

Growth, Innovation, and the Future of the Arizona Economy

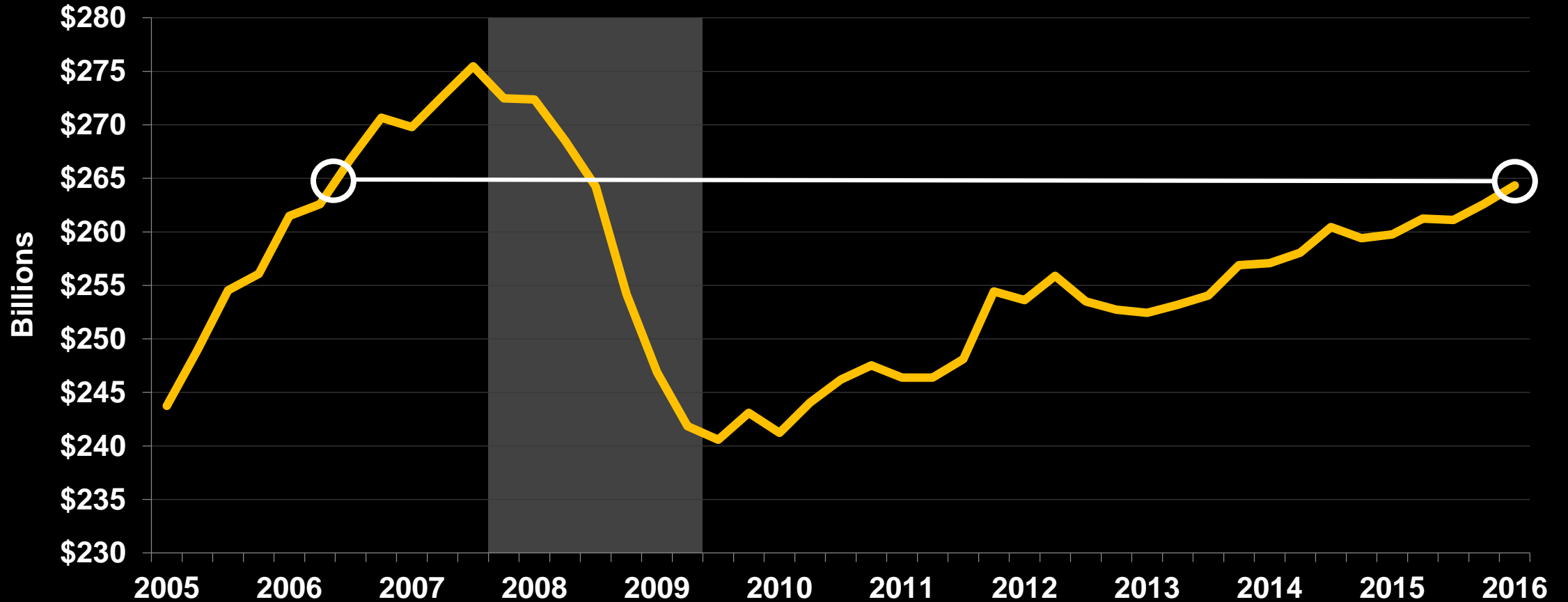
Michael Crow

Arizona State University

December 21, 2016



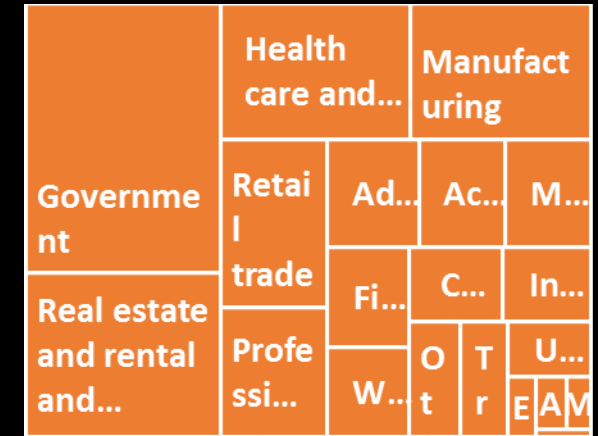
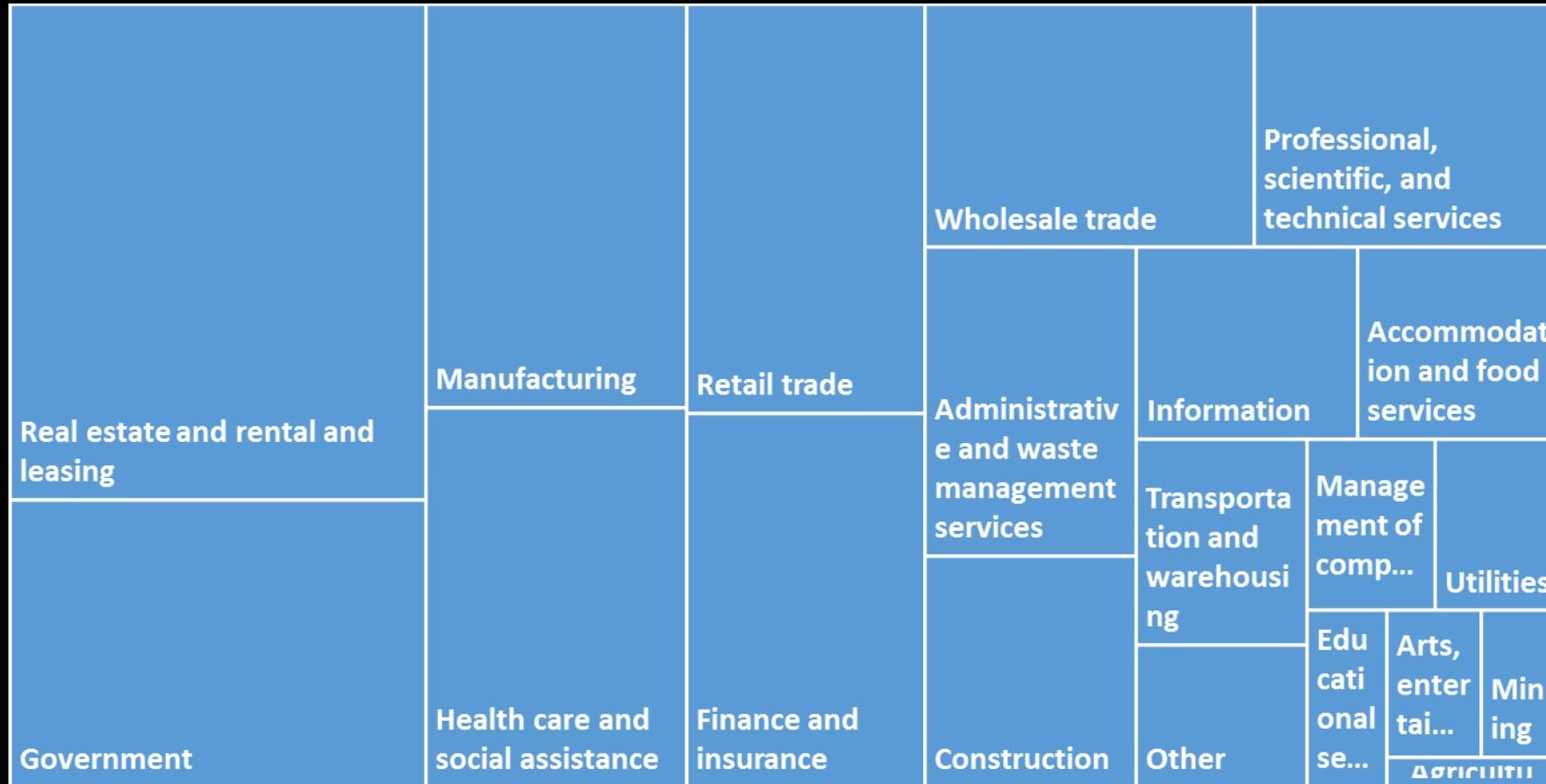
Arizona Gross Domestic Product, 2005-2016



Arizona Economic Output by Metro and Sector, 2015

Phoenix

Tucson



Flagstaff

Prescott

Non-Metro

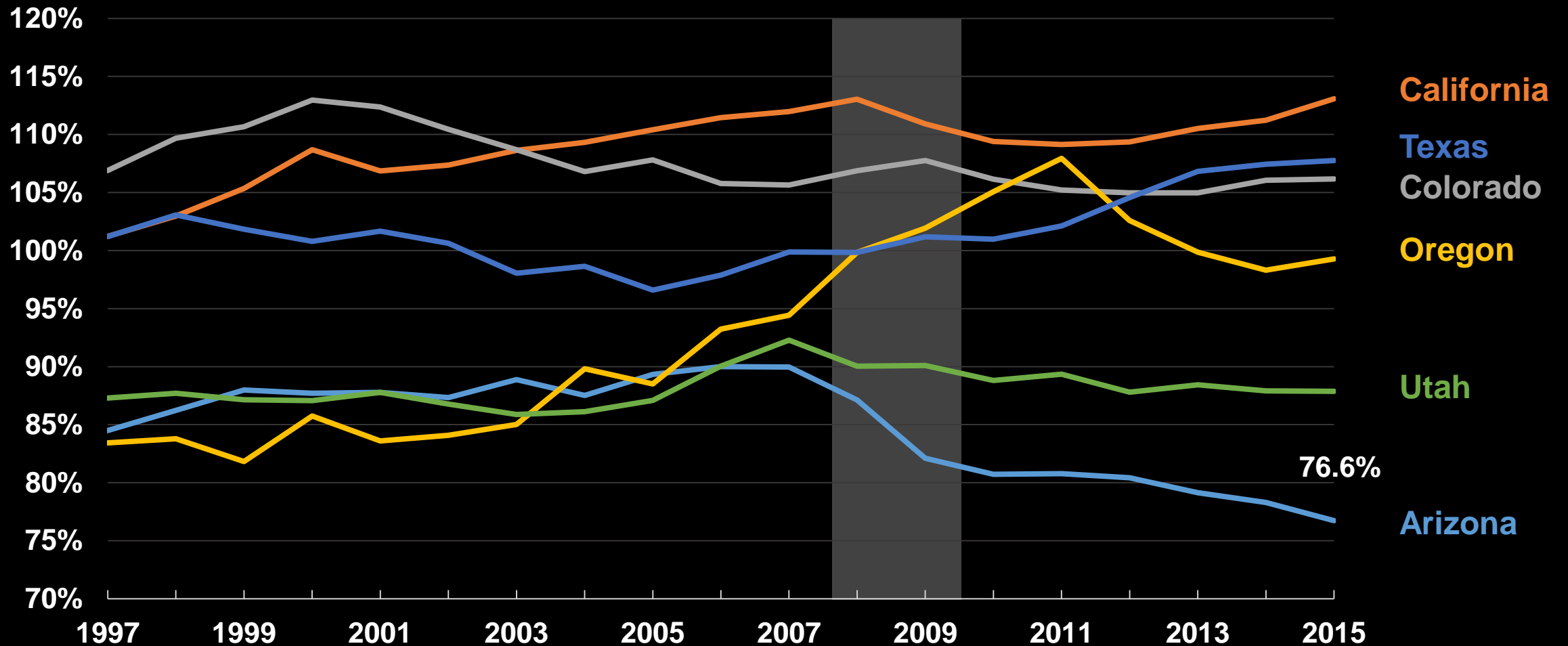


Yuma

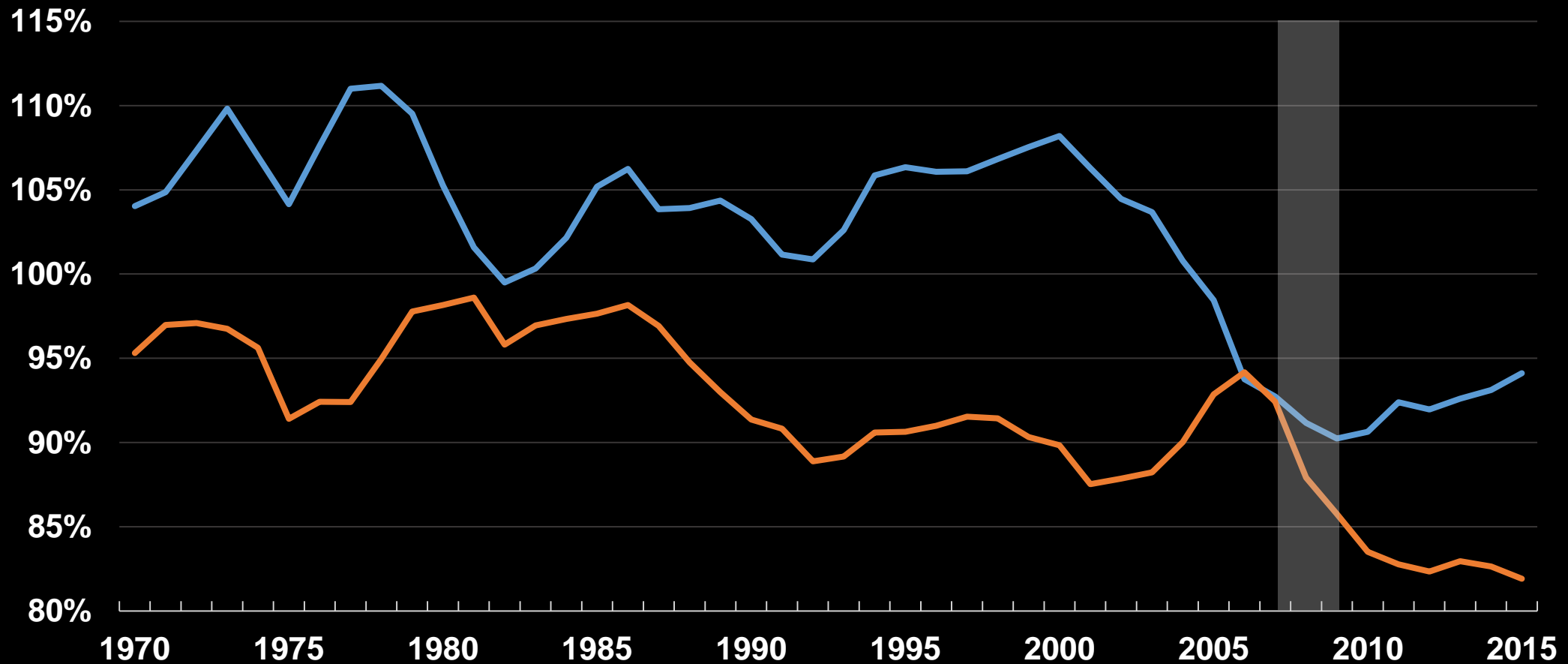
Sierra Vista



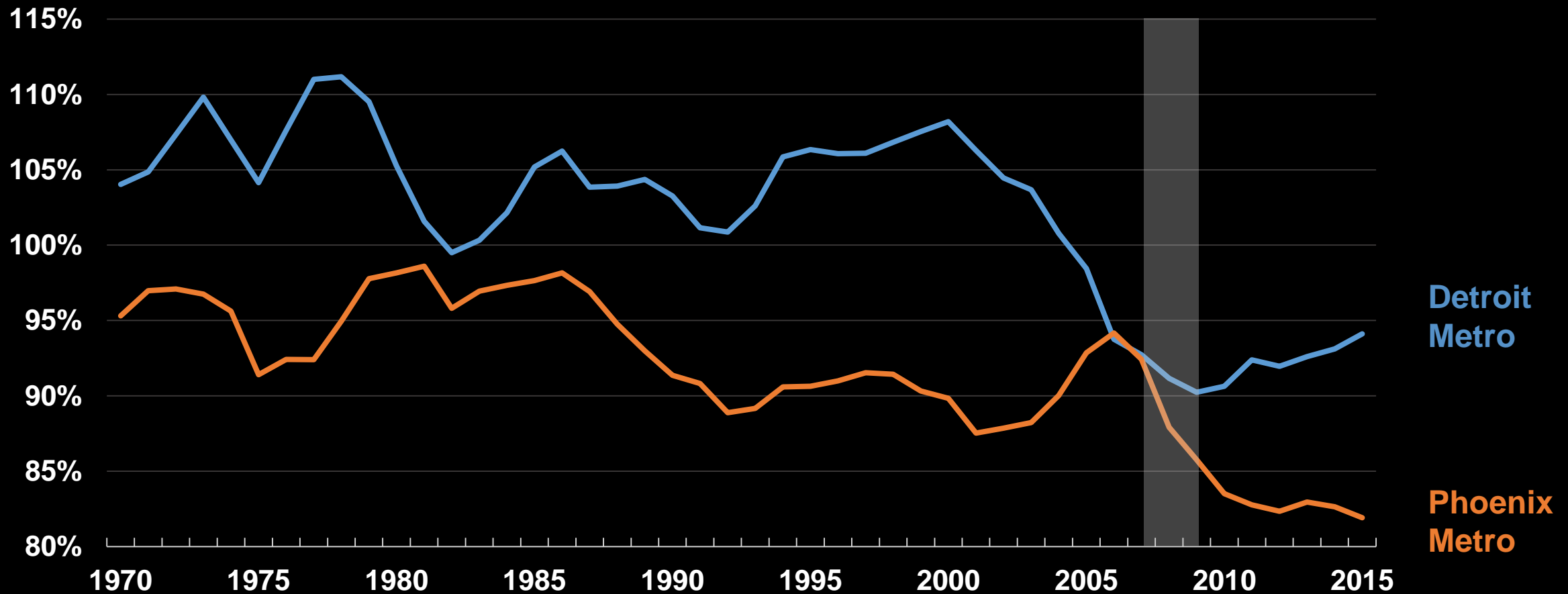
Per Capita GDP Relative to US Average, 1997-2015



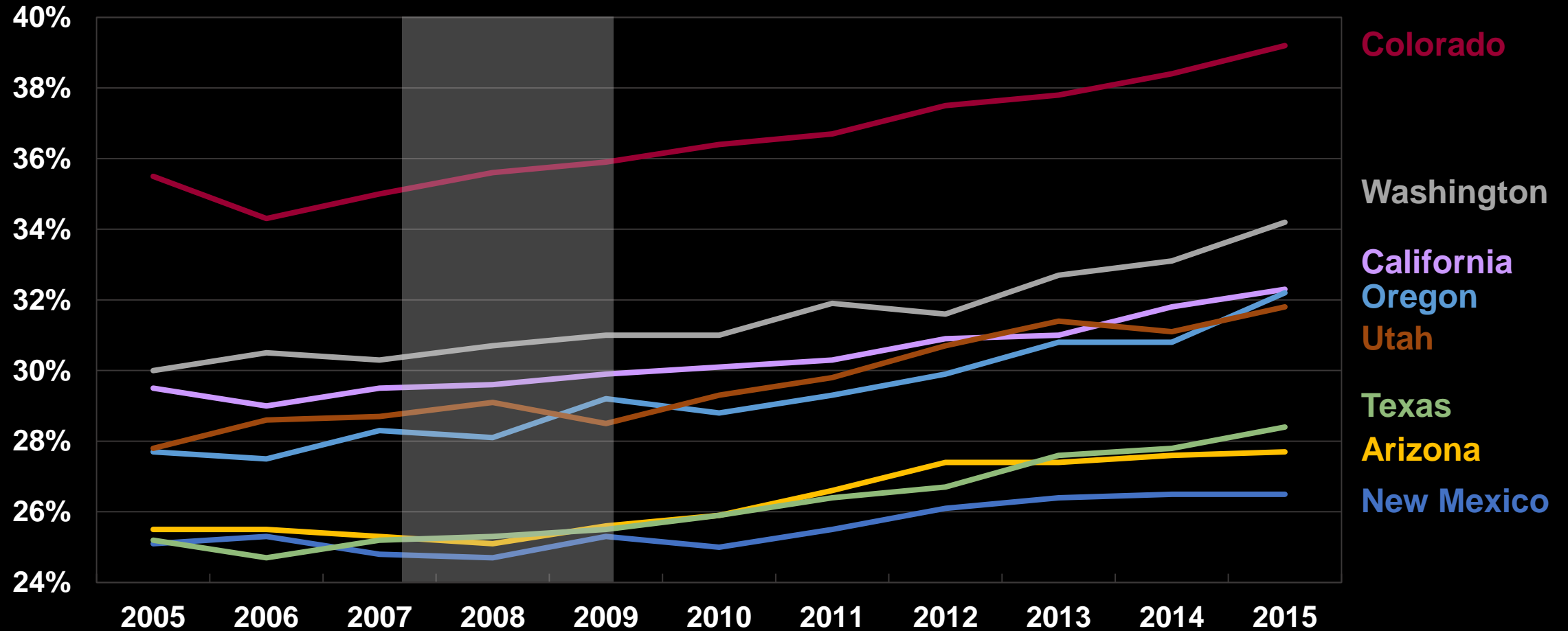
Per Capita Personal Income Relative to US Average, 1970-2015



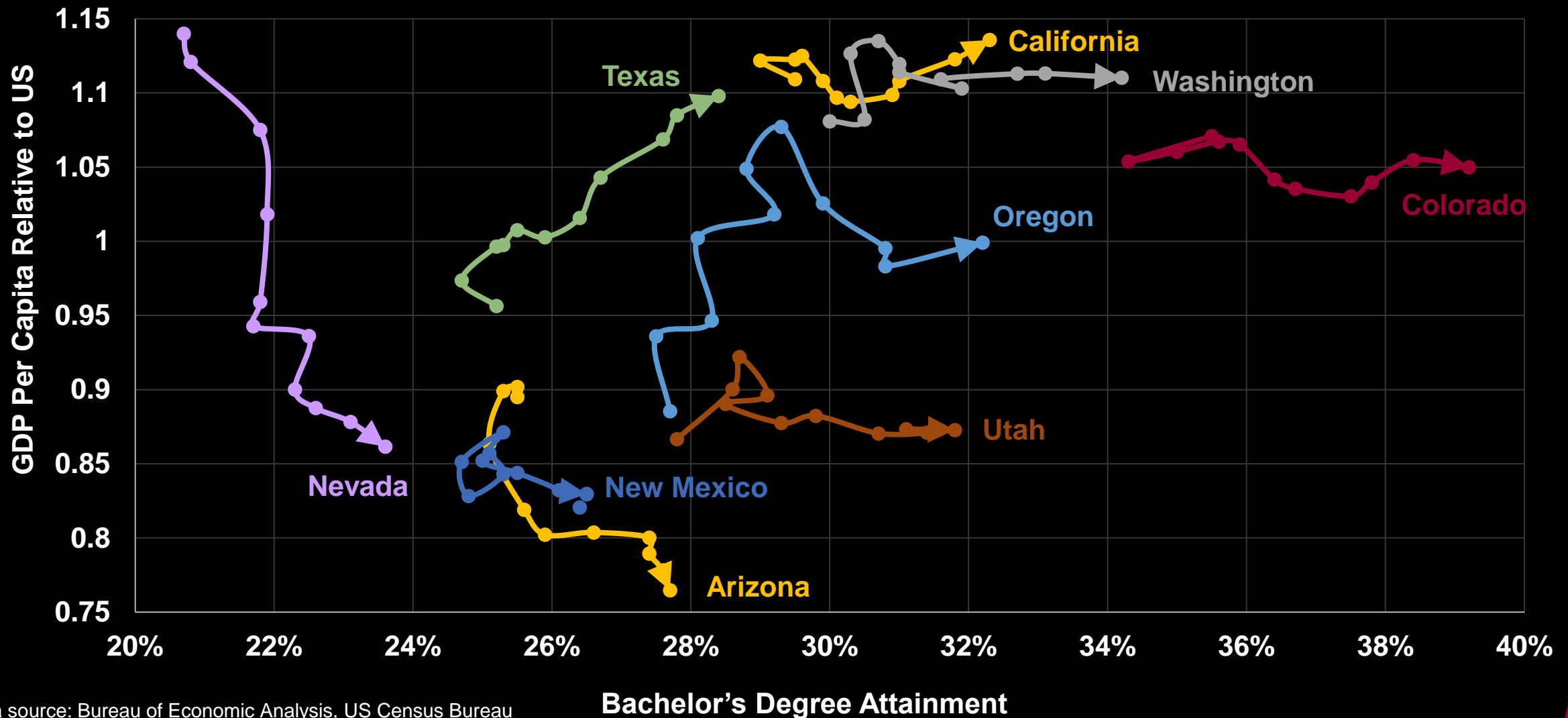
Per Capita Personal Income Relative to US Average, 1970-2015



Bachelor's Degree Attainment Rate of Population 25 Years and Over, 2005-2015

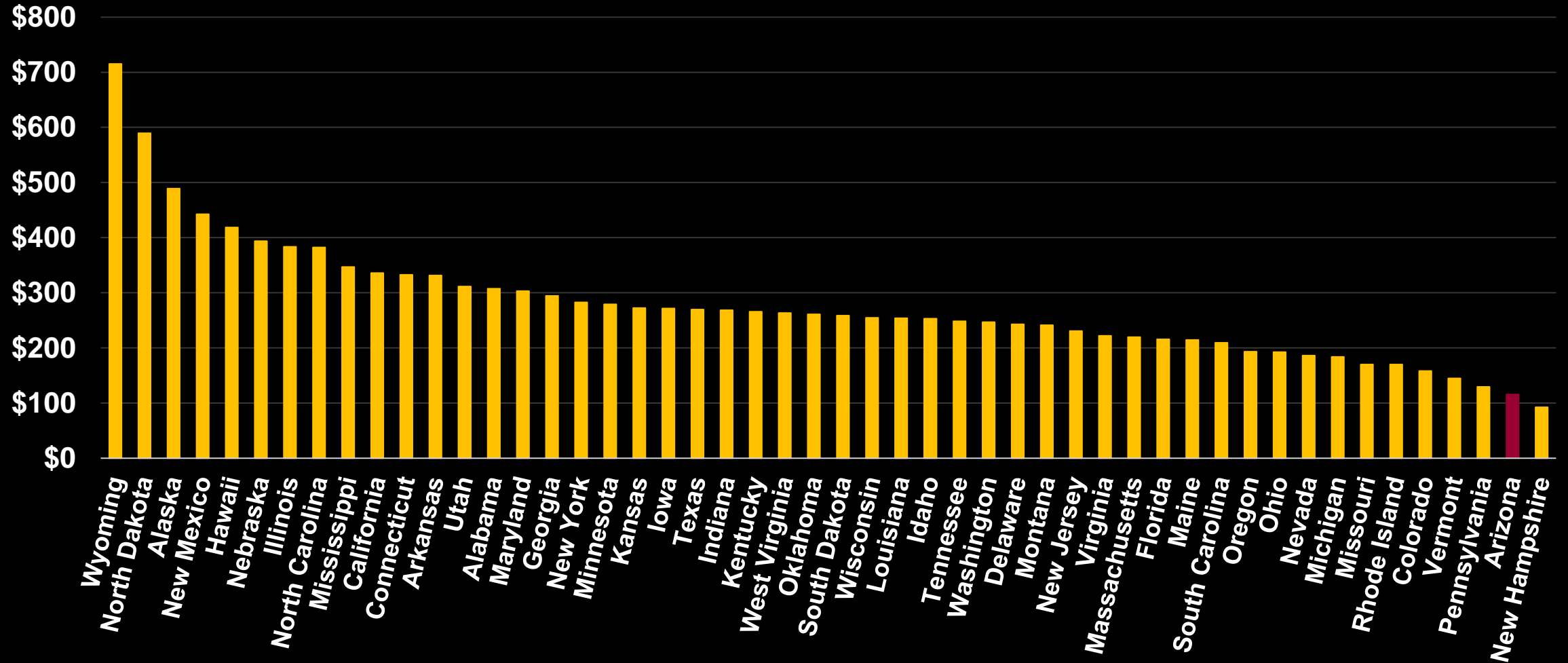


Bachelor's Degree Attainment and GDP per Capita Relative to National Average, 2005-2015

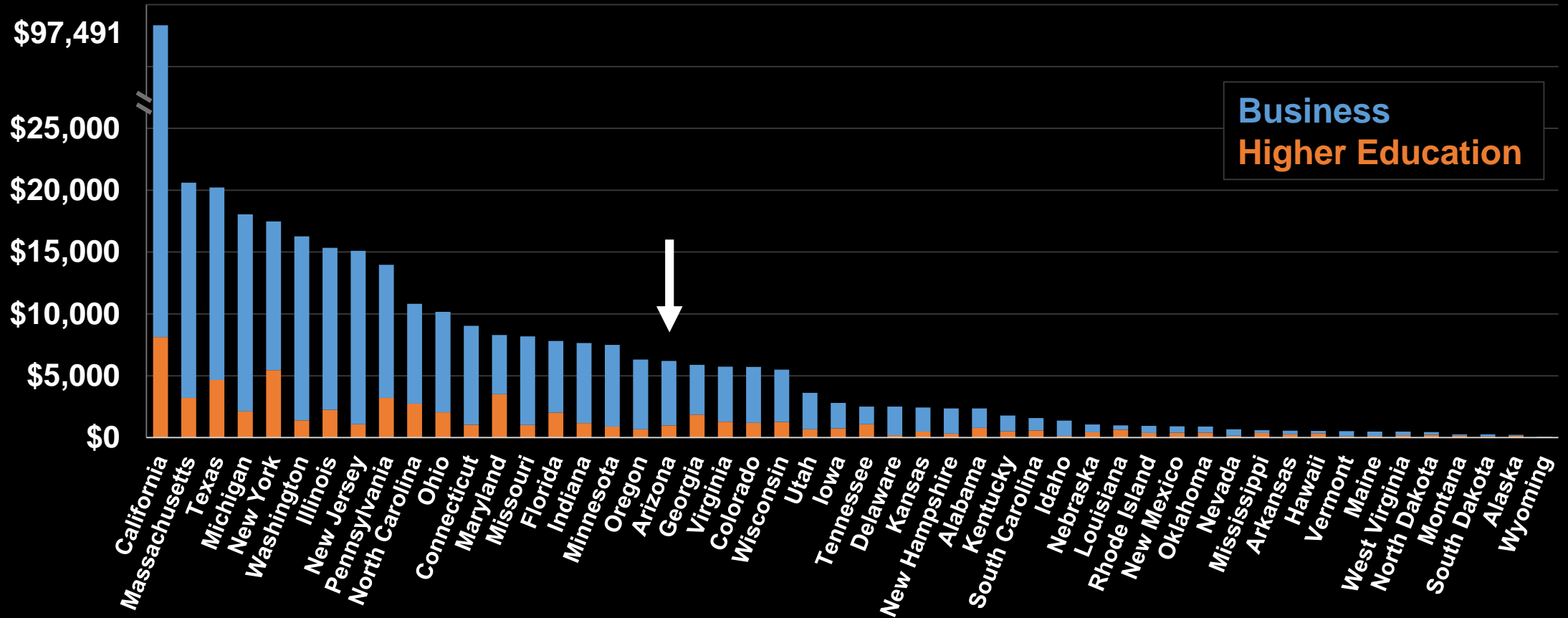


Data source: Bureau of Economic Analysis, US Census Bureau

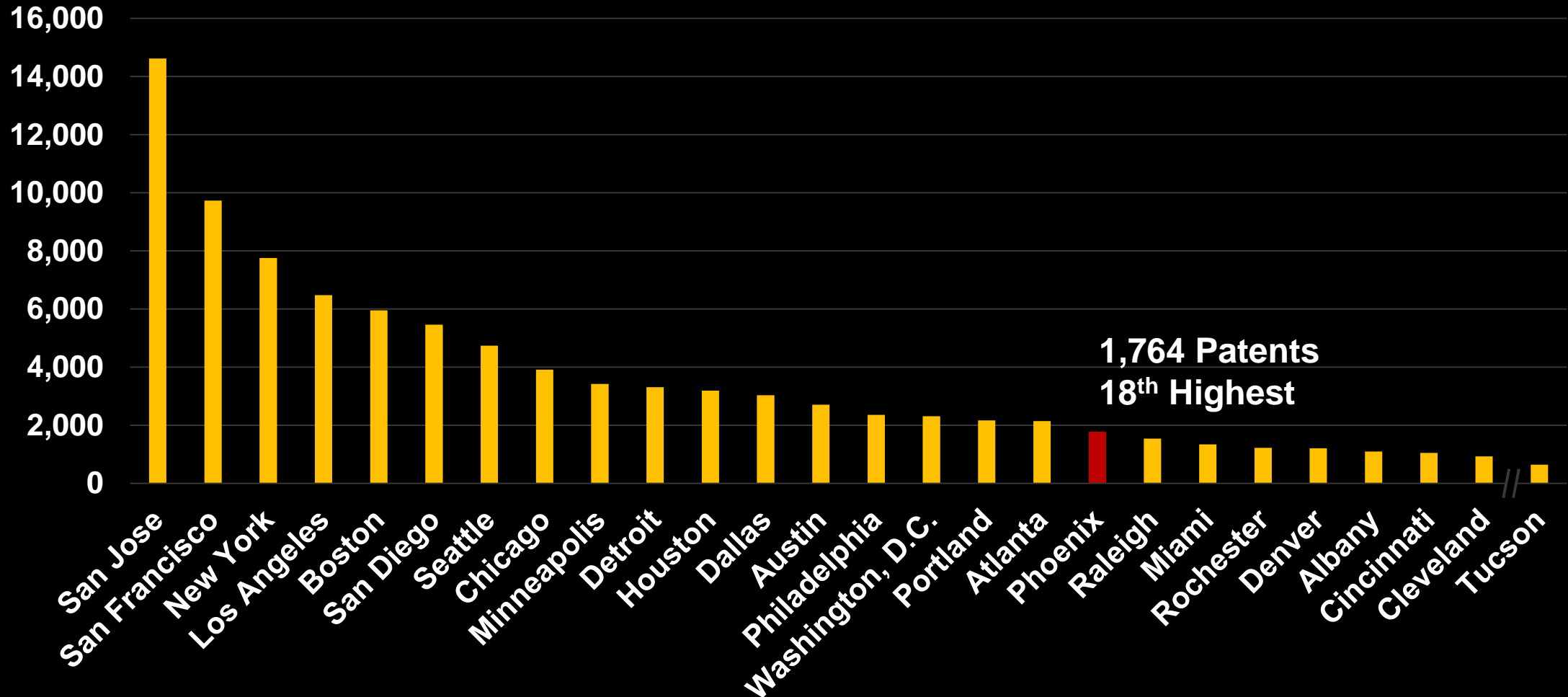
Per Capita State Support for Higher Education, FY16



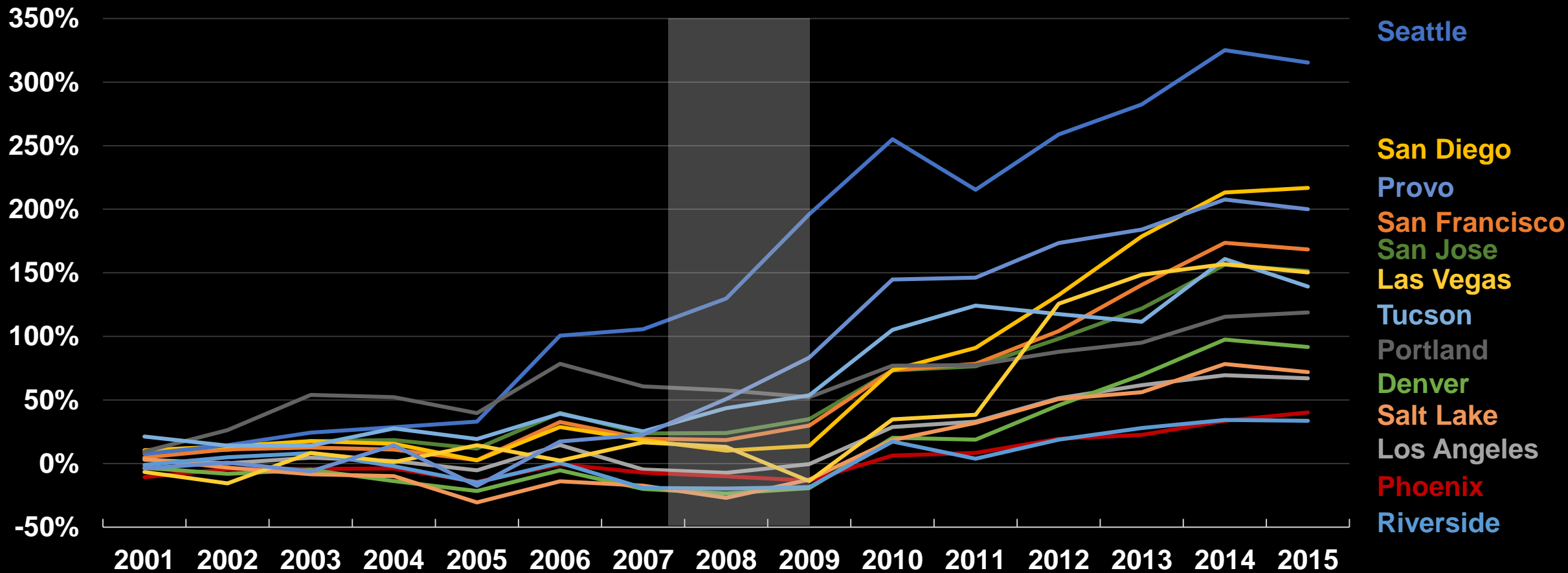
Business and Higher Education Research Expenditures by State, 2013



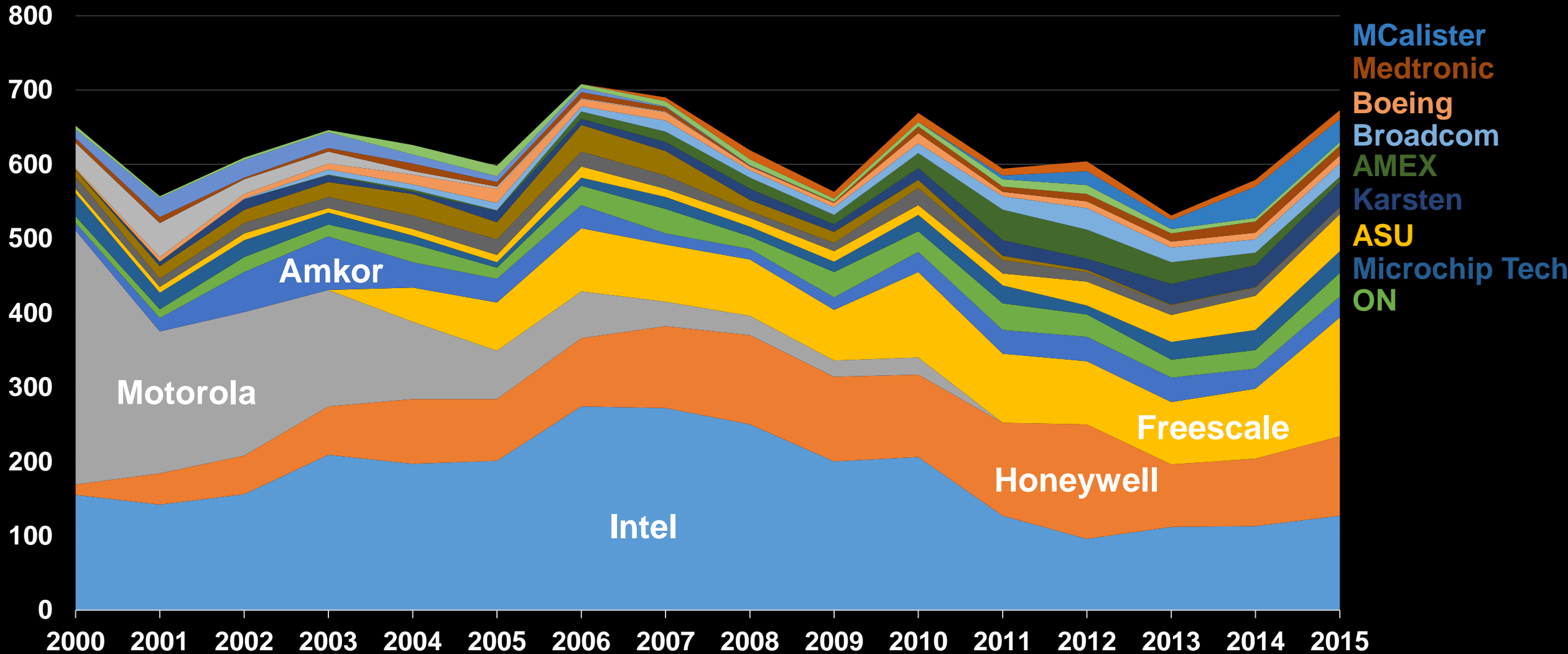
Patents Granted by Metro, 2015



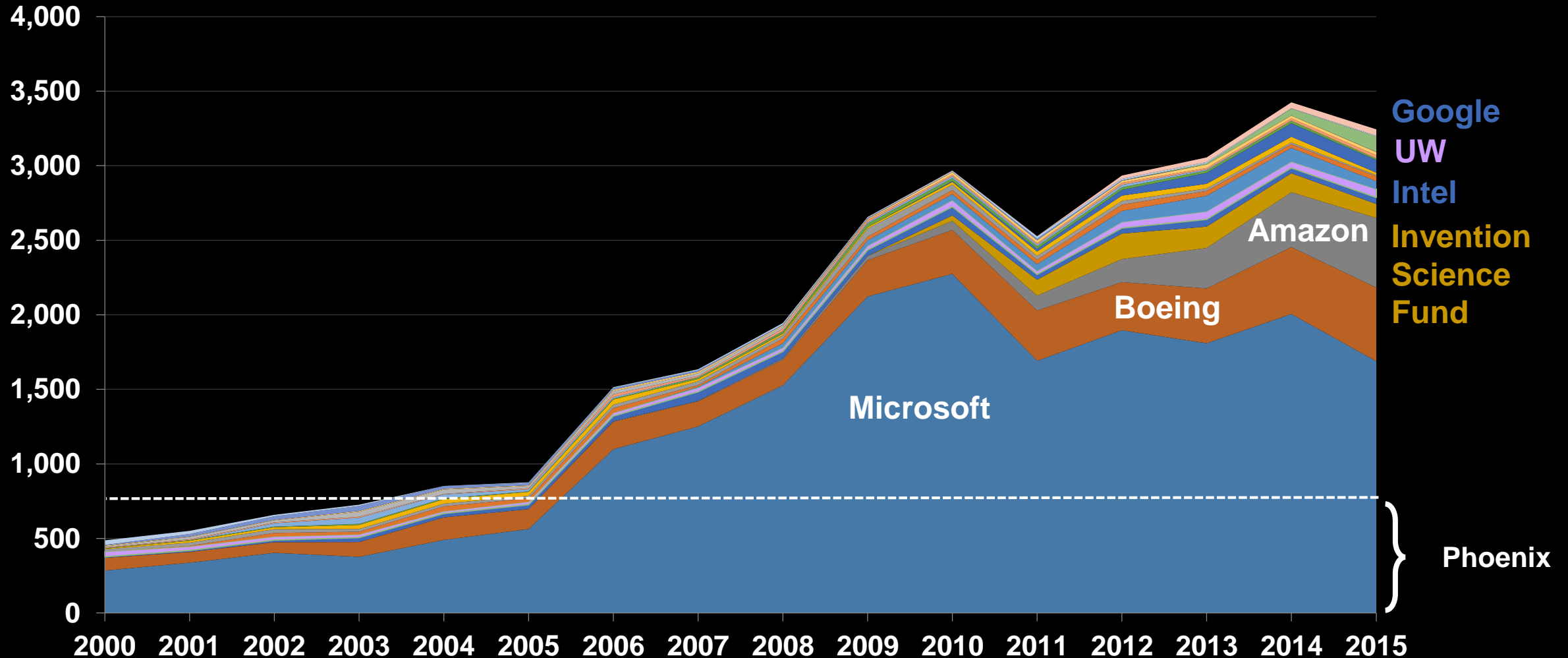
Percentage Change in Patents Granted to Western Metros Relative to 2000



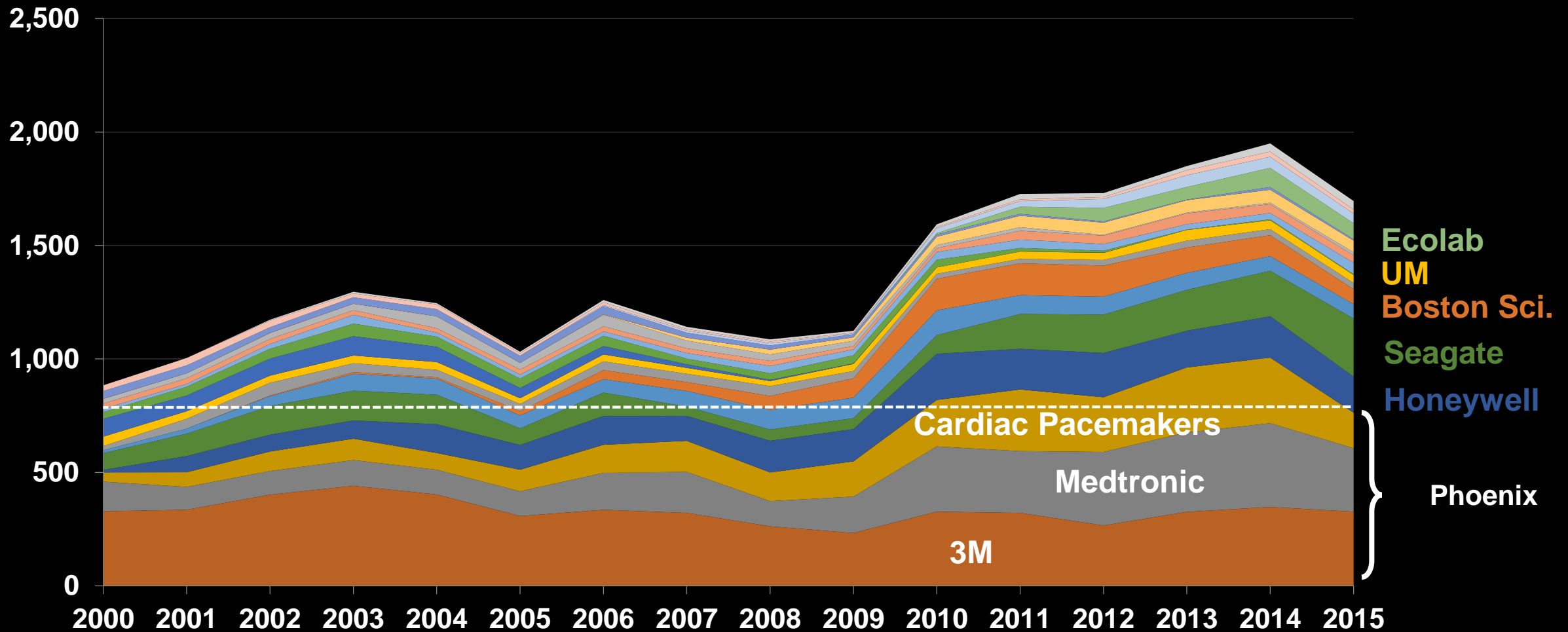
Patents Issued to Top 20 Phoenix Metro Assignees, 2000-2015



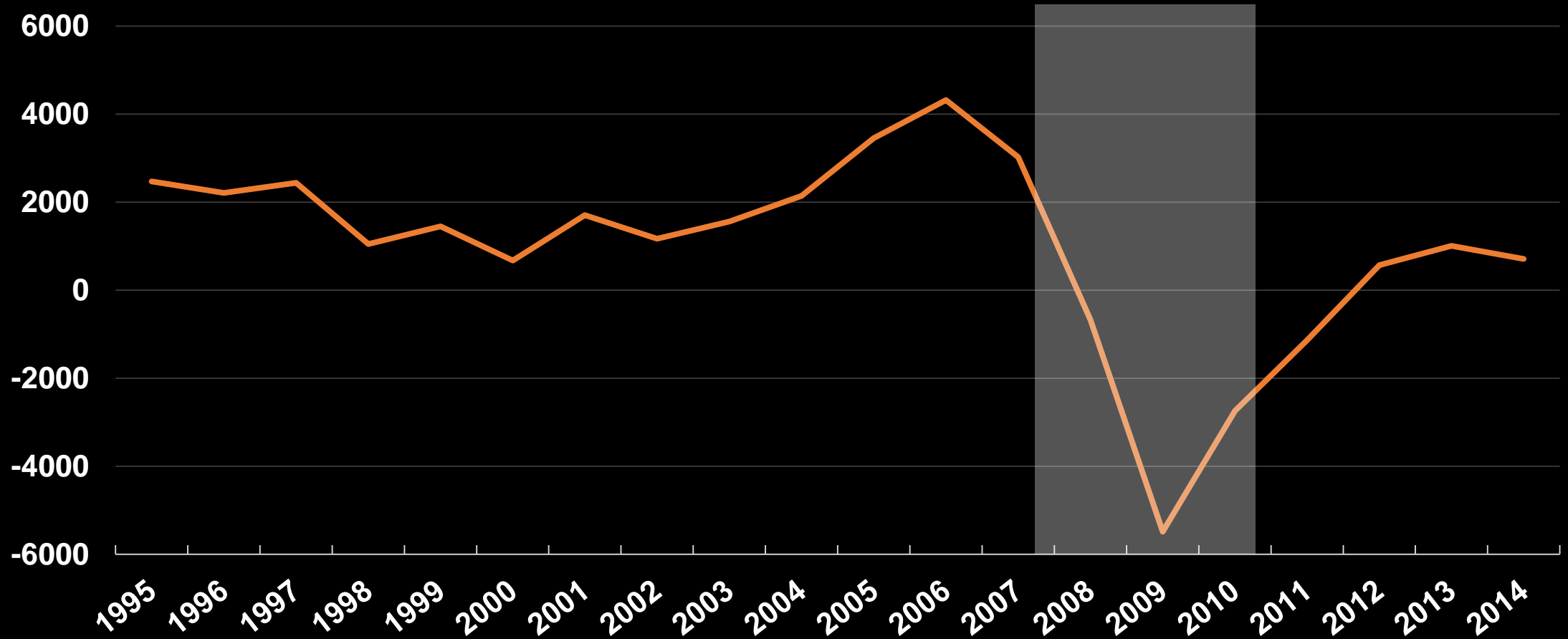
Patents Issued to Top 20 Seattle Metro Assignees, 2000-2015



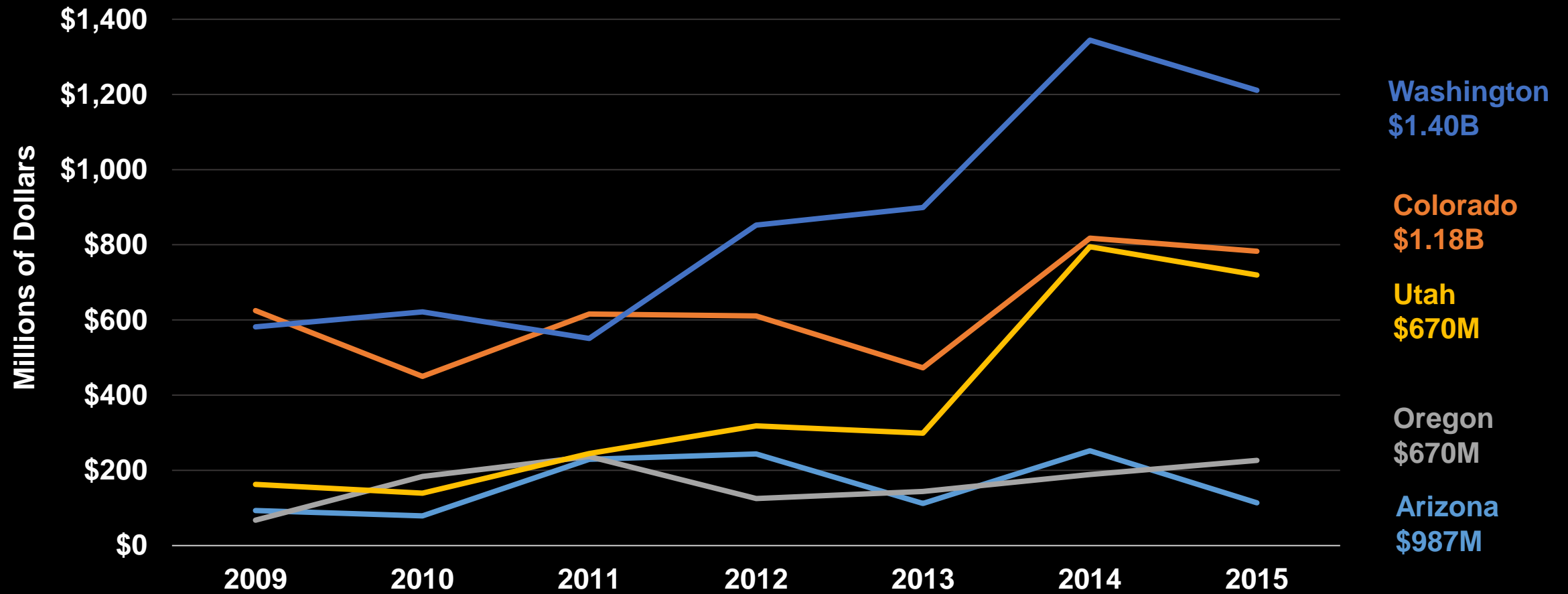
Patents Issued to Top 20 Minneapolis Metro Assignees, 2000-2015



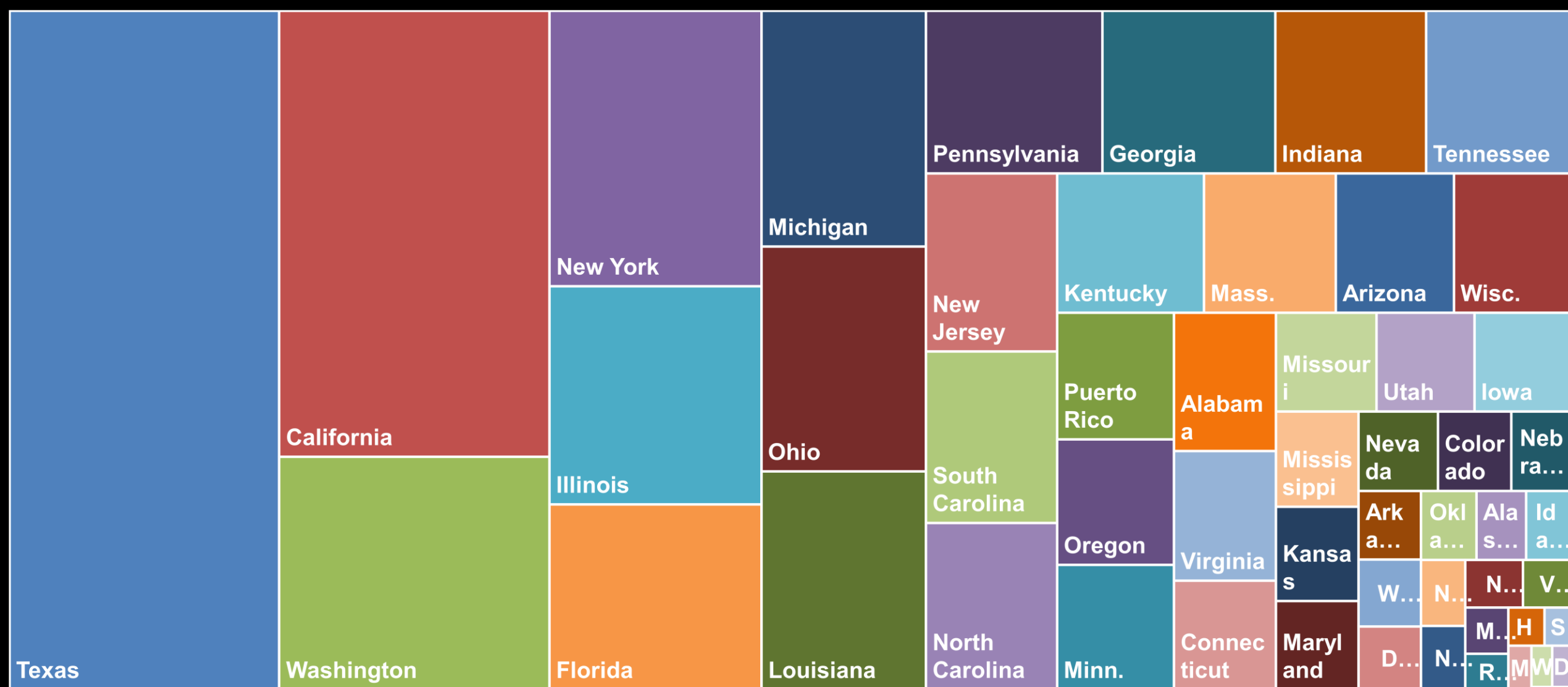
Annual Change in Number of Arizona Firms, 2000-2014



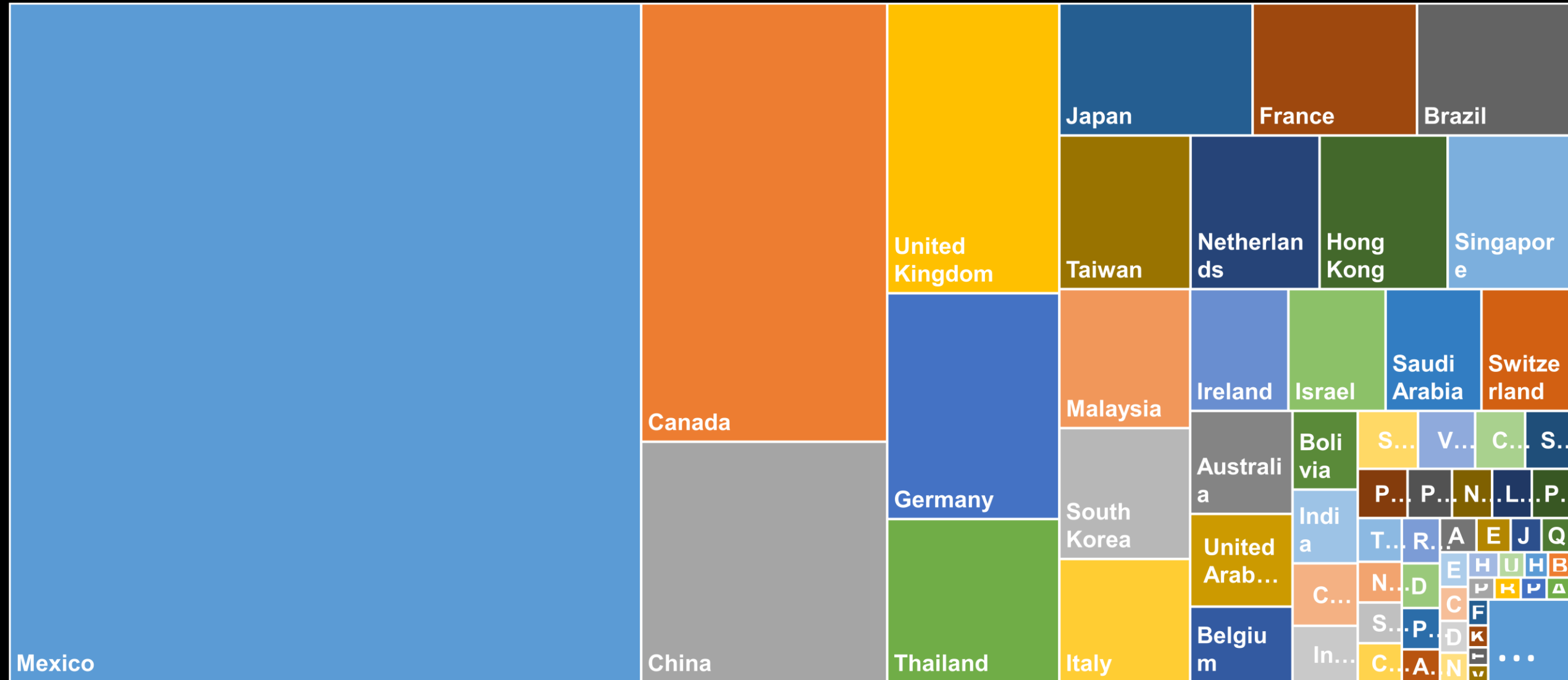
Value of Venture Capital Deals by State, 2009-2015



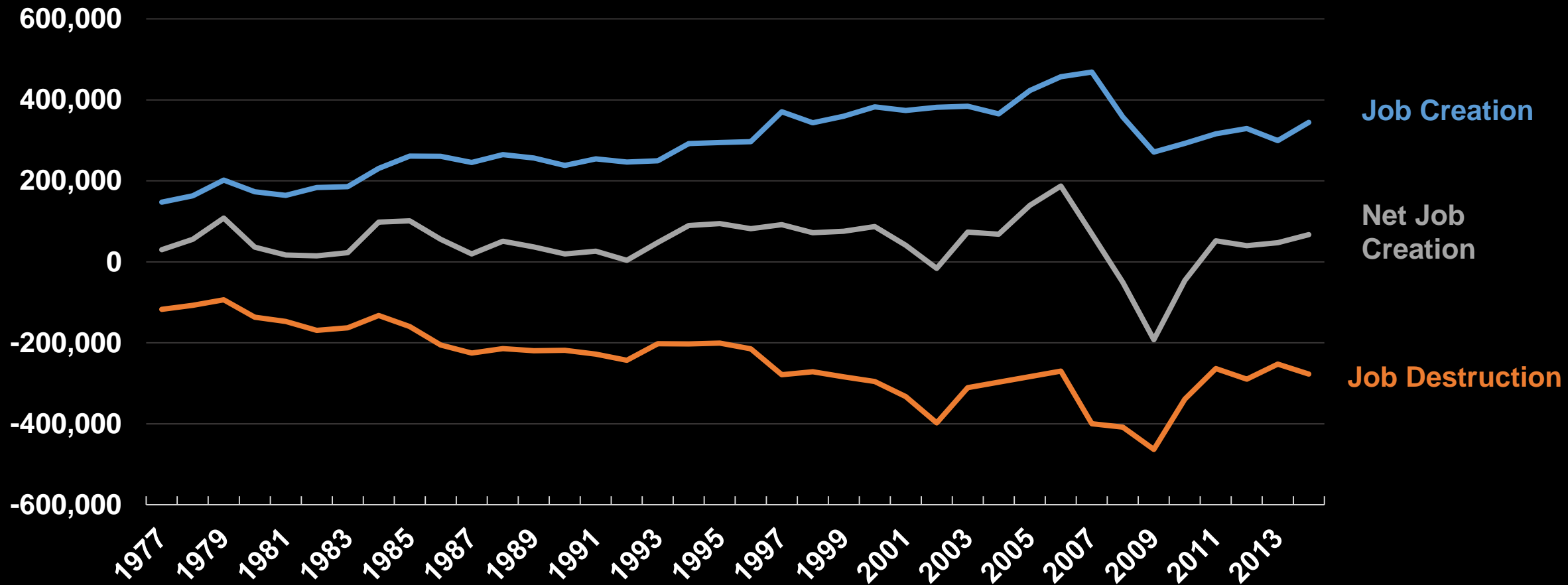
Exports by State, 2015

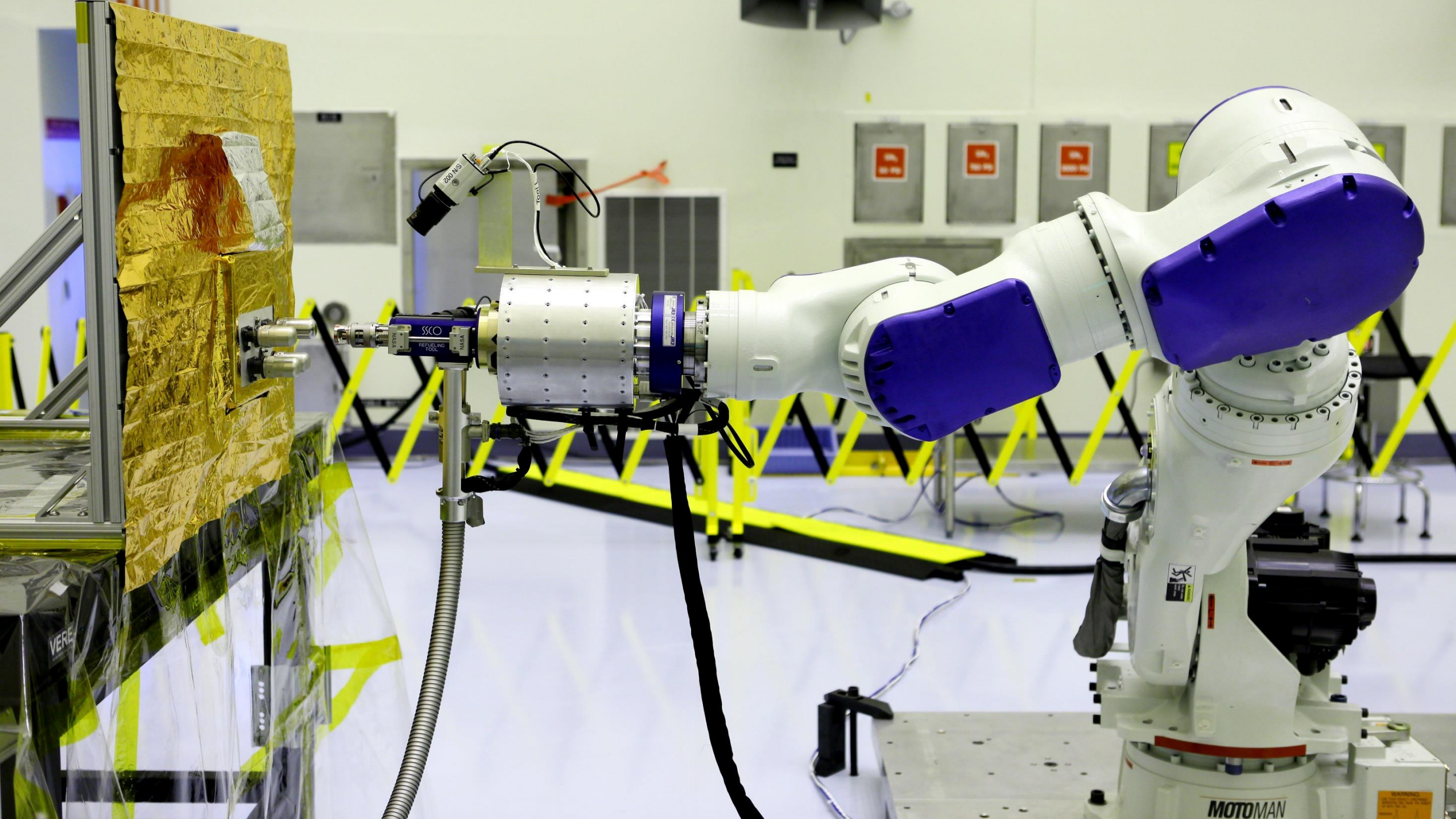


Arizona Exports, 2015



Arizona Labor Market Churn, 1977-2014





200 NS

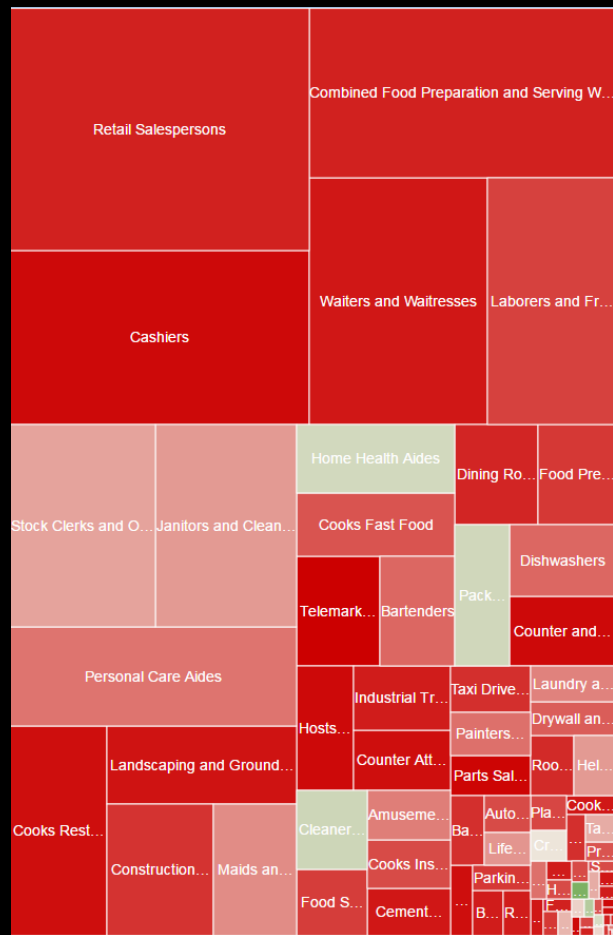
SSCO
REFUELING
TOOL
NASA

MOTOMAN

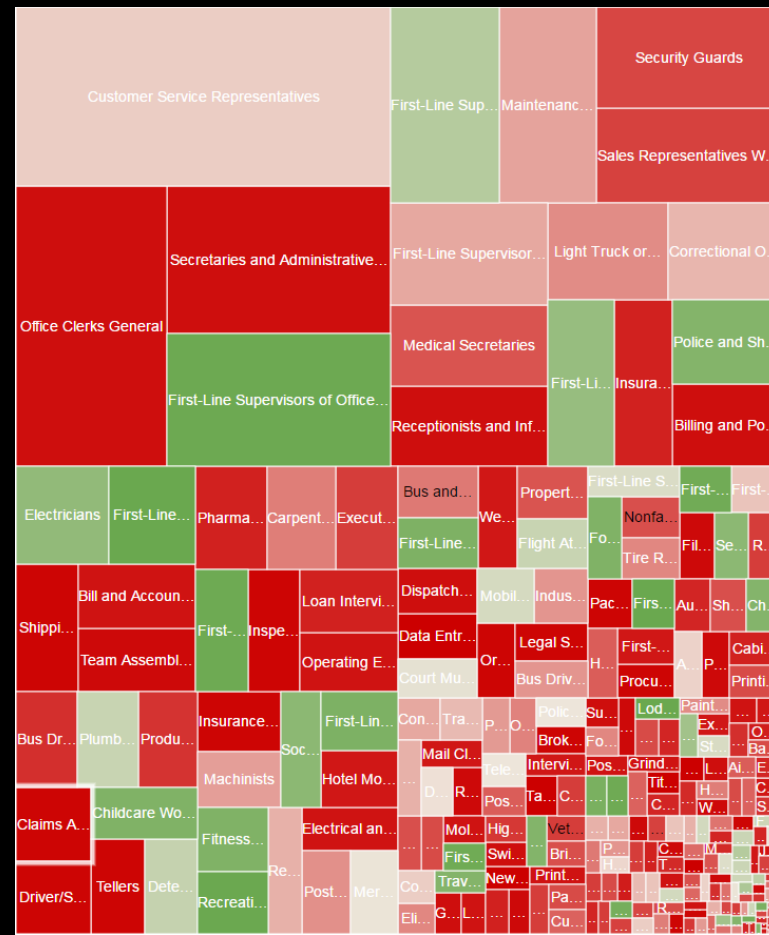
WARNING

Arizona Employment by Occupation, Minimum Education Required and Probability of Job Loss Due to Automation

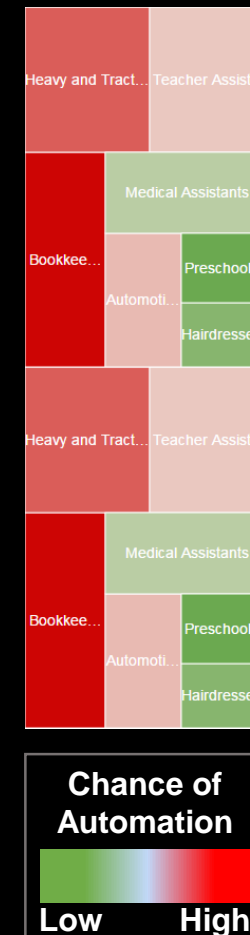
No Formal Education



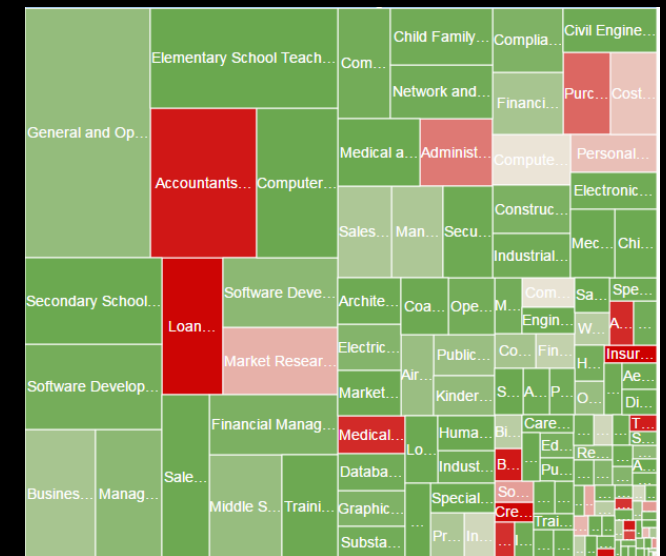
High School



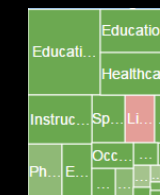
Associate's or Credential



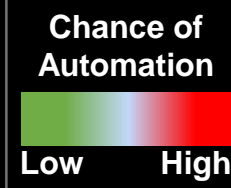
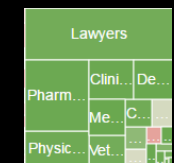
Bachelor's



Master's



Doctoral



Size reflects May 2015 employment in Arizona
Red color reflects high chance of job loss due to automation
Data: BLS and Frey and Osborne (2013)

The Way Forward for Arizona

	0-5 Years	5-15 Years	15-25 Years
Objective	Change mindset	Emerge as leading American economy	Emerge as leading global knowledge-driven economy
Strategies	Launch world-class engineering school	Deliver MIT/Stanford-level innovation ecosystem	Highest educated workforce in North America
Tactics	Build investment strategy Change brand Unify business community	TBD	TBD

Broad Public Support for Human Capital-Based Economic Development

88% Favor elevating Arizona State University's engineering school to be one of the top five programs in the country

68% Willing to pay one-quarter of one cent more on non-food products for a ten-year temporary sales tax to help fund new economic initiatives for the greater Phoenix region



Percent of Residents over the Age of 65 Years

