A DISRUPTED ECONOMY
IS YOUR COMMUNITY READY FOR TECH DISRUPTIONS?

Jon Roberts • September 2017
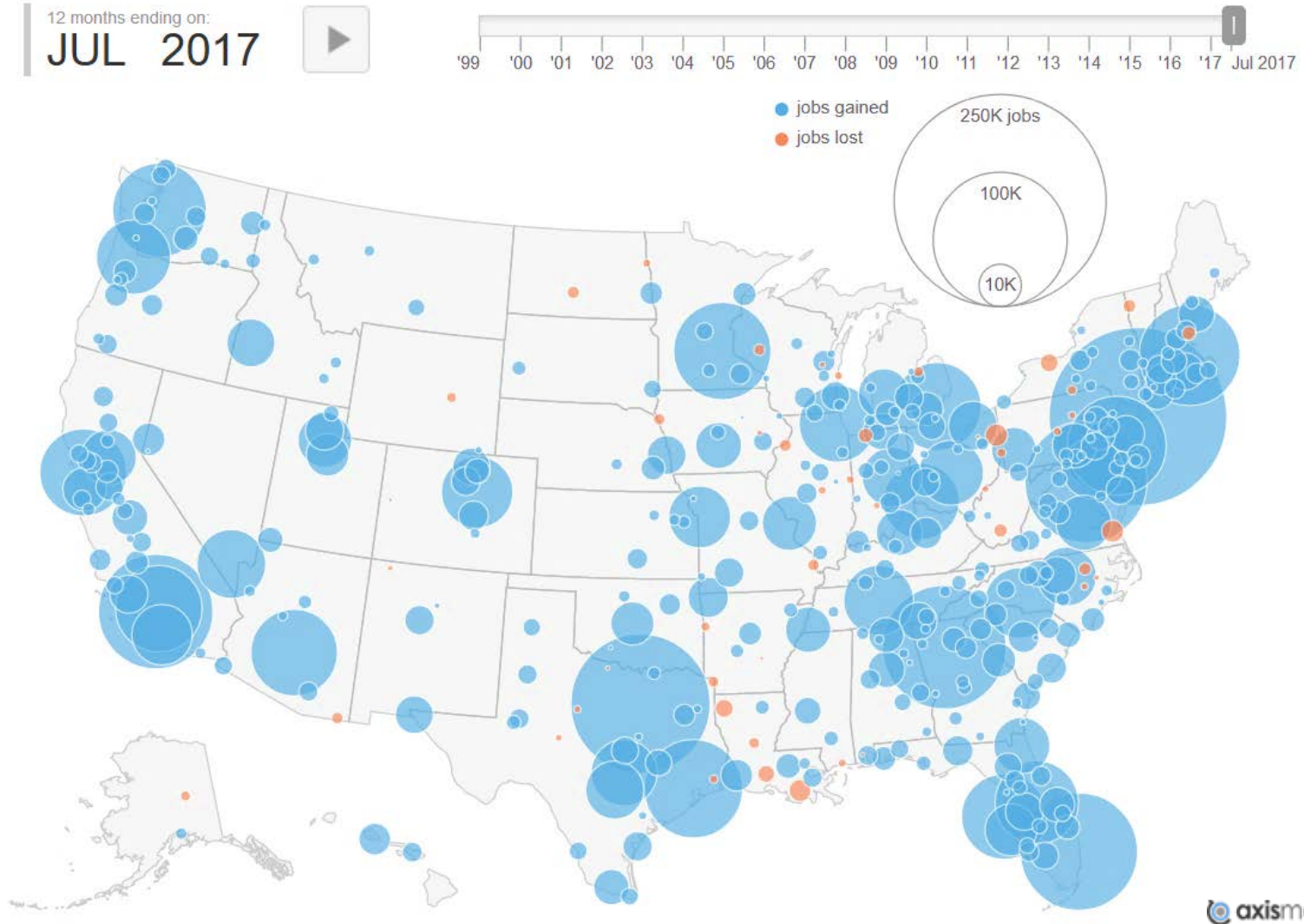
TIP strategies
AUSTIN • SEATTLE

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THE NATIONAL PICTURE

THE GEOGRAPHY OF JOBS

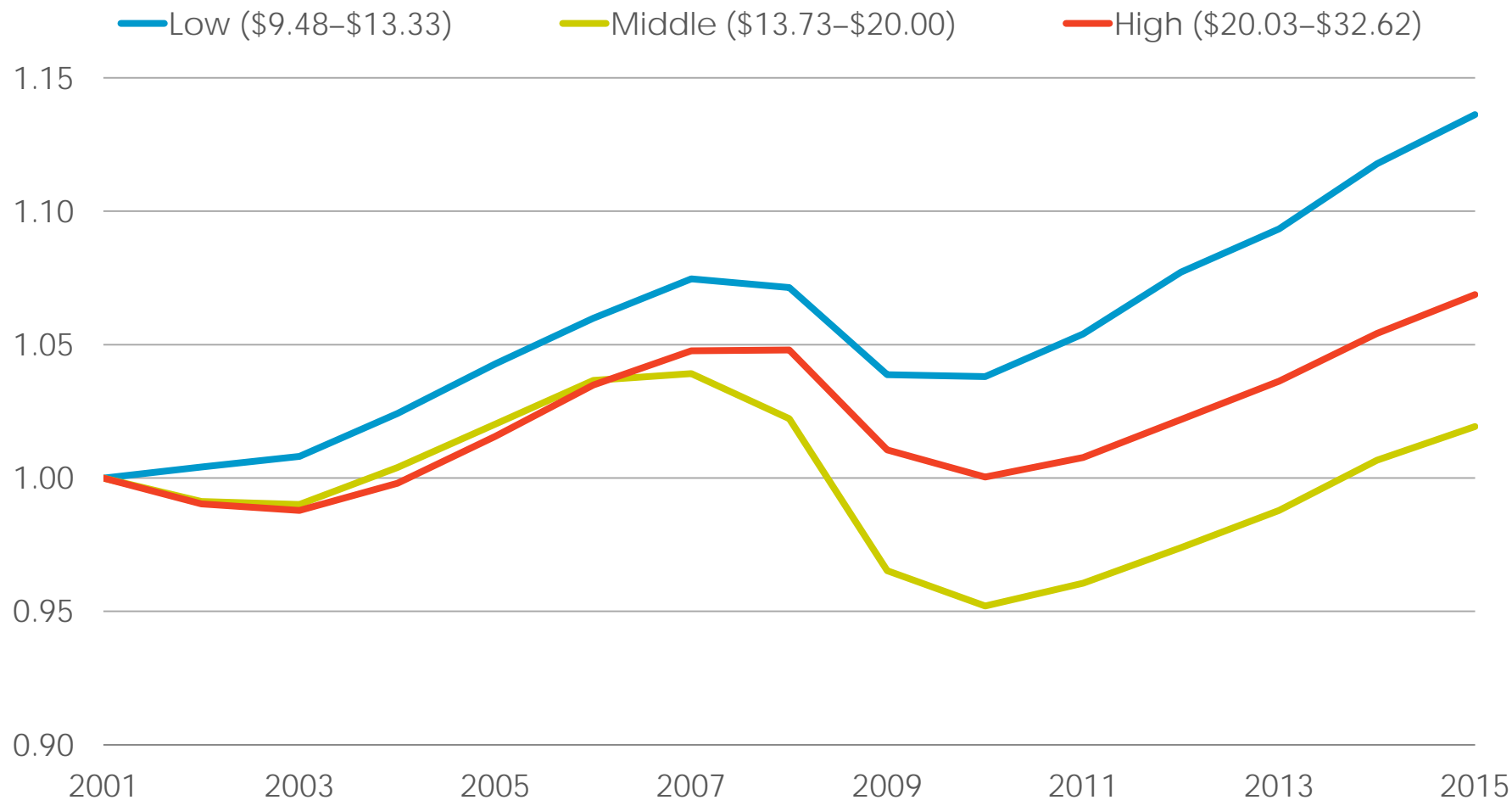## Net Job Gains/Losses by Metropolitan Statistical Area

Source: U.S. Bureau of Labor Statistics, Current Employment Statistics; TIP Strategies

THE HOLLOWING OUT OF THE MIDDLE
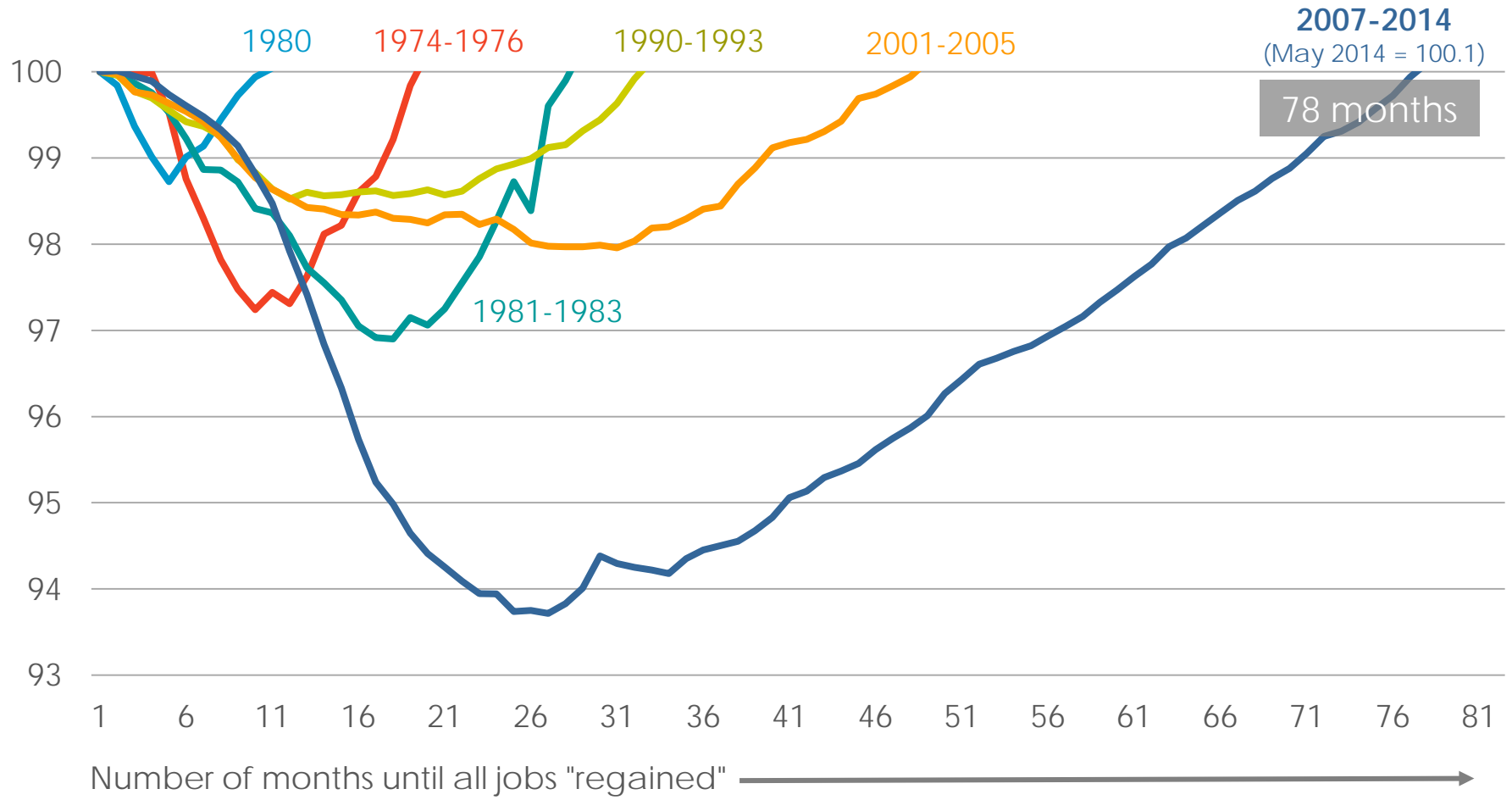## OCCUPATIONAL GROWTH BY WAGE LEVEL

2001 to 2015, indexed to 2001

Legend: Low ($9.48–$13.33), Middle ($13.73–$20.00), High ($20.03–$32.62)

RECESSIONS COMPARED
RECESSIONARY EMPLOYMENT TRENDS

Peak employment = 100

2007-2014
(May 2014 = 100.1)

78 months

1980   1974-1976   1990-1993   2001-2005

1981-1983
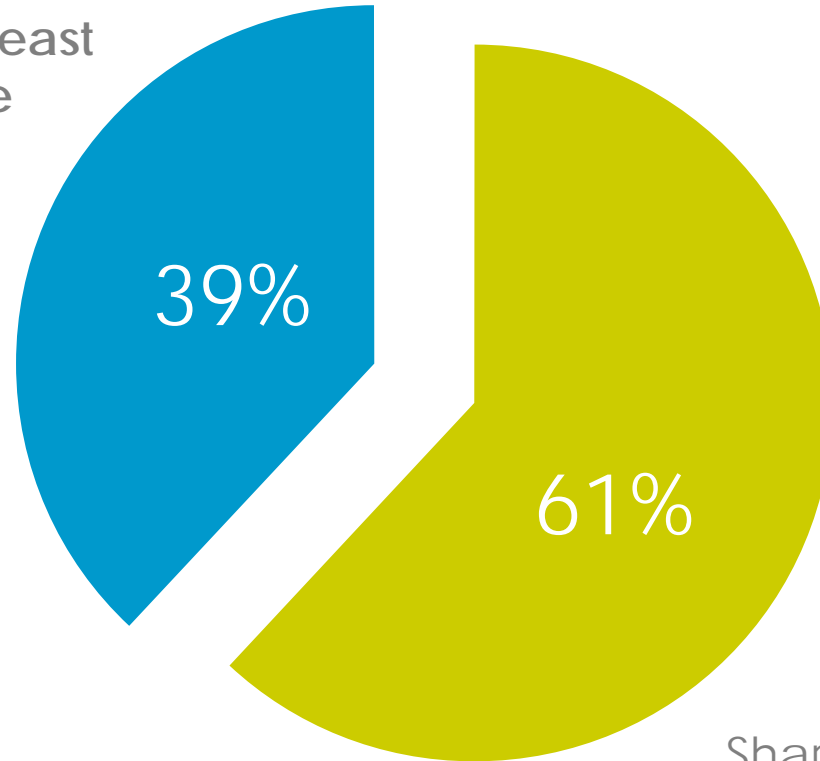
Number of months until all jobs "regained" →

Sources: U.S. Bureau of Labor Statistics, Current Employment Statistics (total nonfarm employment, seasonally adjusted); NBER (recession dates); New York Times (format)

EDUCATIONAL ATTAINMENT OF LABOR FORCE

Share of the population age 25 years and older

Share of the labor force that has earned **at least a bachelor's degree**

39%

61%

Share of the labor force over 25 that **does not have a 4-year degree**

SKILLS GAP: UNEMPLOYMENT RATE

Share of the population age 25 years and older

5.1%

2.6%
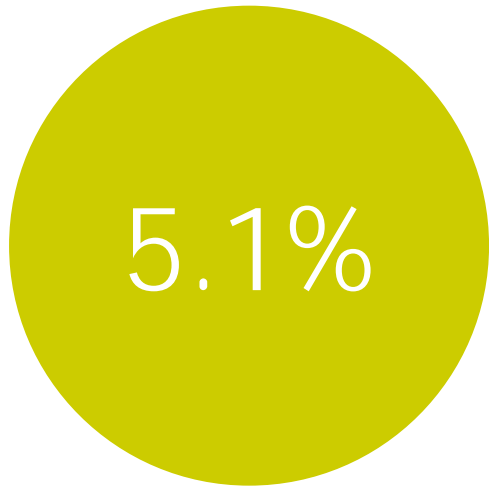
Unemployment rate for the share of the labor force over 25 **without a four-year degree**

Unemployment rate for the share of the labor force over 25 that has **earned at least a bachelor's degree**

RECOVERY BY EDUCATIONAL ATTAINMENT
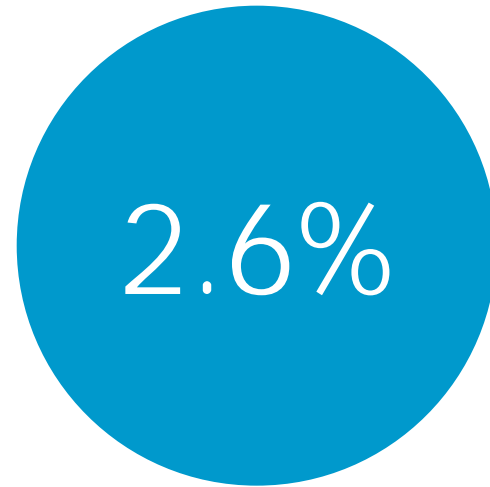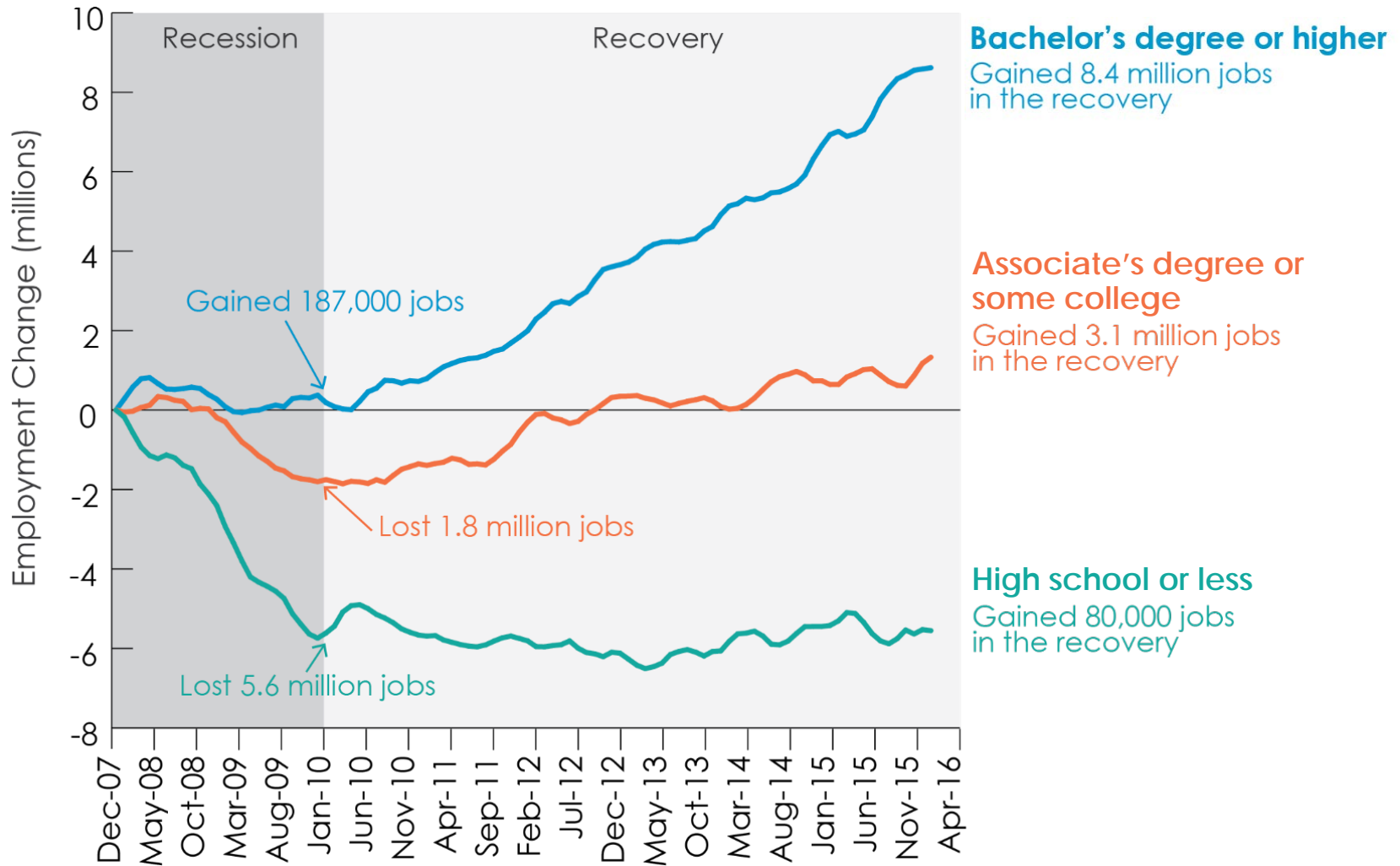

Bachelor's degree or higher
Gained 8.4 million jobs
in the recovery

Associate's degree or some college
Gained 3.1 million jobs
in the recovery

High school or less
Gained 80,000 jobs
in the recovery

Gained 187,000 jobs

Lost 1.8 million jobs

Lost 5.6 million jobs

Source: Georgetown University Center on Education and the Workforce analysis of *Current Population Survey* (CPS) data, 2007-2016. From *America's Divided Recovery: College Haves and Have-Nots*, 2016.
Note: Employment includes all workers age 18 and older. The monthly employment numbers are seasonally adjusted using the U.S. Census Bureau X-12 procedure and smoothed using a four-month moving average.

INDUSTRY SHARE OF EMPLOYMENT

Share of total US nonfarm employment–annual average for selected sectors, 1965 to 2015

Source: U.S. Bureau of Labor Statistics
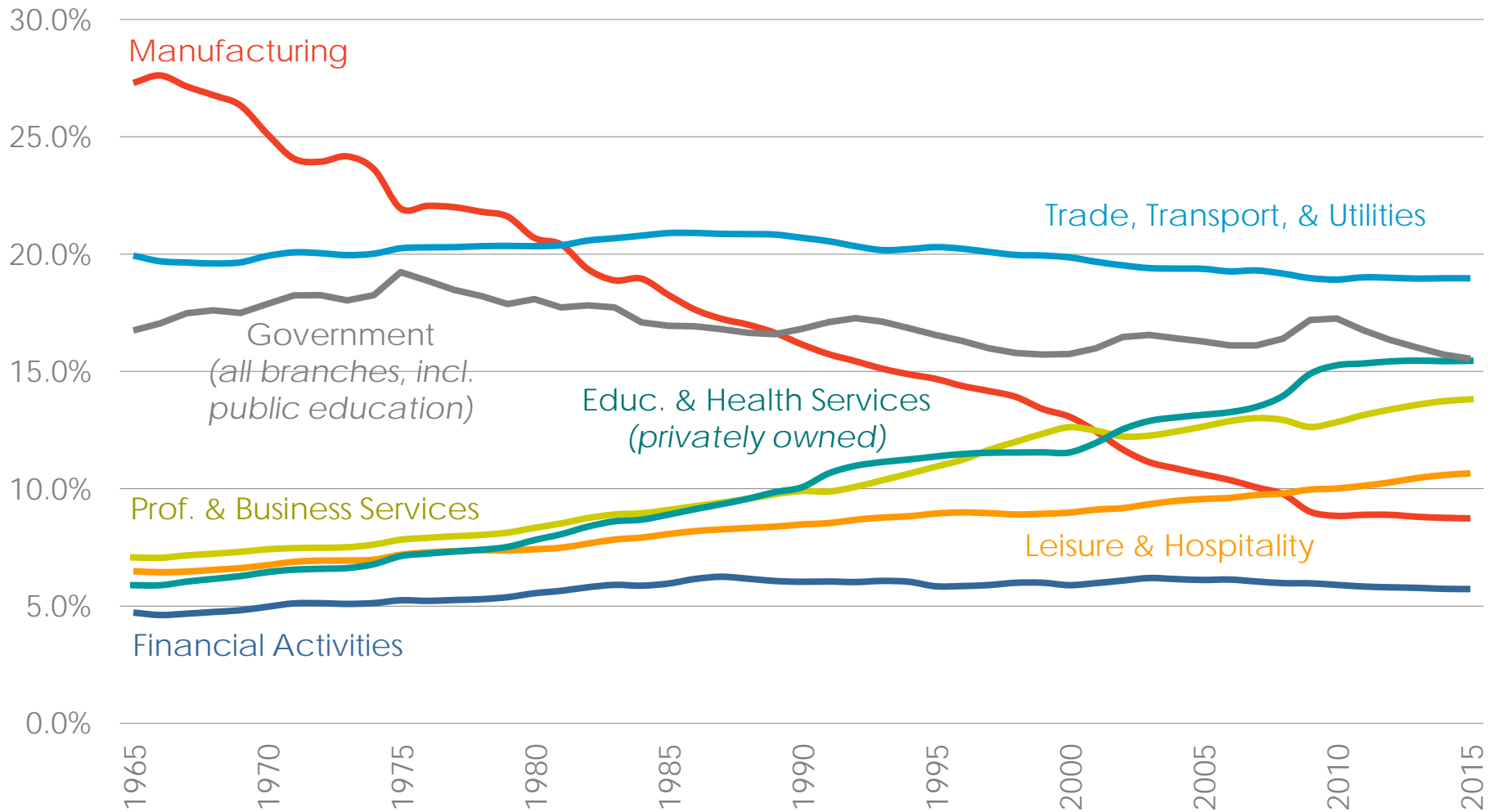
2

DISRUPTION & SOCIAL NORMS

Convergence of three disruptive trends :

- Asset-light business model

- Gig economy

- Non-ownership model

THE CHANGING SUPPLY CHAIN

MANUFACTURING

HEALTH CARE
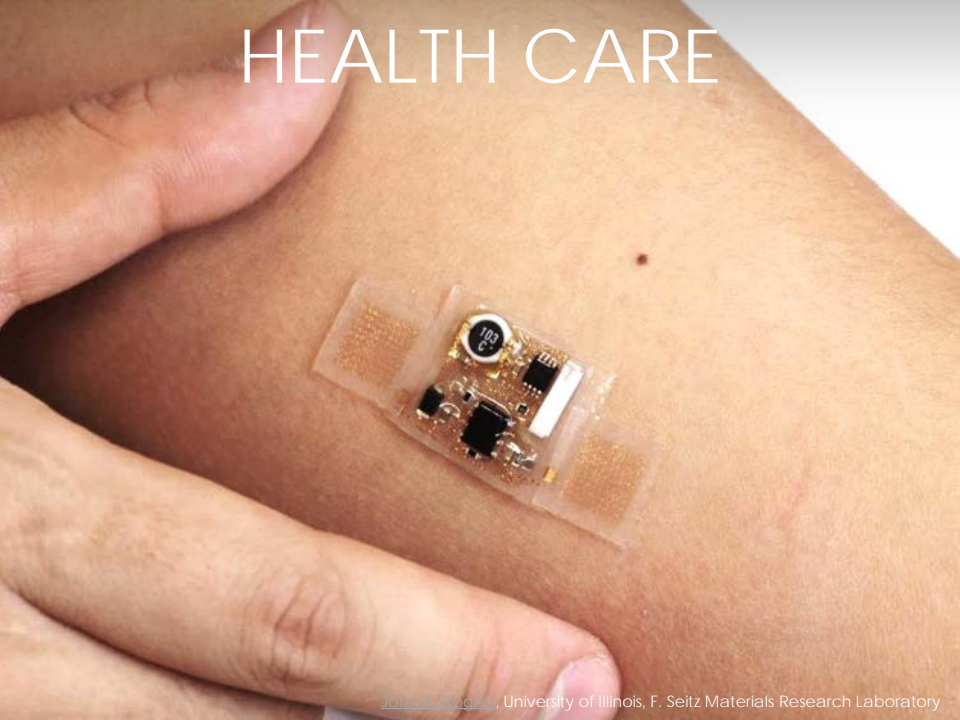
Patrick Mooney, University of Illinois, F. Seitz Materials Research Laboratory

Google

ENTERTAINMENT

TRANSPORTATION

A QUICK LOOK AT AUTONOMOUS VEHICLES

WHAT WILL AUTONOMOUS VEHICLES MEAN TO THE ECONOMY?

THE MOST COMMON* JOB IN EACH STATE 2014
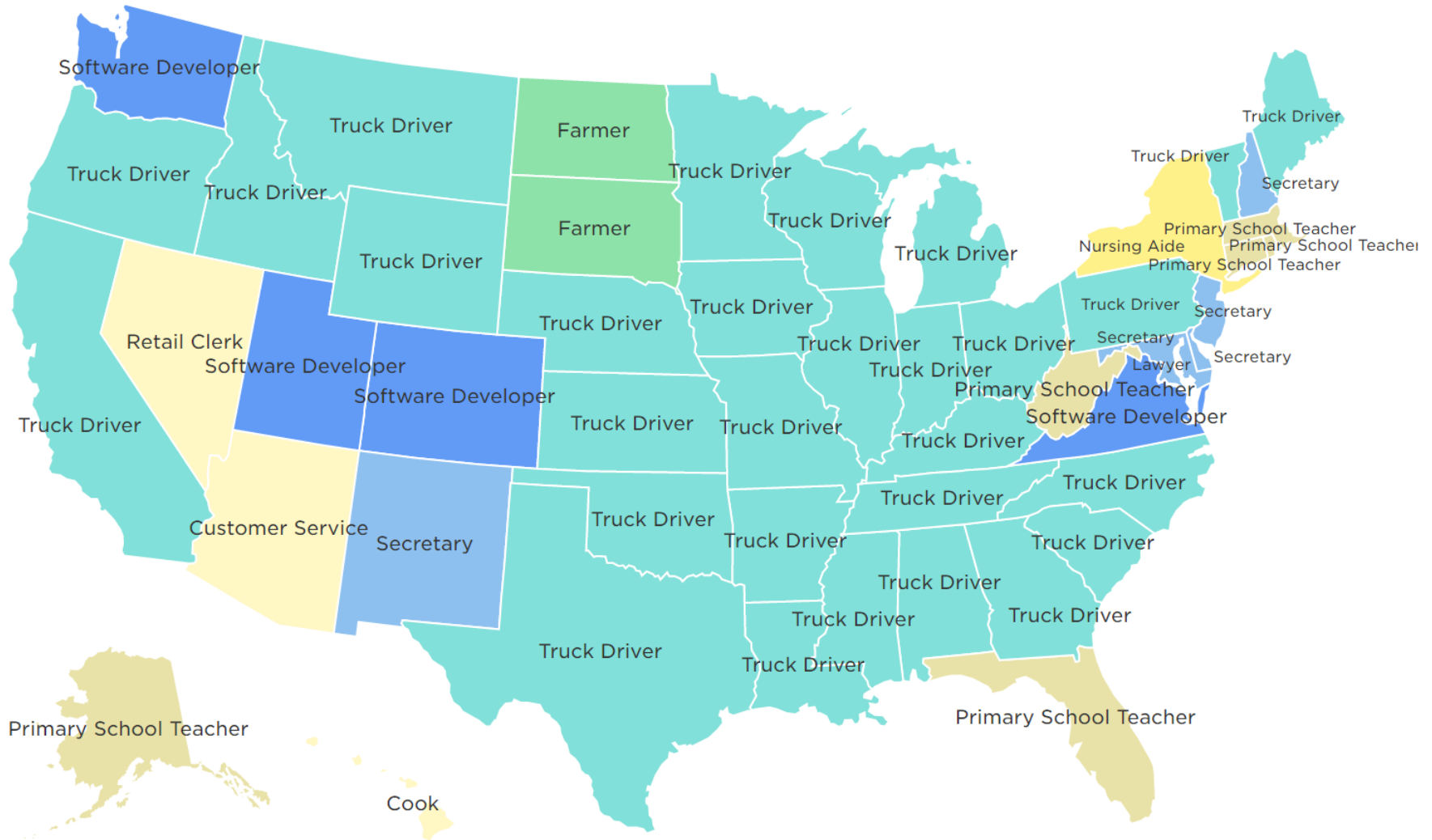
Software Developer
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Farmer
Truck Driver
Truck Driver
Truck Driver
Farmer
Truck Driver
Truck Driver
Truck Driver
Retail Clerk
Software Developer
Software Developer
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Primary School Teacher
Software Developer
Truck Driver
Customer Service
Secretary
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Truck Driver
Primary School Teacher
Cook
Primary School Teacher

Truck Driver
Truck Driver
Secretary
Primary School Teacher
Primary School Teacher
Primary School Teacher
Nursing Aide
Secretary
Secretary
Secretary
Lawyer
Secretary

2016 EMPLOYMENT (# JOBS) IN US

Selected industries/occupations affected by autonomous driving

3.3M
TRUCK & DELIVERY DRIVERS

943.2K
TAXI DRIVERS, CHAUFFEURS, & BUS DRIVERS

206.1K
AUTOMOTIVE EQUIPMENT RENTAL & LEASING

1.8M
CAR DEALERSHIP & AUTOMOTIVE PARTS STORES

476.3K
DIRECT PROPERTY & CASUALTY INSURANCE CARRIERS
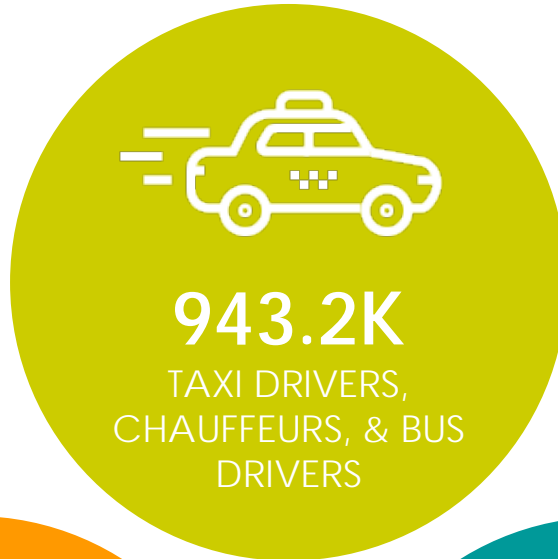
IT DOESN'T END THERE…

The ripple effects of autonomous vehicles are profound.

PRIVATE OWNERSHIP

FINANCE

A CHANGING PHYSICAL LANDSCAPE
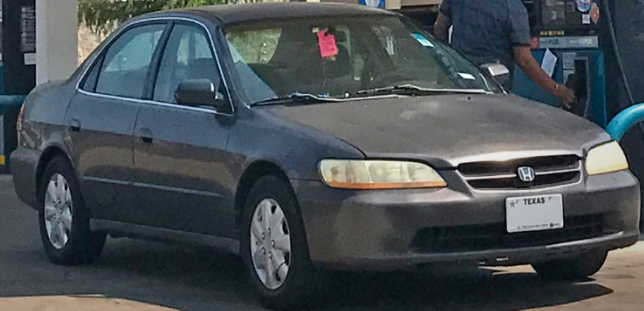
CHANGING
HUMAN CAPITAL

Innovation will destroy millions of jobs...
what will replace them?

JOBS LOST TO TRADE VS. AUTOMATION
Share of manufacturing job losses 2000 to 2010

Trade
13%

Productivity
87%

Source: Ball State University

THE GROWTH OF ALTERNATIVE WORK IN THE US
2005 to 2015

INDEPENDENT CONTRACTORS

2005 — 6.9%
2015 — 8.4%

WORKERS PROVIDED BY CONTRACT FIRMS

2005 — 1.4%
2015 — 3.1%

ON-CALL WORKERS

2005 — 1.7%
2015 — 2.6%

TEMP. HELP AGENCY WORKERS

2005 — 0.9%
2015 — 1.6%

THE MOST IN-DEMAND SKILLS IN 15 BUSINESS FUNCTIONS

Based on nearly 25 million job postings collected Sept 2014 to Aug 2015

CAREER AREA

SKILL BY OVERALL RANK

	OVERALL	Clerical and administrative	Customer and client support	Design, media, and writing	Engineering	Finance	Health care	Hospitality, food, and tourism	Human resources	Information technology
Communication skills	1	1	2	2	1	1	1	1	1	1
Organizational skills	2	3	3	4	3	3	2	2	2	3
Writing	3	6	5	1	2	4	3	4	5	2
Customer service	4	8	1	15	12	7	9	3	11	9
Microsoft Excel	5	2	9	9	8	2	12	16	3	10
Microsoft Word/Office	6	4	8	7	5	5	10	13	4	8
Problem solving	7	12	6	10	6	8	7	12	7	4
Planning	8	14	18	13	7	12	5	10	10	5
Computer skills and typing	9	5	4	17	10	10	4	8	12	24
Research	10	10	12	5	9	9	6	21	8	7
Detail-oriented	11	7	7	6	11	6	14	9	6	11
Building effective relationships	12	15	11	19	17	11	11	6	9	15
Project management	13	24	24	11	4	17	19	37	14	6
Supervisory skills	14	18	20	25	14	14	8	5	18	26
Multitasking	15	9	10	12	19	13	15	11	13	13
Time management	16	16	13	14	26	15	16	19	15	21
Leadership	17	33	23	21	15	26	18	14	24	12
Mathematics	18	22	15	27	13	18	25	7	35	20
Creativity	19	30	26	3	22	27	22	20	16	14
Presentation skills	20	35	21	16	23	22	23	32	17	16
Teamwork	21	20	19	18	21	23	21	15	21	17
Analytical skills	22	31	28	29	27	16	32	36	23	18
Bilingual	23	23	14	23	34	20	17	24	22	39
Meeting deadlines	24	19	27	8	28	19	31	28	19	25
Self-starter	25	27	29	20	24	25	38	34	25	22
Listener	26	34	16	31	37	24	20	22	32	32
Critical thinking	27	36	36	34	39	29	13	45	38	29
Positive disposition	28	29	22	24	36	32	28	17	33	37

CAREER AREA

SKILL BY OVERALL RANK

	OVERALL	Clerical and administrative	Customer and client support	Design, media, and writing	Engineering	Finance	Health care	Hospitality, food, and tourism	Human resources	Information technology	Management and operations	Manufacturing and production	Marketing and public relations	Personal care and services	Research, planning, and analysis	Sales
Communication skills	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1
Organizational skills	2	3	3	4	3	3	2	2	2	3	2	2	2	2	2	3
Writing	3	6	5	1	2	4	3	4	5	2	3	3	3	4	4	4
Customer service	4	8	1	15	12	7	9	3	11	9	11	14	12	5	11	2
Microsoft Excel	5	2	9	9	8	2	12	16	3	10	6	6	5	16	3	9

Source: "The Human Factor," by Burning Glass Technologies, November 2015

GDP/JOB GAP INDEX

Average annual total nonfarm employment compared with average annual GDP, Indexed to 2000

Legend: Jobs, GDP

+30%

+7%

1.40
1.30
1.20
1.10
1.00
0.90
0.80

2000
2005
2010
2015
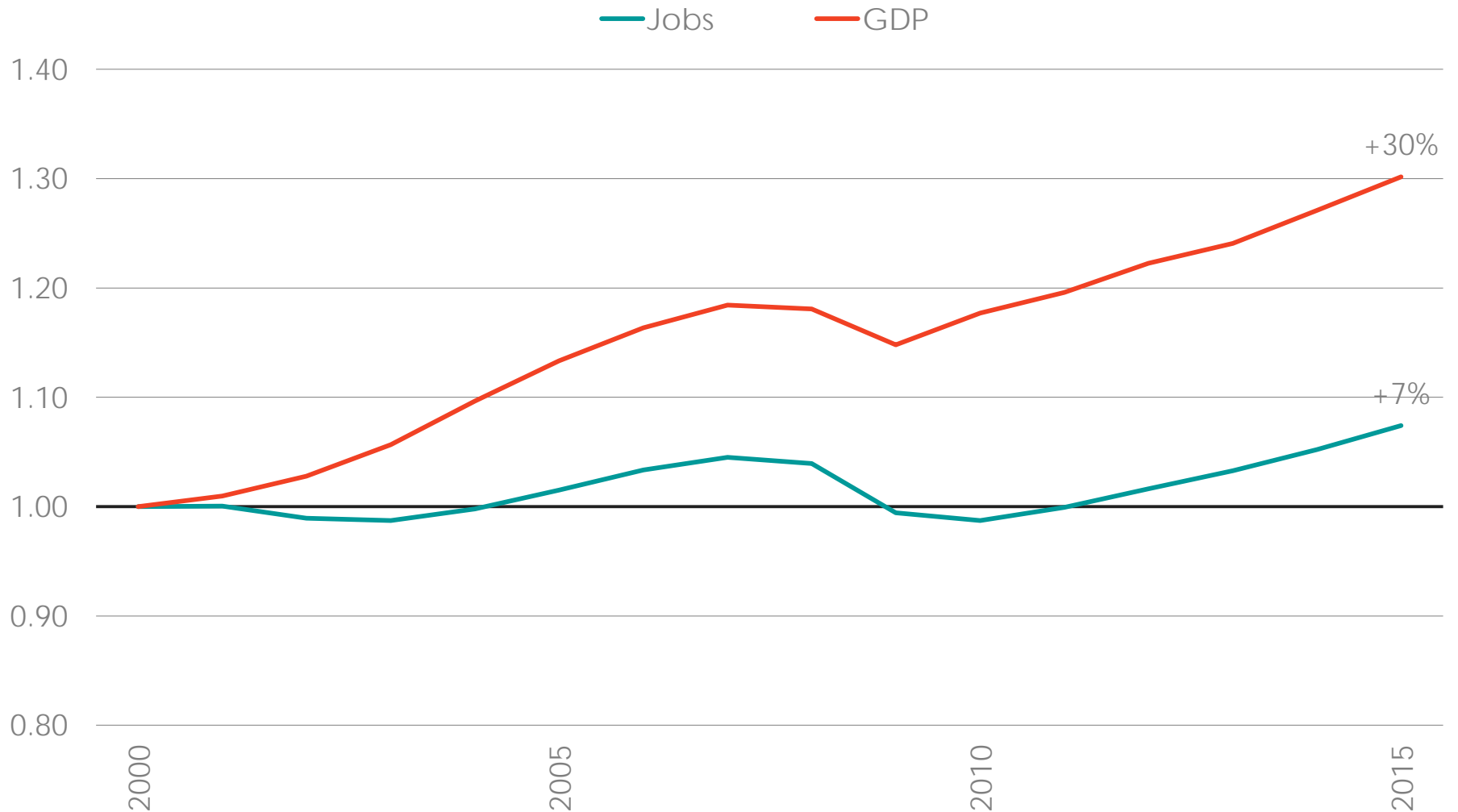
Source: Accessed via Moody's: U.S. Bureau of Labor Statistics (BLS): Current Employment Statistics (CE) [Series ID = CES0000000001] and U.S. Bureau of Economic Analysis (BEA): National Income and Product Accounts (NIPA) [Table 1.1.6, 1.2.6, 1.3.6, 1.4.6, 1.5.6, 1.7.6, 1.8.6, 1.17.6] Notes: Jobs are seasonally adjusted monthly figures averaged by Moody's. GDP is quarterly figures averaged by Moody's and presented in billions of chained 2009 US

By 2020, the US economy is expected to create 55 million job openings: 24 million of these will be entirely new positions.

-Georgetown Center on Education and the Workforce

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# WHAT NEXT: INDUSTRIES & JOBS OF THE FUTURE

RAPID URBANIZATION
## Two-Thirds of the Population Will Live in Cities by 2050

	1950	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050
Rural (%)	70	66	63	61	57	53	48	44	40	37	34
Urban (%)	30	34	37	39	43	47	52	56	60	63	66
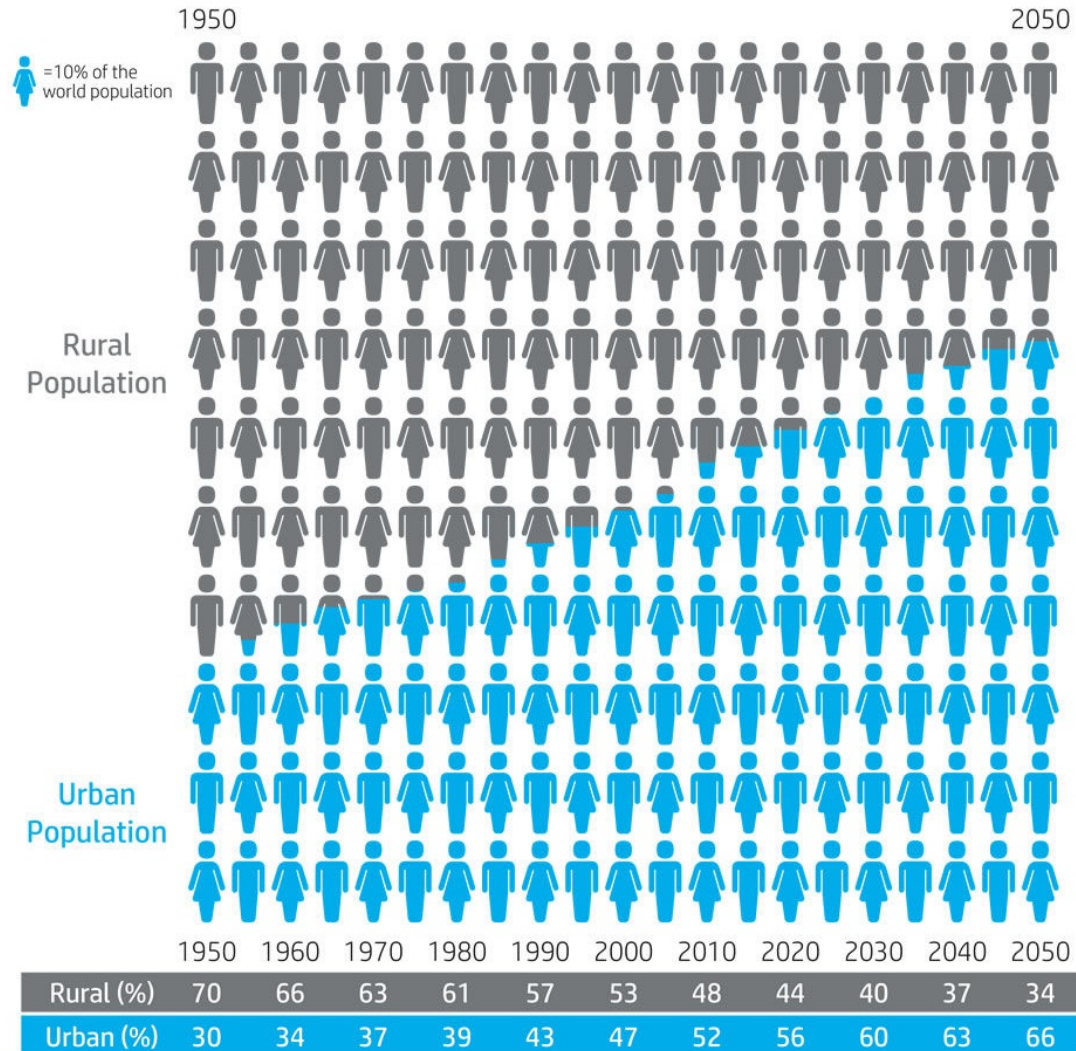
THE URBANIZATION OF AMERICA

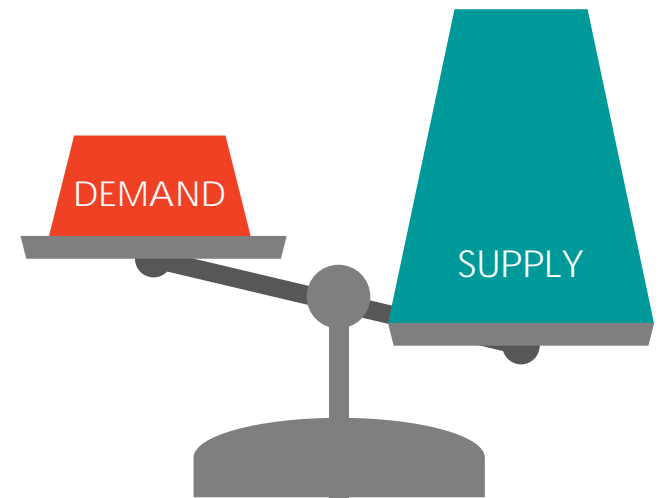## Percent of Urban and Non-Urban Population, Historic and Projected

■ % Urban   ■ % Non-Urban

13%

36%

87%

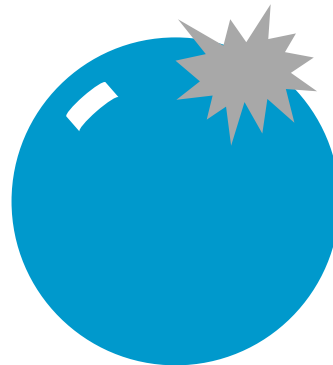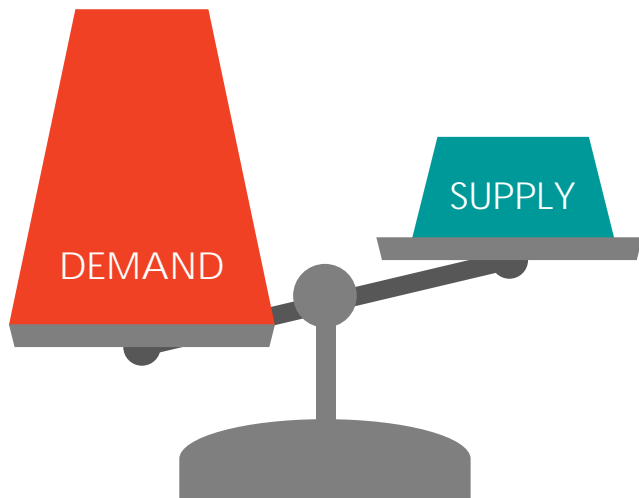64%

PROJECTION

1950

2050
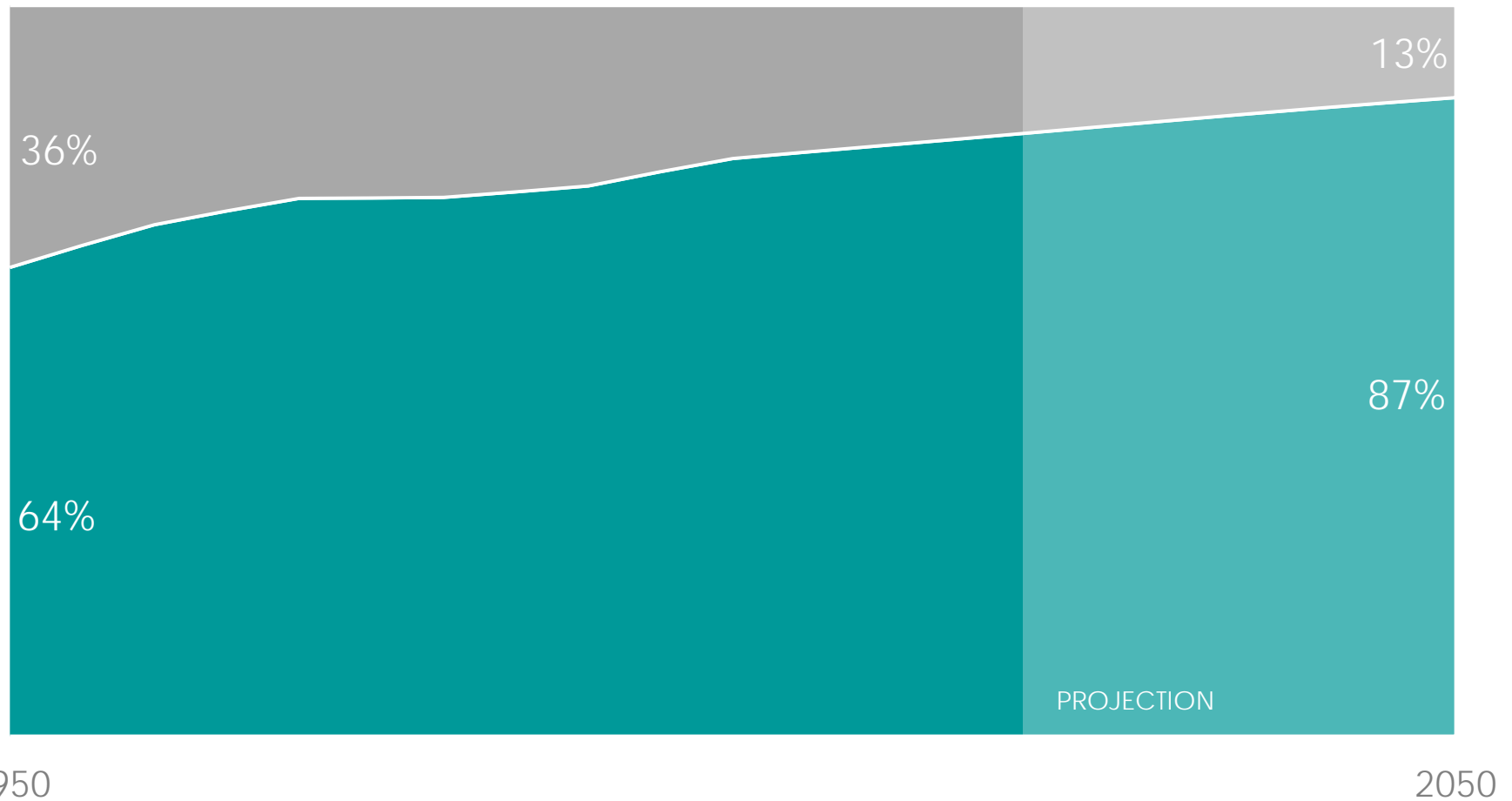
CHANGE IN TOTAL EMPLOYMENT, JUNE 2009 TO JUNE 2016
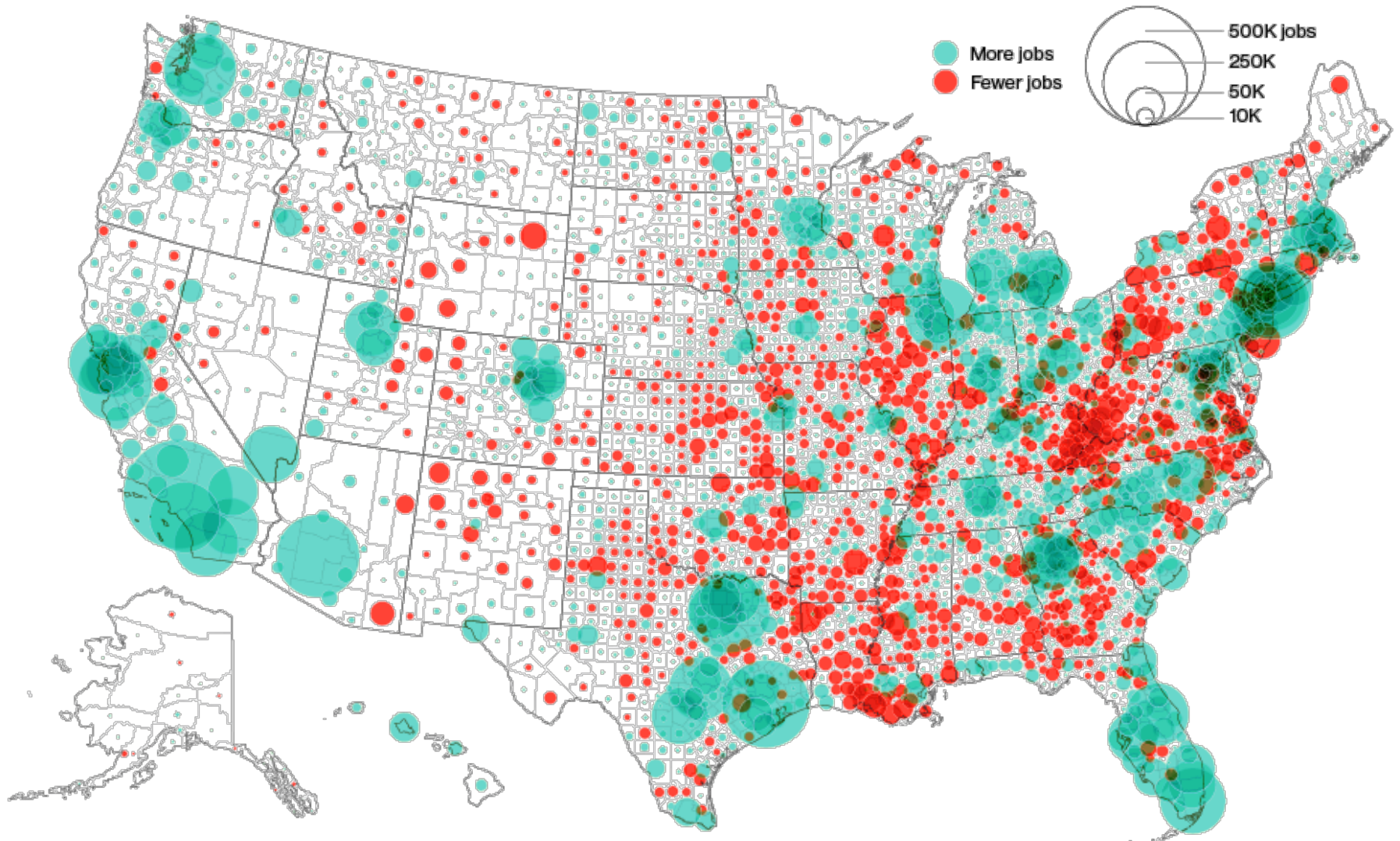
Source: Ingold, David. "A Tale of Two Economies." *Bloomberg*, January 19, 2017. Data from U.S. Bureau of Labor Statistics.

UNDERSTANDING THE BUBBLE
Why targeted industry and workforce initiatives fail

WHAT DO WE DO NEXT?

If productivity doesn't bring job gains, what are we incentivizing?

New incentive policy.

I can't find workers!

Fresh approach to the labor market.

My metrics aren't telling me what I need to know.

New benchmarks.

My marketing isn't reaching the audience I want.

Rethink channels.

THANK YOU

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