



When We Innovate NC for FutureWork

NC STATE UNIVERSITY

Institute for
Emerging Issues

The Institute for Emerging Issues at NC State

Convenes people and focuses attention on critical questions facing North Carolina across:

- Sectors
- Regions
- Perspectives



*As technology innovations advance
and demography shifts, how can
communities in North Carolina
prepare today to create enough good
jobs for tomorrow?*

White-collar Automation

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BUSINESS | CFO JOURNAL

The New Bookkeeper Is a Robot

In corporate finance departments, software does tasks that once took armies of people

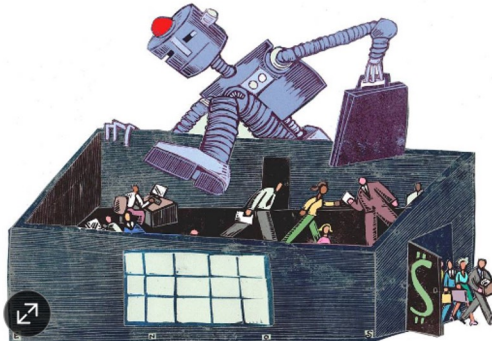


ILLUSTRATION: RANDALL ENOS

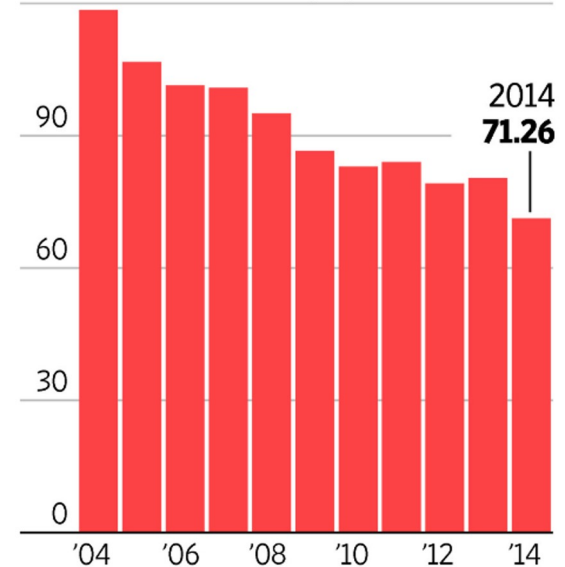
By **VIPAL MONGA**

Updated May 5, 2015 1:59 p.m. ET

Five years ago, 80 clerks and salespeople at Pilot Travel Centers LLC spent a combined 3,200 hours a week tracking and paying for orders for thousands of goods, ranging from candy bars to diesel fuel.

Median staffing in corporate finance departments per \$1 billion of revenue*

120 full-time finance employees



Source: Hackett Group, Wall Street Journal

Industrial Automation

Robots can
now perform
functions that
were
exclusively
human



Don't Be Fooled. This is Real.

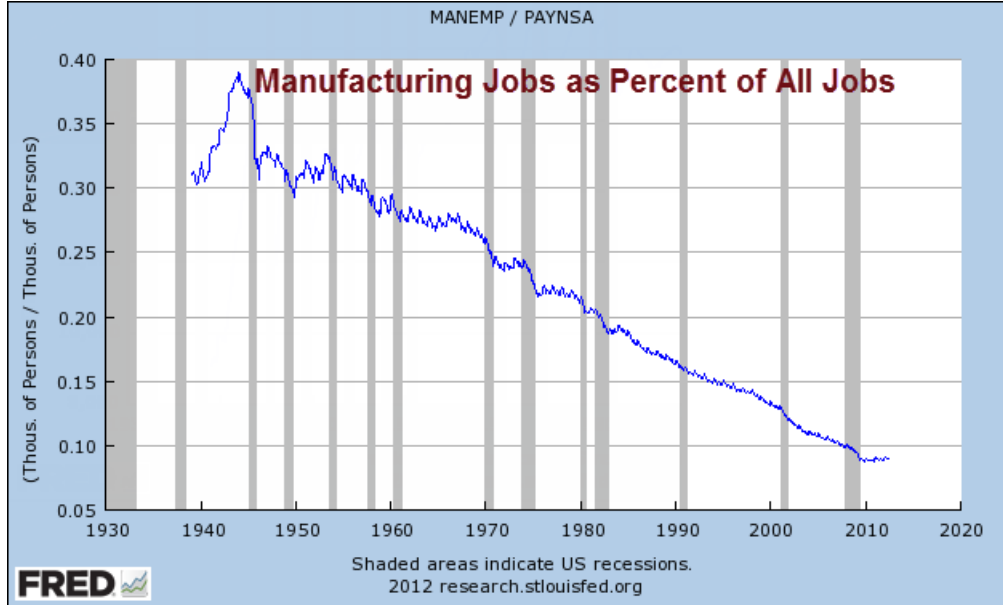
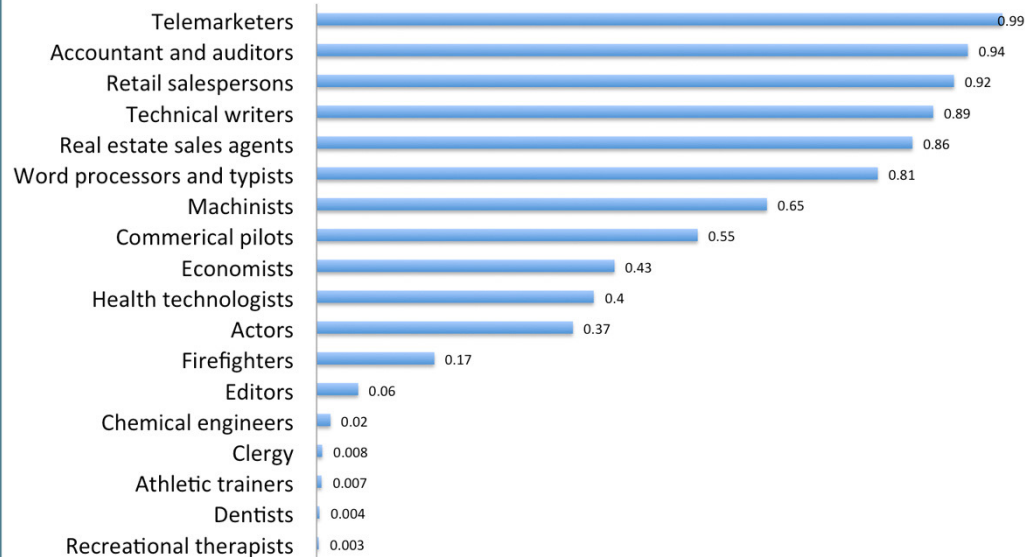


Image Courtesy of Federal Reserve Bank of St. Louis

**It has been happening
under our noses for
some time**

- Manufacturing has been in constant decline since the 1930s, except for a spike during World War II.
- Technology and automation have been the primary cause, not globalization or trade agreements.

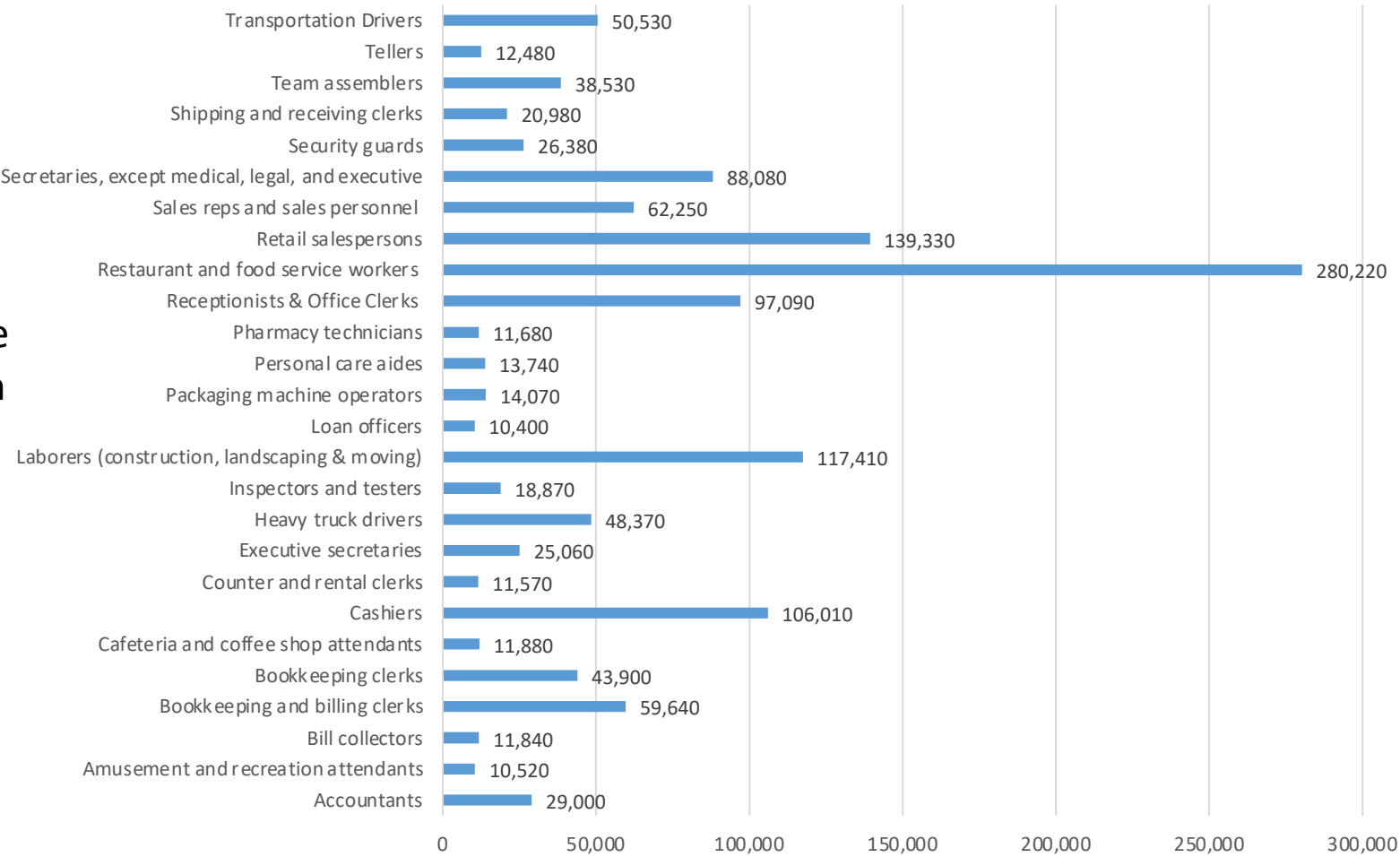
Probability Robots Will Take Your Job In Next 20 Years, 1=Certain



BUSINESS INSIDER

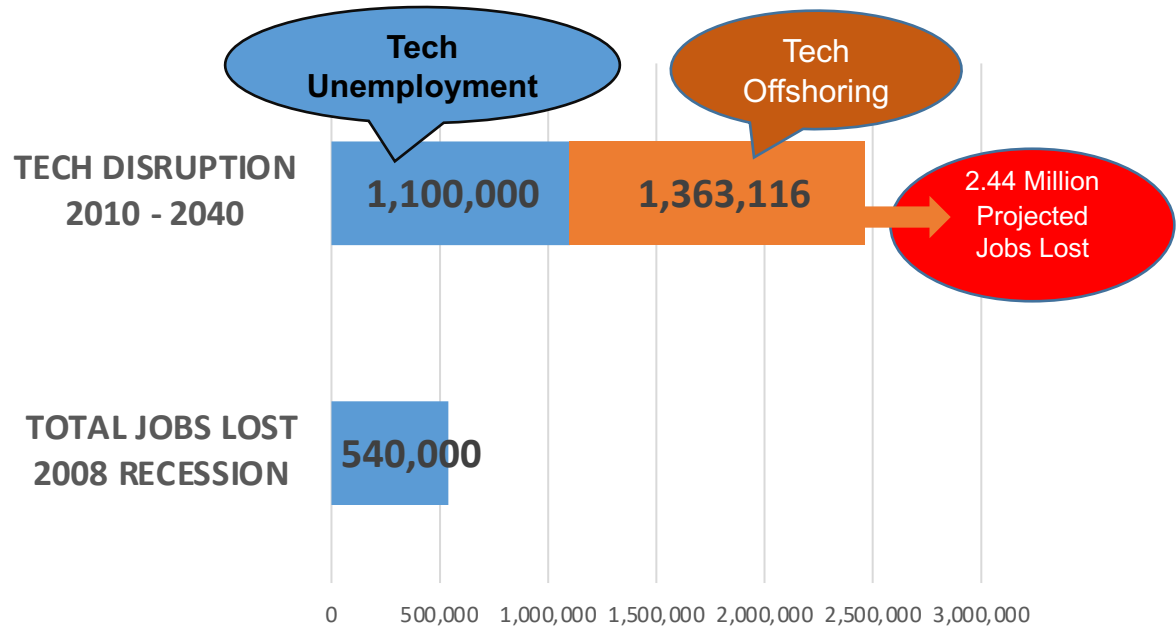
Source: The Economist,
The Future of Employment: How susceptible are jobs to computerisation?

Projected Job
Loss in NC Due
to Automation

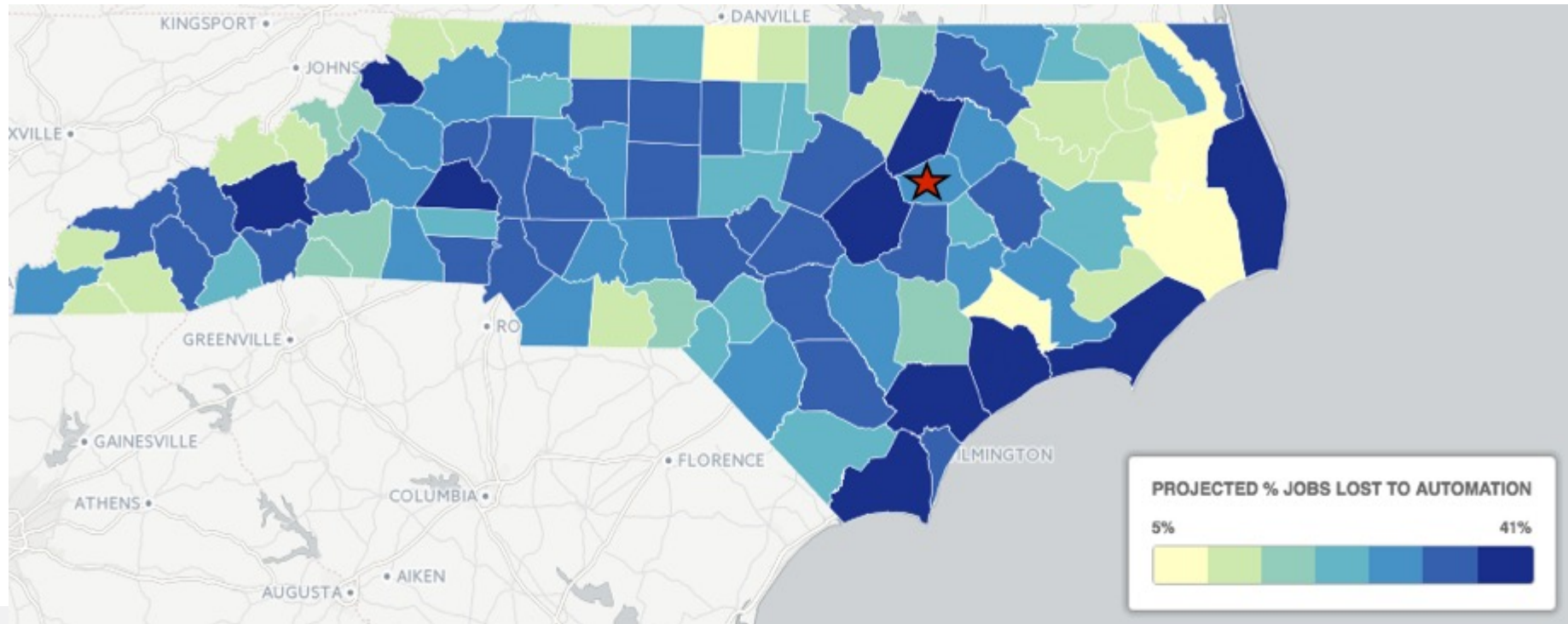


Job Loss Impacts Due to Tech Disruption

- Automation and technology-enabled offshoring may erase 2.4 million jobs from NC's economy by 2040
- That's five times the jobs lost here during the Great Recession



Job Loss Projections



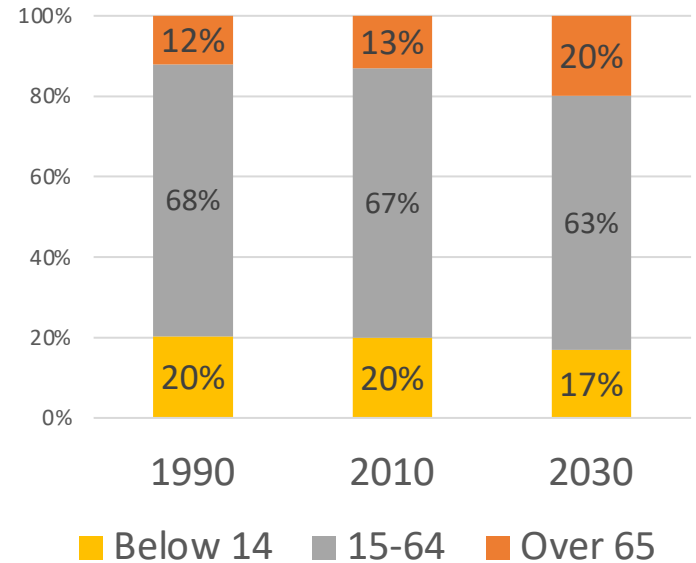
Demographics: State gets browner and grayer

Race/Ethnicity

	2000	2020	2030
White (non-Hispanic)	70%	61.6%	56%
Black	22%	20.7%	19.4%
Hispanic	5%	12.1%	17.7%
Other	3%	5.6%	6.8%

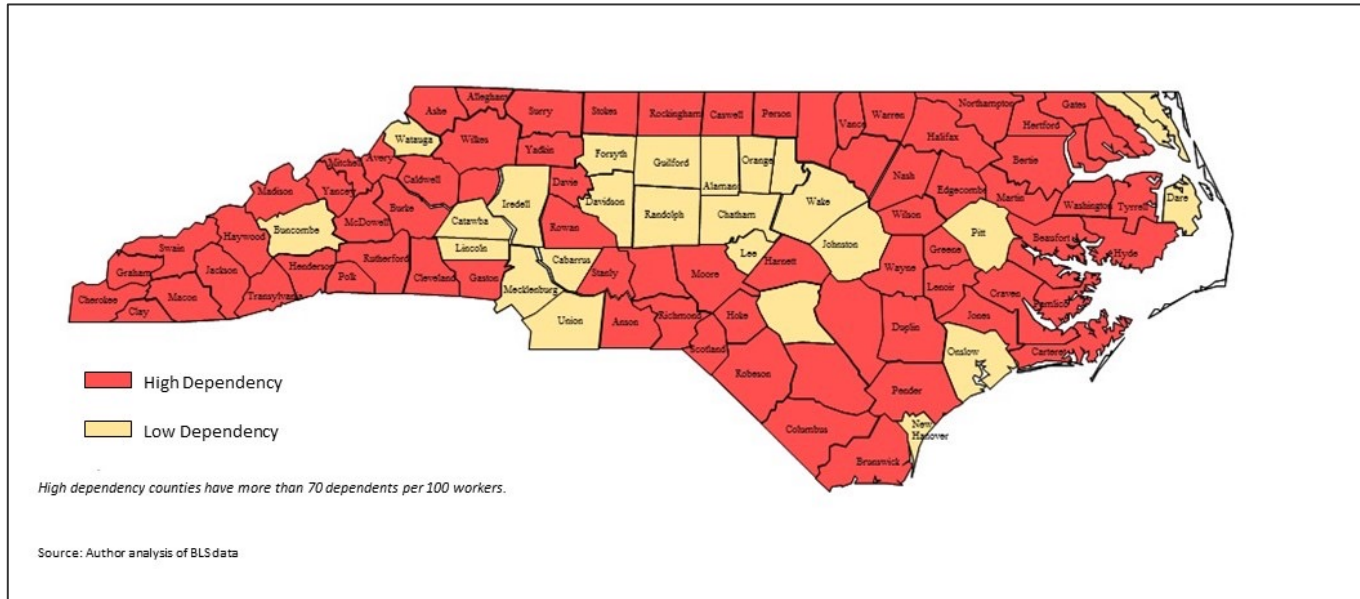
Source: Urban Institute. IEI

Age



Source: State population estimates and projection. NC OSBM

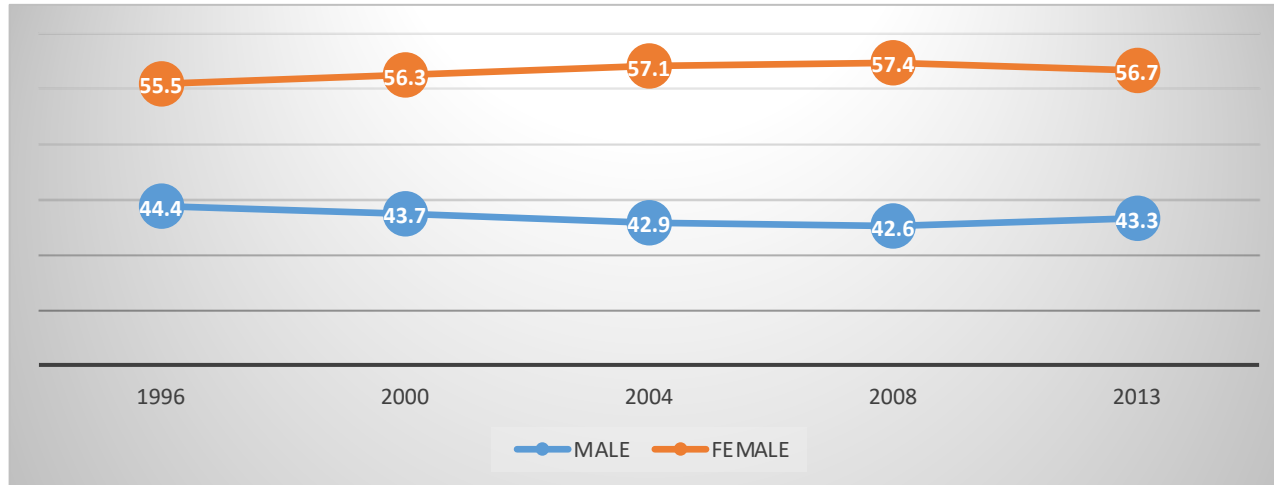
Demography: Many counties get older and younger (with little in between)



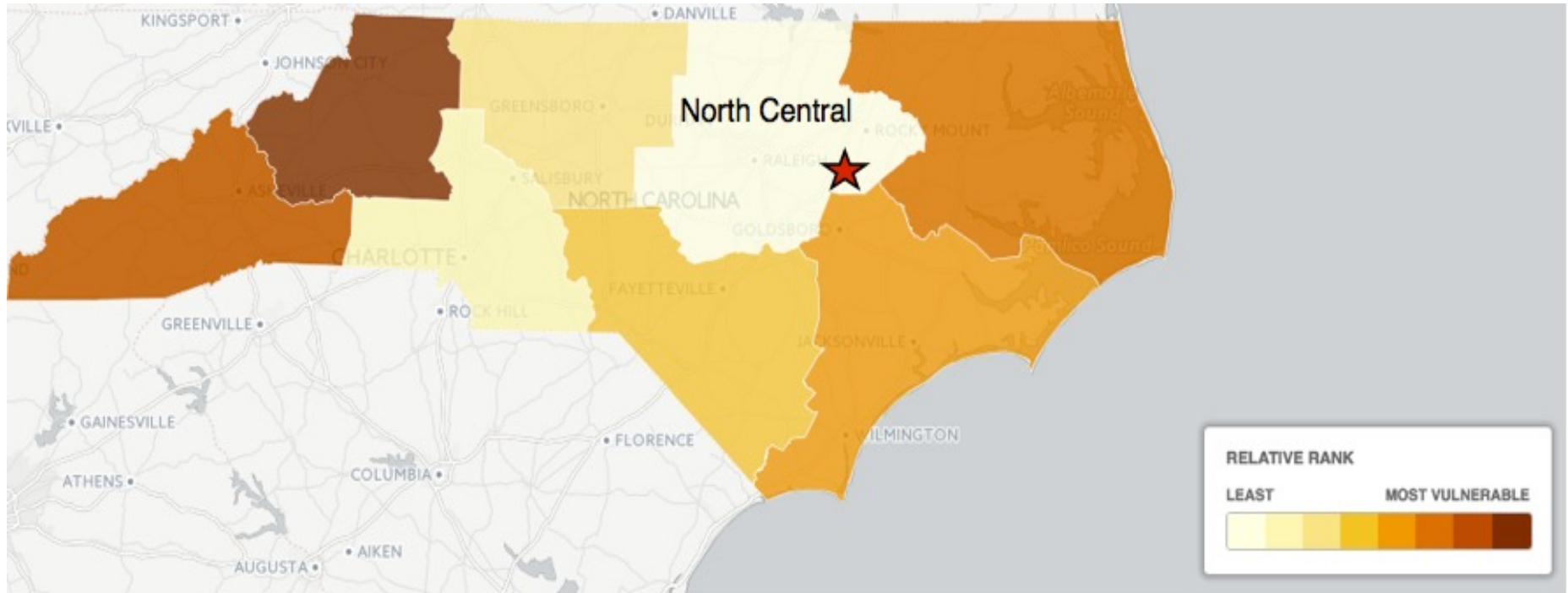
Demography: More Women in Workforce

Persistent gender disparities in higher education may have dire implications for our future economy. Women outpace men by 13.4 percentage points in college enrollment (2 year and 4 year).

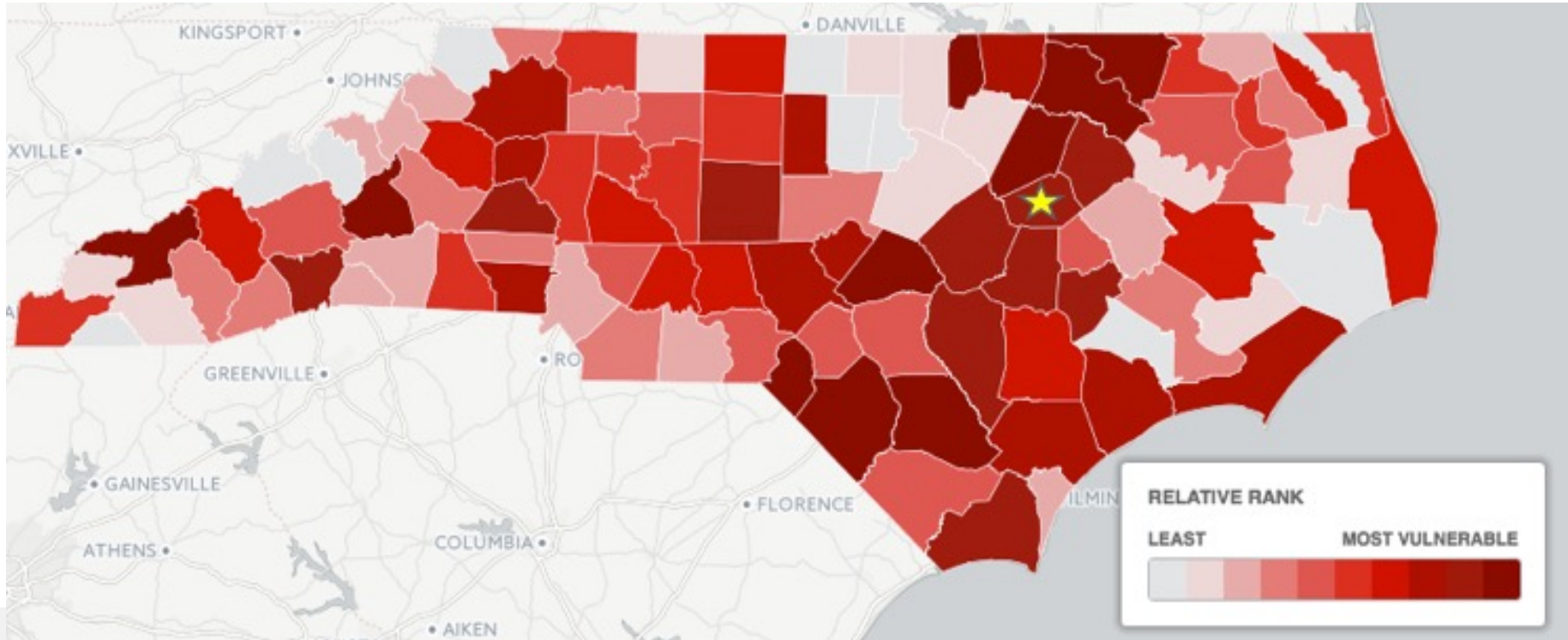
Traditional routes of male mobility (manufacturing and construction) are disappearing, but we aren't seeing an increase in male higher-ed enrollment.



North Central Regional Prosperity Zone Disruption



County Disruption



Emerging Issues Forum 2016

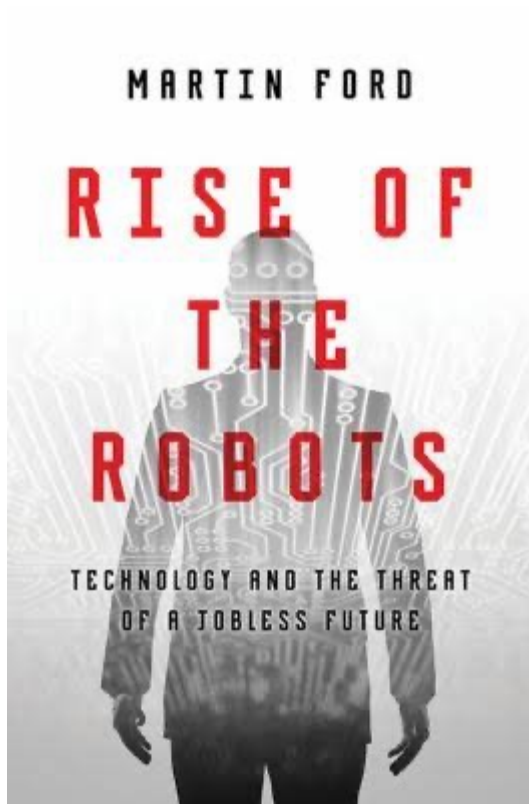
FutureWork

What We Learned



Kevin Johns **Austin, TX** **Economic Development Director**

- To be successful, local government will have to look outside the typical economic development tool kit.
- Communities must incentivize a transition to the economic realities of tomorrow's economy



Best-Selling Author Martin Ford, Keynote Speaker

- A takeover by machines will be a threat to the very foundation of our economic system.
- Technology is pushing us toward a tipping point that makes the entire economy less labor intensive.
- If we do not recognize these issues and adapt, it will be very difficult – perhaps impossible – to achieve a sustainable recovery.



Vivek Wadhwa Tech Entrepreneur & Scholar

- We must harness our full workforce capacity if we are to be successful in the new tech economy.
- Diversity is important because it will lead to more innovation and more economic growth. It isn't about diversity for the sake of diversity.



Dambisa Moyo

International Economist & Author

- Industry must take on the new role of incubator and foster the job growth tomorrow's leading firms
- Success will require new arrangements of public-private institutions and a restructuring of goals/strategies.



Anya Kamenetz

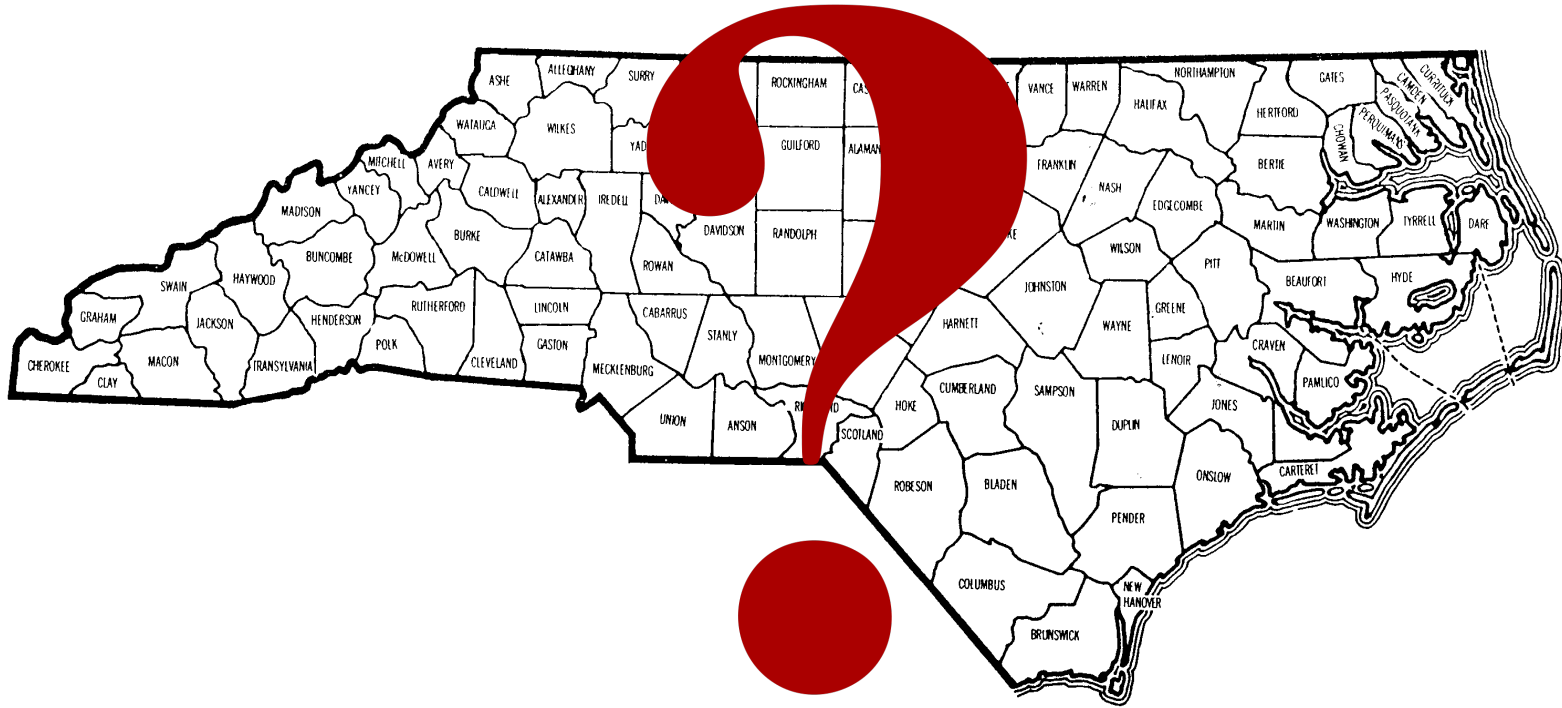
Author and NPR Correspondent

- Totally reimagining education and workforce development is imperative
- We must unleash our collective creative potential of by embracing open learning and other novel platforms

Forum Top 3 Priorities:

1. Ensure Education System Equity
2. Increase Project-Based Learning
3. Enhance Career Pathways

How Prepared Are You?



Wilson County: By the Numbers

- Wilson county faces the potential loss of nearly
 - 22% of total wages
 - 30% of current jobs due to automation
- Unemployment rate in Wilson County: 9%
- Persons 65 years and over in Wilson County: 16%
- Associate's degree or higher:
 - 27% in Wilson County
 - 33% in North Central Prosperity Zone

Future**Work** Talent Development Readiness Assessment

	WEAK	AVERAGE	GOOD	STRONG
<i>Workforce Preparedness</i>				
<i>Career Awareness</i>				
<i>Career Exploration</i>				
<i>Career Preparation</i>				
<i>Career Recovery</i>				
<i>Labor Market Information Driven Regulatory, Policy & Governance Support</i>				
<i>Business & Education Collaboration</i>				
<i>Economic Diversification</i>				
<i>Adaptability to Change</i>				

What's Next?

THE PESSIMIST
COMPLAINS ABOUT THE WIND;
THE OPTIMIST
EXPECTS IT TO CHANGE;
THE REALIST
ADJUSTS THE SAILS

- William Arthur Ward

FutureWork: It does not matter whether you are an **Optimist** or **Pessimist**. Like the **Realist**, you must engage.

JOIN US FOR THE

FutureWork

PROSPERITY TOUR

KICKING OFF ON MAY 17 IN STATESVILLE

Register today at emergingissues.org/futurework/tour

