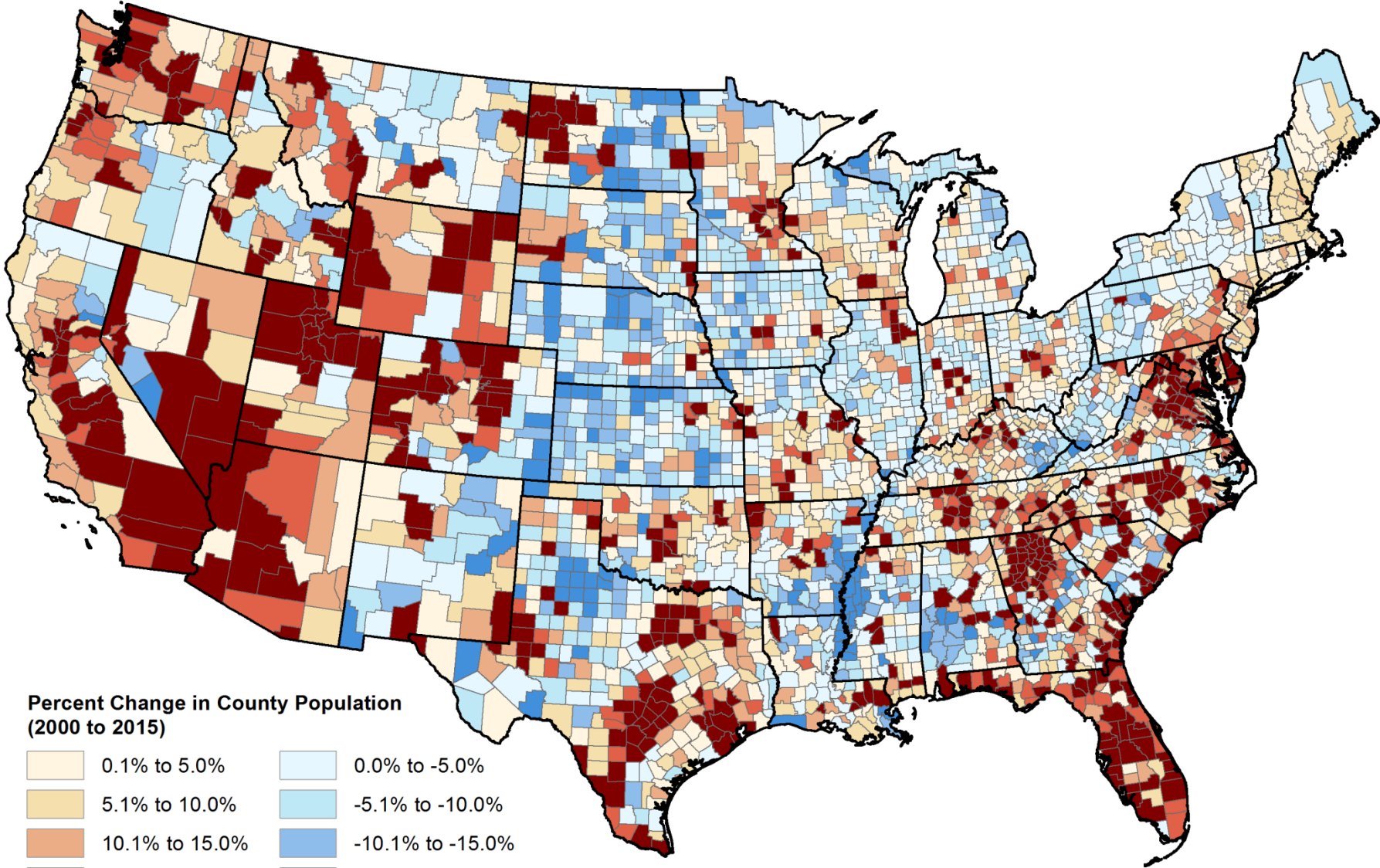
Net Migration Rate and Kauffman Index



Percent of State Population Born in State and Kauffman Index



Percent Change in Population by County - 2000 to 2015

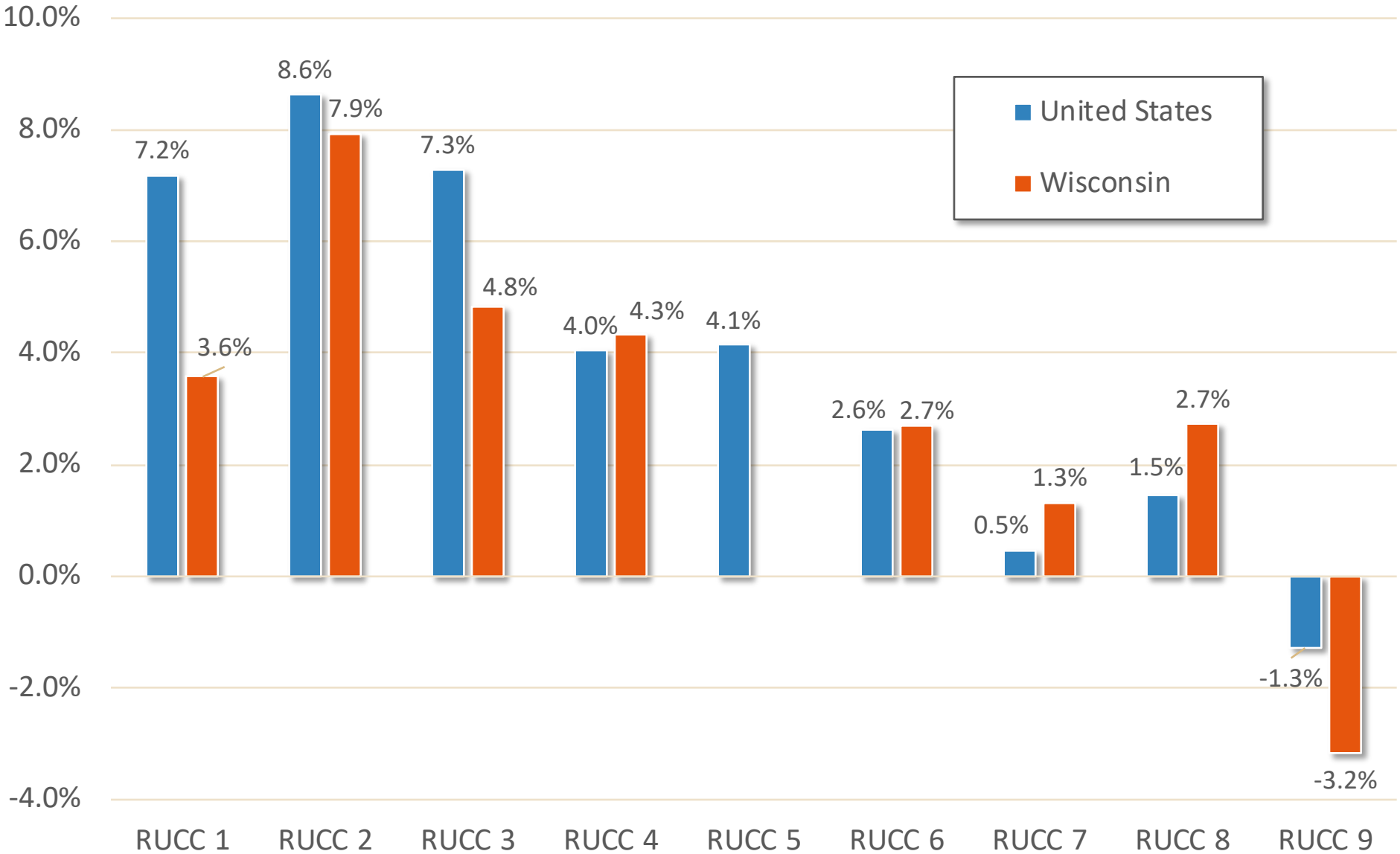


Percent Change in County Population (2000 to 2015)

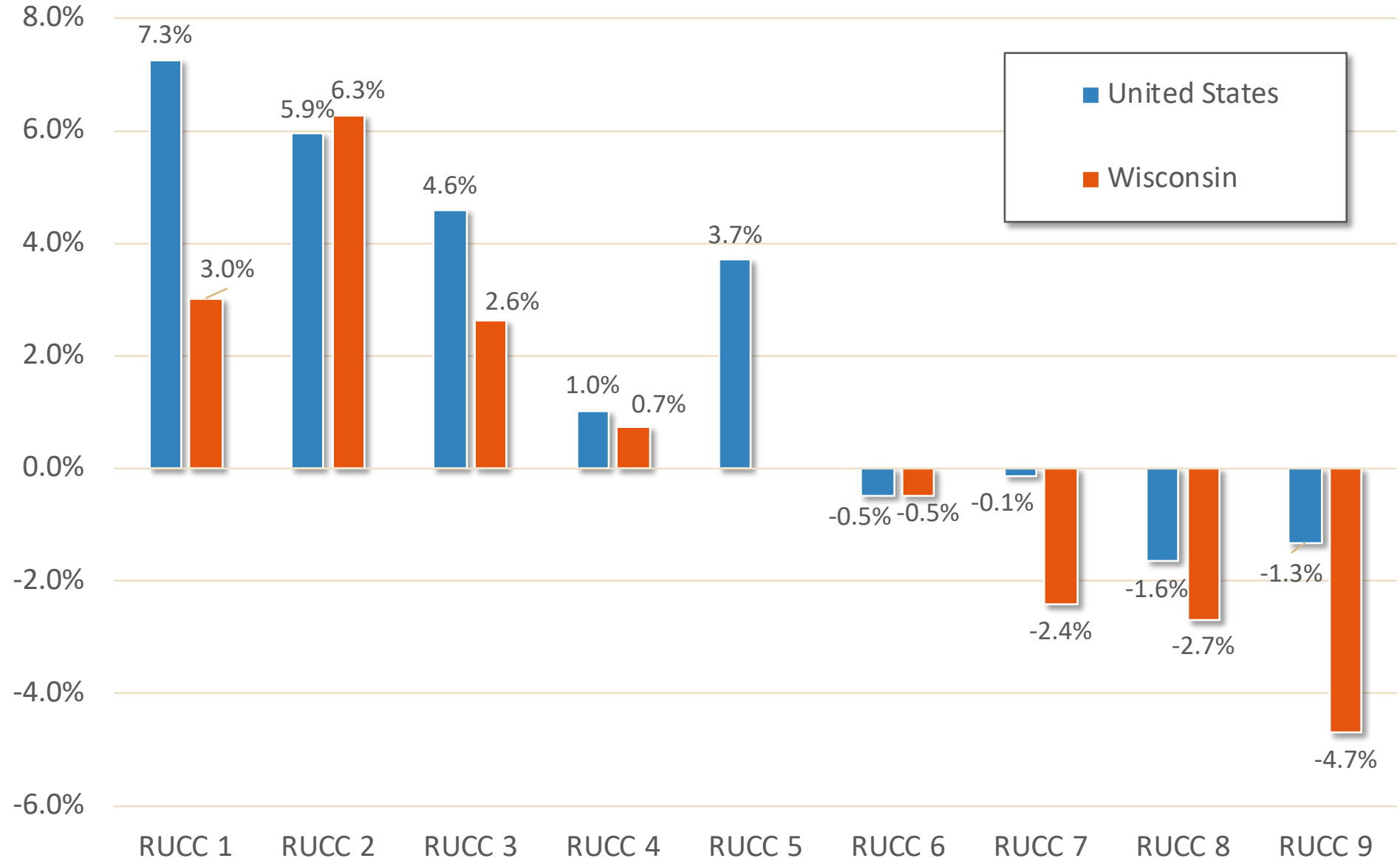
0.1% to 5.0%	0.0% to -5.0%
5.1% to 10.0%	-5.1% to -10.0%
10.1% to 15.0%	-10.1% to -15.0%
15.1% to 20.0%	-15.1% to -40.8%
20.1% to 124.3%	

Sources: U.S. Census Bureau, Bureau of Economic Analysis and UW-Extension
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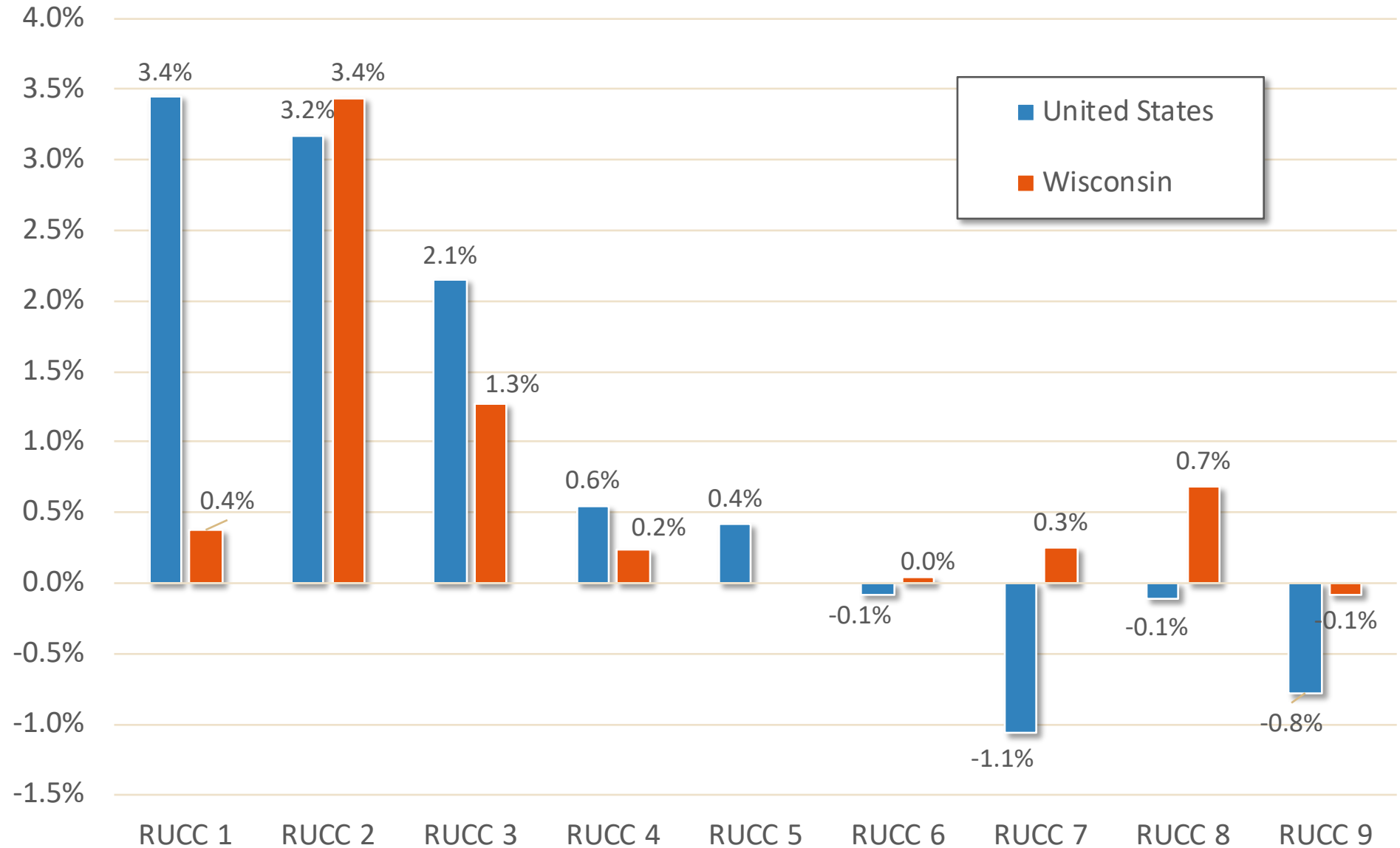
Percent Change in Population 2000 to 2007 By Rural-Urban Continuum Code



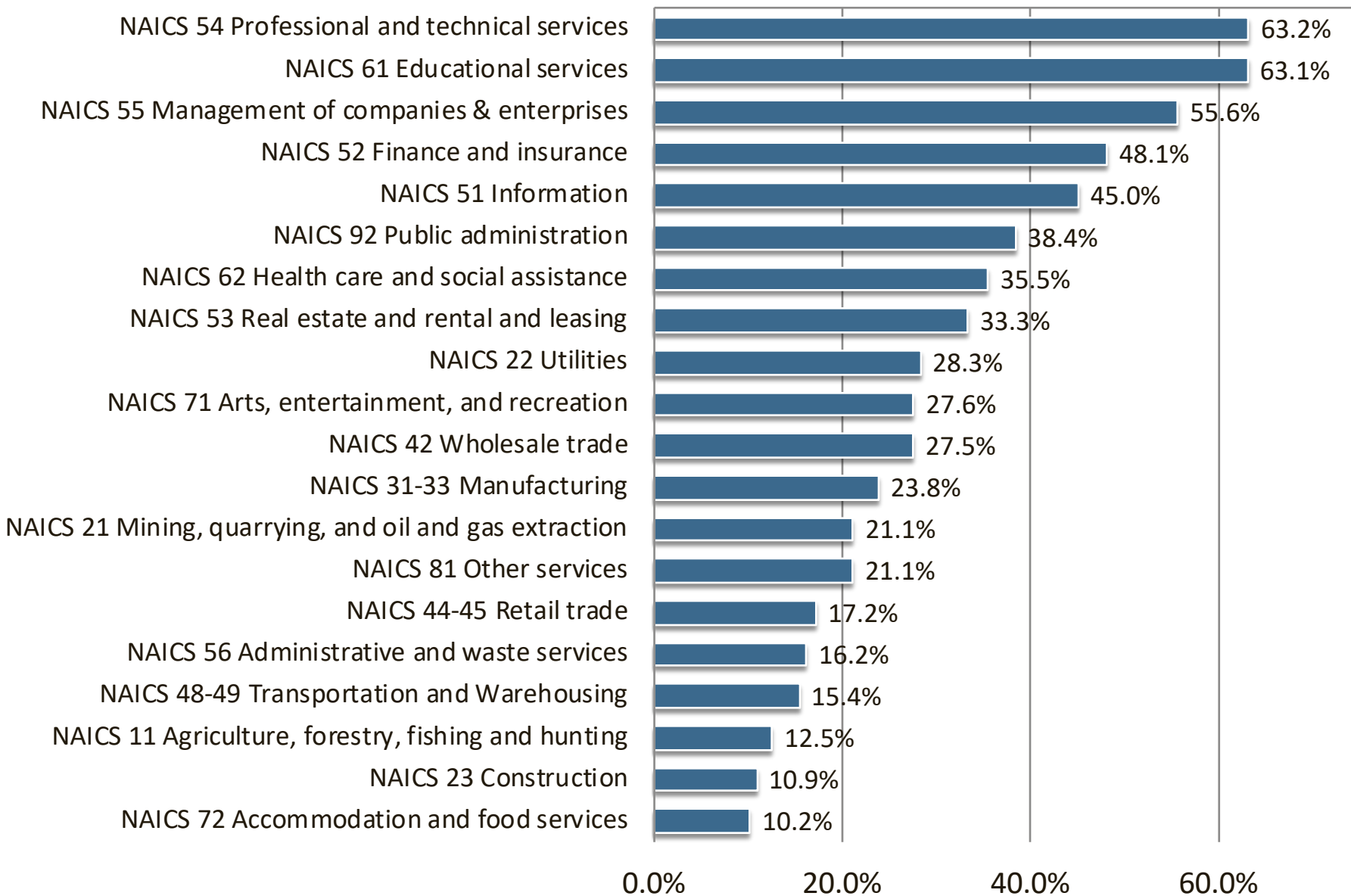
Percent Change in Population 2007 to 2014 By Rural-Urban Continuum Code



Percent Change in Population 2014 to 2018 By Rural-Urban Continuum Code



Understanding Structural Conditions - National Share of Industry Sector Employees with a Bachelor's Degree or Higher



Source: U.S. Census Bureau 2011-2015 American Community Survey PUMS and Author's Calculations – Extracted from IPUMS
 Values are subject to margins of error.

Understanding Structural Conditions - Wisconsin Employment and Average Wage Location Quotients by Industry Sectors with the Greatest Share of Employees with a College Degree

NAICS and Industry Description	% Bachelors or Higher	Employment Location Quotient
54 Professional and technical services	63.2%	0.60
61 Educational services	63.1%	0.86
55 Management of companies and enterprises	55.6%	1.54
52 Finance and insurance	48.1%	1.05
51 Information	45.0%	0.87
92 Public administration	38.4%	0.97
62 Health care and social assistance	35.5%	1.00
53 Real estate and rental and leasing	33.3%	0.60
22 Utilities	28.3%	0.74
71 Arts, entertainment, and recreation	27.6%	0.93
42 Wholesale trade	27.5%	1.06
31-33 Manufacturing	23.8%	1.88
21 Mining, quarrying, and oil and gas extraction	21.1%	0.25
81 Other services, except public administration	21.1%	0.95

Source: U.S. Census Bureau 2011-2015 American Community Survey PUMS, QCEW and Author's Calculations – Extracted from IPUMS
 Values are subject to margins of error.

Understanding Structural Conditions - Wisconsin Employment and Average Wage Location Quotients by Manufacturing Sub Sectors with the Greatest Share of Employees with a Bachelor's Degree or Higher

NAICS and Industry Description	% Bachelors or Higher	Employment Location Quotient
334 Computer and electronic product manufacturing	48.3%	0.89
325 Chemical manufacturing	40.8%	1.07
324 Petroleum and coal products manufacturing	32.1%	0.20
339 Miscellaneous manufacturing	30.0%	1.17
312 Beverage and tobacco product manufacturing	28.7%	0.85
336 Transportation equipment manufacturing	27.4%	0.82
335 Electrical equipment and appliance mfg.	26.6%	3.12
333 Machinery manufacturing	23.4%	3.07
316 Leather and allied product manufacturing	20.2%	2.24
323 Printing and related support activities	19.2%	3.33
322 Paper manufacturing	17.5%	4.12
315 Apparel manufacturing	16.4%	0.34
327 Nonmetallic mineral product manufacturing	15.4%	1.18
331 Primary metal manufacturing	15.0%	2.15

Summary

- Wisconsin faces a bodies gap (along with other states)
- Increased labor participation rates will help increase labor supply, but the overall participation rate will continue to decline due to Wisconsin's age structure.
- Workforce development strategies should be approached from a comprehensive perspective.
- Does ethnocentrism or a potential preference for “in-group” members influence failed migrations to Wisconsin?
- Do we need to emphasize other strategies that reduce dependence on labor availability?
- Do we need an altered narrative about amenities and quality of life?
- Wisconsin's structural conditions create challenges to increasing labor supply.



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