

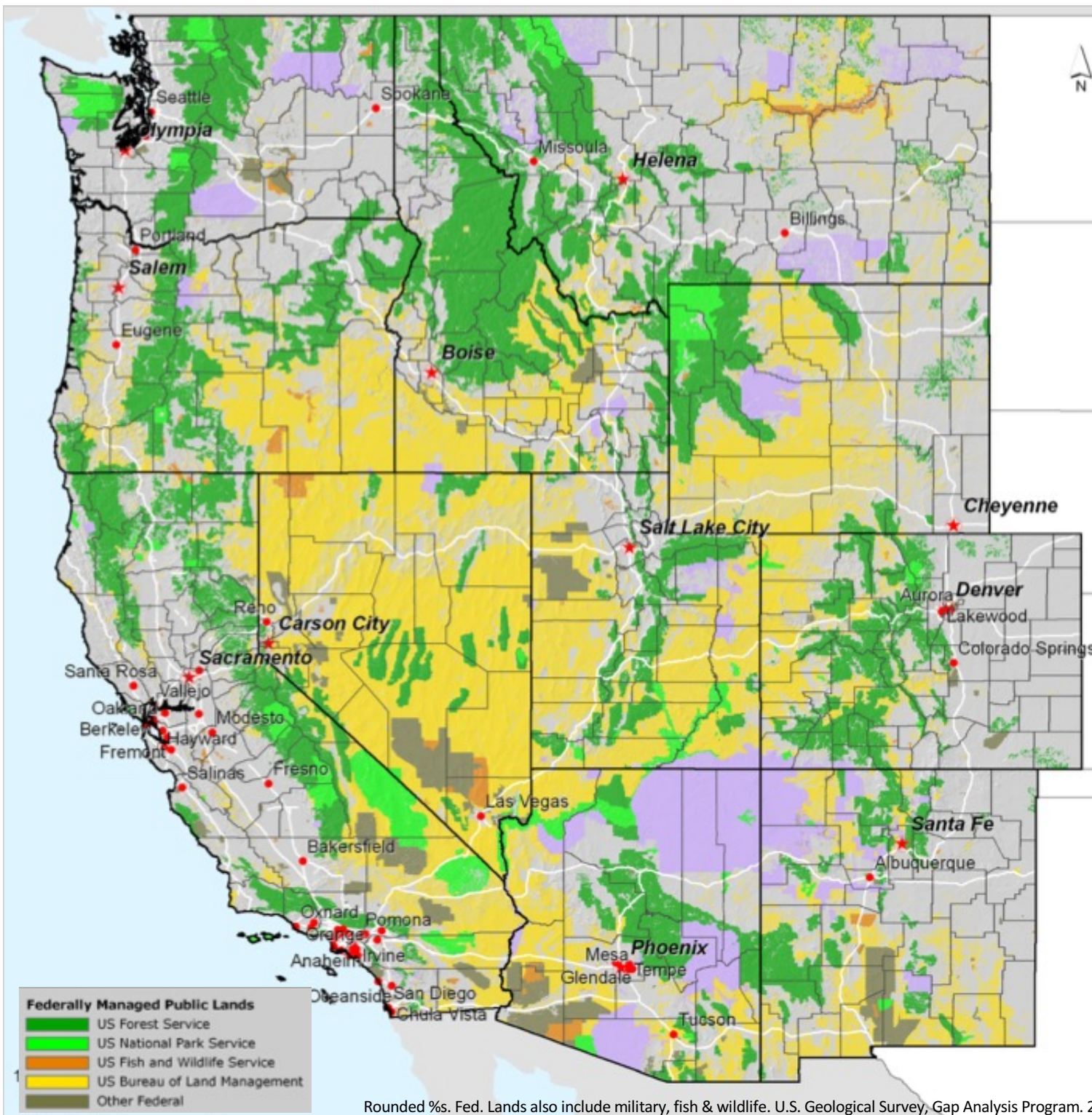
Today's Economy & the Role of Federal Lands



Photo courtesy of Chris Boyer

Outline

| | Page |
|---------------------------------|------|
| Economic roles of federal lands | 4 |
| Economic context – the U.S. | 14 |
| Economic context – the West | 20 |
| A theory of rural development | 33 |
| Federal lands & rural economies | 43 |
| Federal lands & politics | 55 |

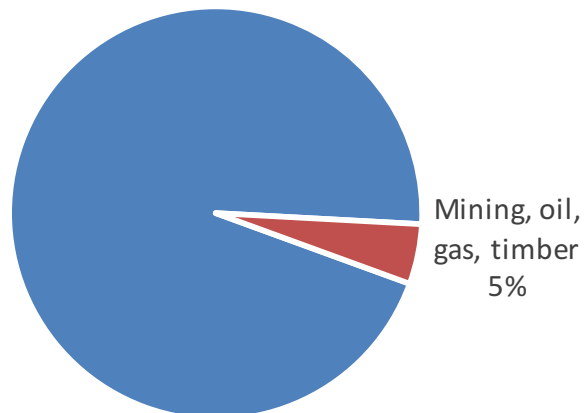


Economic roles of federal lands

Commodity Production



Personal Income from Employment in Resource Extraction, Non-Metro West 2015



We define non-metro as rural. Metro counties contain a core population of 50,000 or more people or are "outlying" counties and tied economically to the core areas by labor force commuting. Data from: U.S. Department of Commerce. 2016. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Table CA25N. Agriculture in 2015 represented 3% of total personal income in the non-metro, or rural West.

Wildlife & Biodiversity



Scenery



Culture, Heritage



Outdoor Recreation

\$646 billion in retail sales

6.1 million jobs

\$40 billion in federal tax revenues

\$40 billion in state/local tax revenues

In the West:

1.9 million direct jobs in outdoor recreation (80% the size of construction sector)

95% of western voters visited federal lands in 2015

Federal lands recreation responsible for at least \$51 billion in visitor expenditures



143 million Americans participate

Ecosystem Services

Water purification, erosion & flood control, carbon storage, climate regulation, pollination, medicine, etc.

Example:

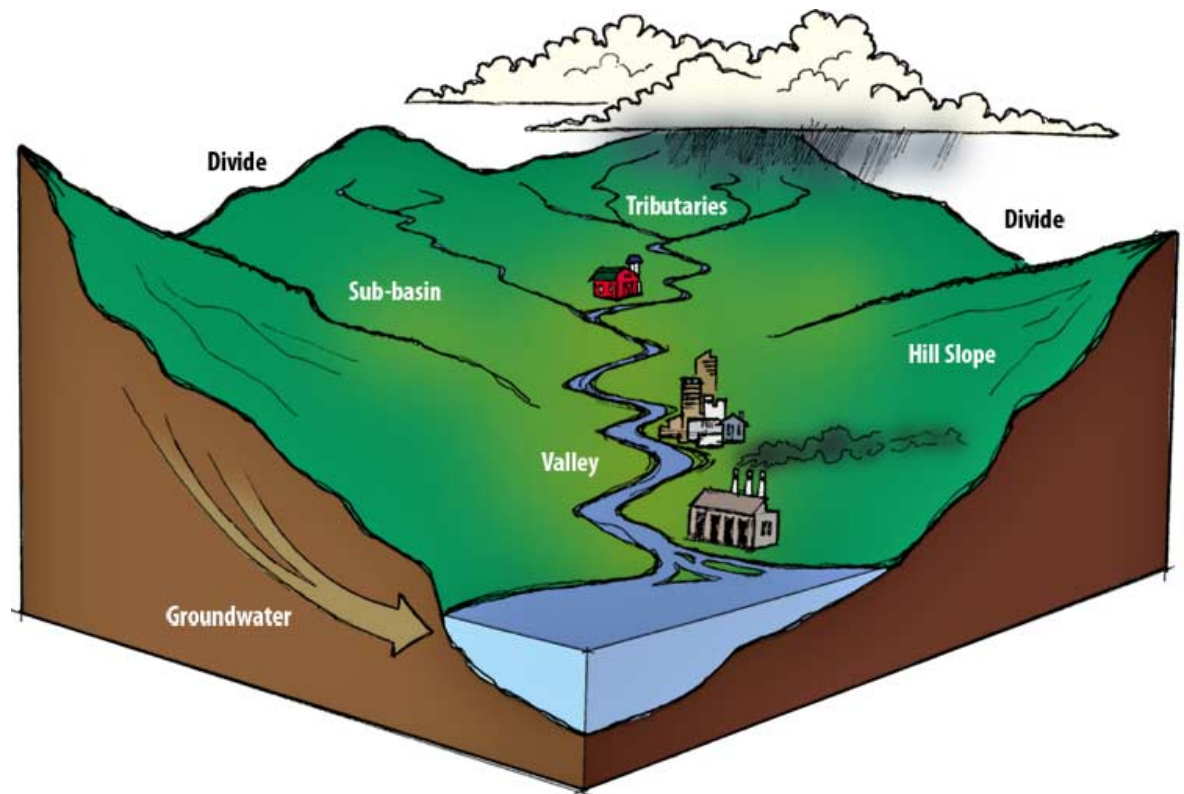
National Forests

Water for 66 million people
in 3,400 communities
worth \$7.2 billion annually

In the West:

National Forests provide
33% of our water

86% in Washington State



Community Economic Development

Federal lands, as a setting, make a community a pleasant place to live & do business. Retain people & business



Amenity Migration

Federal lands attract people & business, moving for jobs AND lifestyle

Colorado Springs



Colorado Springs Regional Economic Development Corporation

Our version of rush hour doesn't include cars.

LEARN MORE

Please take a moment to complete a 4-question anonymous relocation survey.

5TH COLORADO RANKED 5TH BEST STATE FOR BUSINESS. — 9/26/2011 | CNBC

4TH COLORADO SPRINGS RANKED 4TH BEST VALUE CITY IN THE NATION. LOW LIVING COSTS, STRONG ECONOMY AND GREAT AMENITIES. — 7/26/2011 | Kiplinger's Personal Finance

Rush hour in the Springs doesn't always include slipping behind the wheel of a car. With 306 days of sunshine and over 500 miles of urban and easy-to-reach mountain trails, your morning commute can include an epic rush of adrenaline. You bomb a 30-degree technical through the pines. Climb the rest of the trail. Pull into the parking lot pumped with endorphins, and you suddenly see opportunities for your company more clearly — new markets, innovation and growth.

Relocate to Colorado Springs? Adrenaline.



Colorado Springs Regional Economic Development Corporation

Brilliance can happen anywhere. It happens more often in the Springs.

LEARN MORE

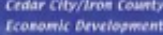
5TH COLORADO RANKED 5TH BEST STATE FOR BUSINESS. — 9/26/2011 | CNBC

4TH COLORADO SPRINGS RANKED 4TH BEST VALUE CITY IN THE NATION. LOW LIVING COSTS, STRONG ECONOMY AND GREAT AMENITIES. — 7/26/2011 | Kiplinger's Personal Finance

You can't force entrepreneurial eureka moments — but you can increase their odds of happening by preparing your mind. Crum your cranium with your problems, challenges, ideas, and insights. Then relax under the clear blue sky of the Rocky Mountains, smell the scent of fresh pines, and let your mind work. Brilliance happens. Inspiration does strike. You grab the idea and run with it. Your company becomes more productive and profitable.

Relocate to Colorado Springs? Brilliant.

Cedar City



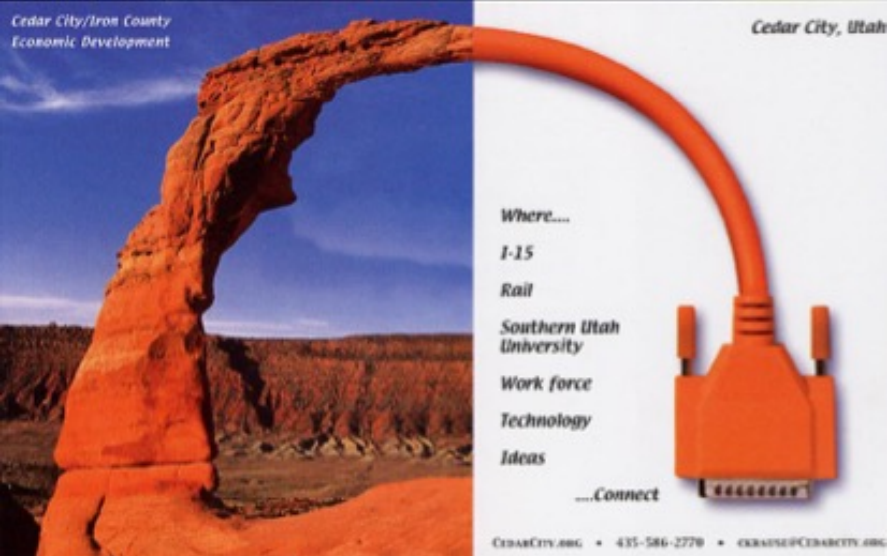
Cedar City/Iron County Economic Development

Cedar City, Utah

Where....

- I-15
- Rail
- Southern Utah University
- Work force
- Technology
- Ideas

....Connect



CedarCity.ORG • 435-586-2770 • CKRAUSE@CEDARCITY.ORG

Recruit Talent



“Our quality of life is defined by our public lands and access to them. This gives us and other tech companies in Montana a distinct competitive advantage. We can recruit and retain top talent successfully within and outside the state because of the world-class landscape that surrounds us.”

Lance Trebesch CEO, TicketPrinting.com

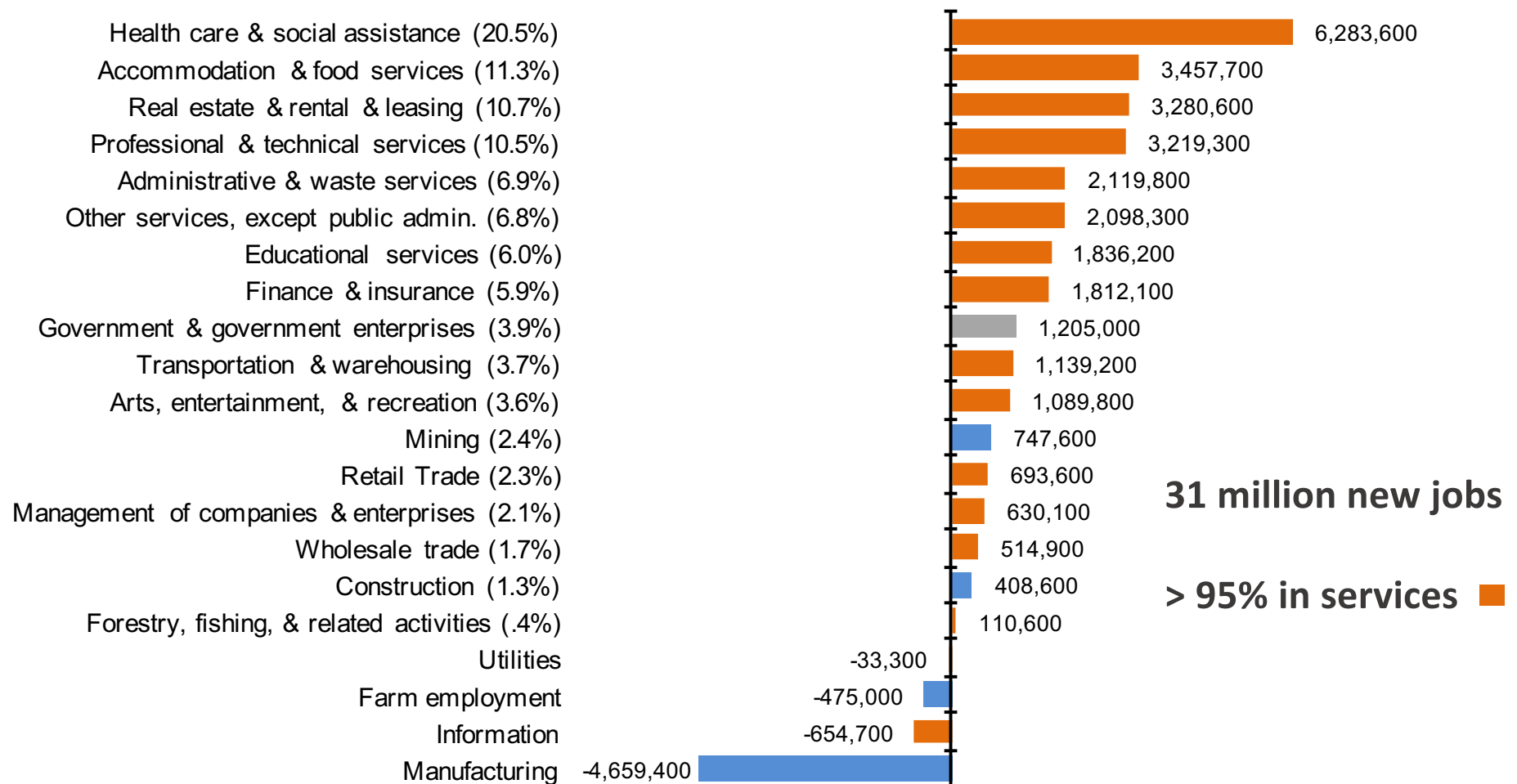
Economic context

Let's start with the U.S. economy



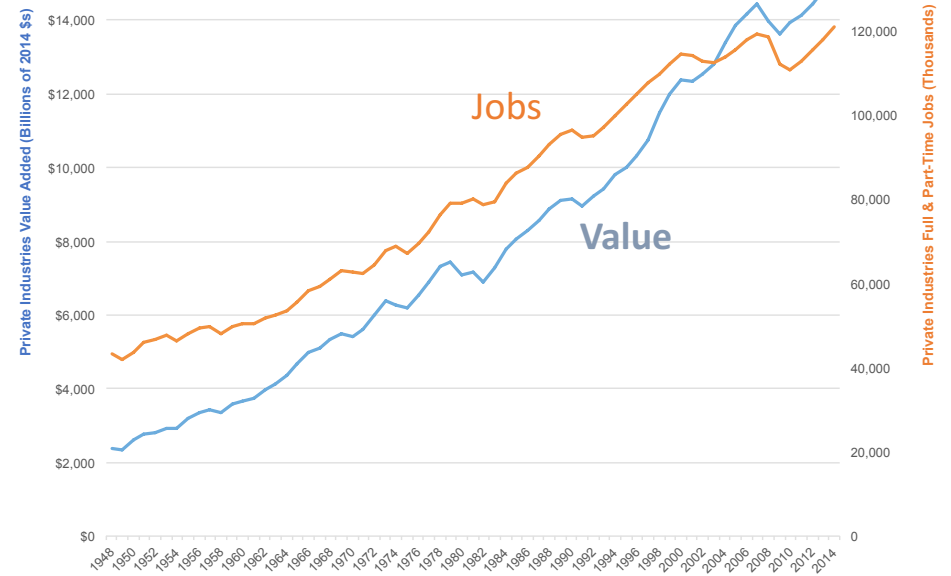
U.S. change in jobs 2000-2015

(% of total growth in parenthesis)

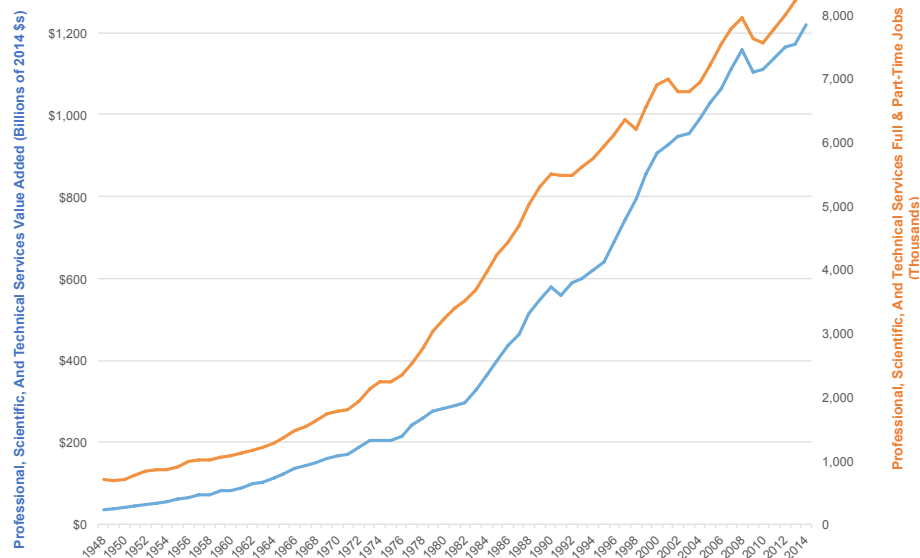


Value of production & jobs track closely

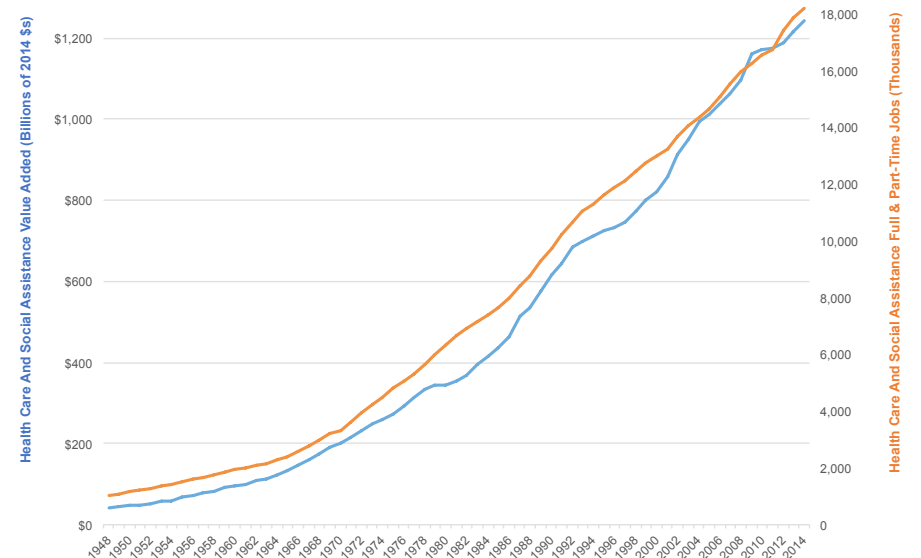
All industries in U.S.



Professional, scientific & tech. services



Health care





Manufacturing is an exception

Productivity higher than ever, but with fewer workers

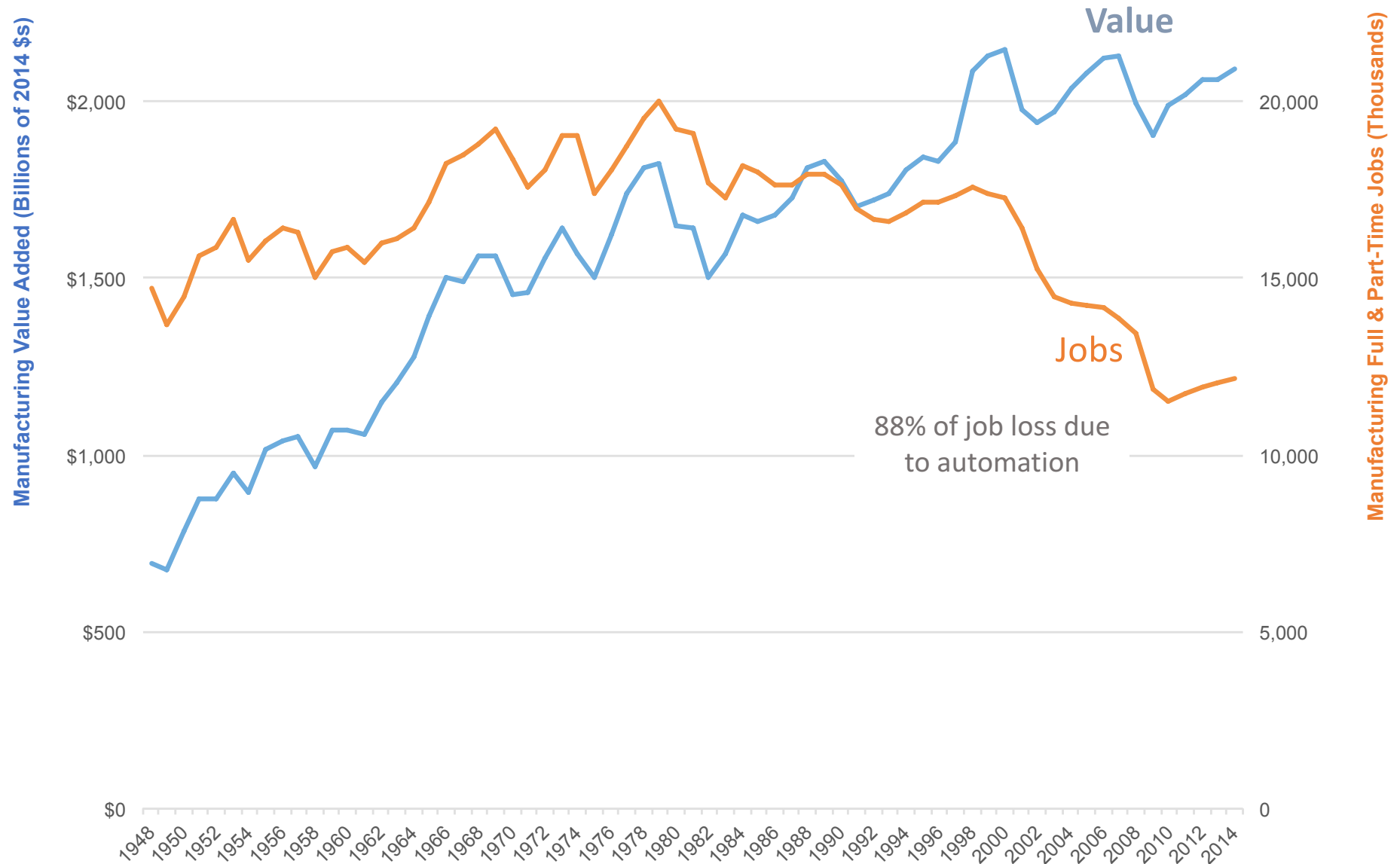
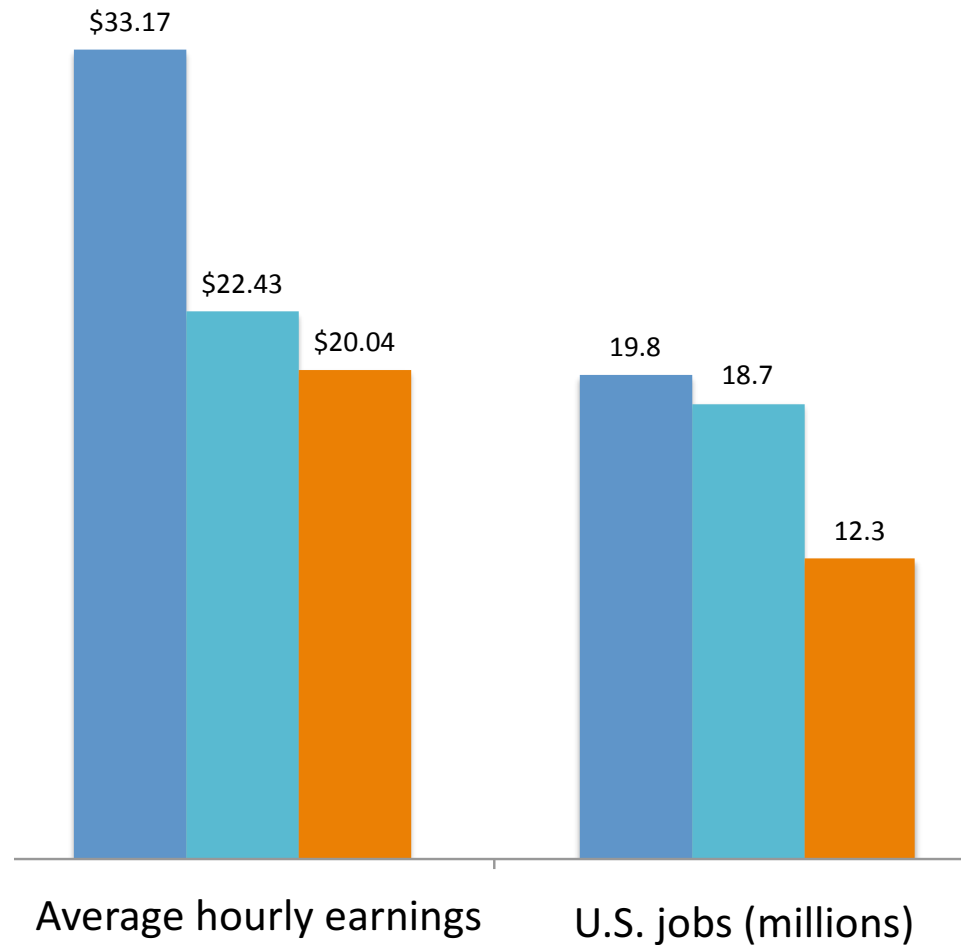


Figure is for U.S. <https://headwaterseconomics.org/economic-development/trends-performance/changing-role-manufacturing/> Automation figure from: Hicks MJ and Devaraj S. 2015. The Myth and the Reality of Manufacturing in America. Muncie, IN: Center of Business and Economic Research, Ball State University. <http://conexus.cberdata.org/files/MfgReality.pdf>.

Other sectors outperforming manufacturing

Example:

■ Professional, Scientific, & Technical Services ■ Health & Social Assistance ■ Manufacturing



Workers produce more, but wages have not kept up

% gain in worker productivity vs. compensation, 1948-2013

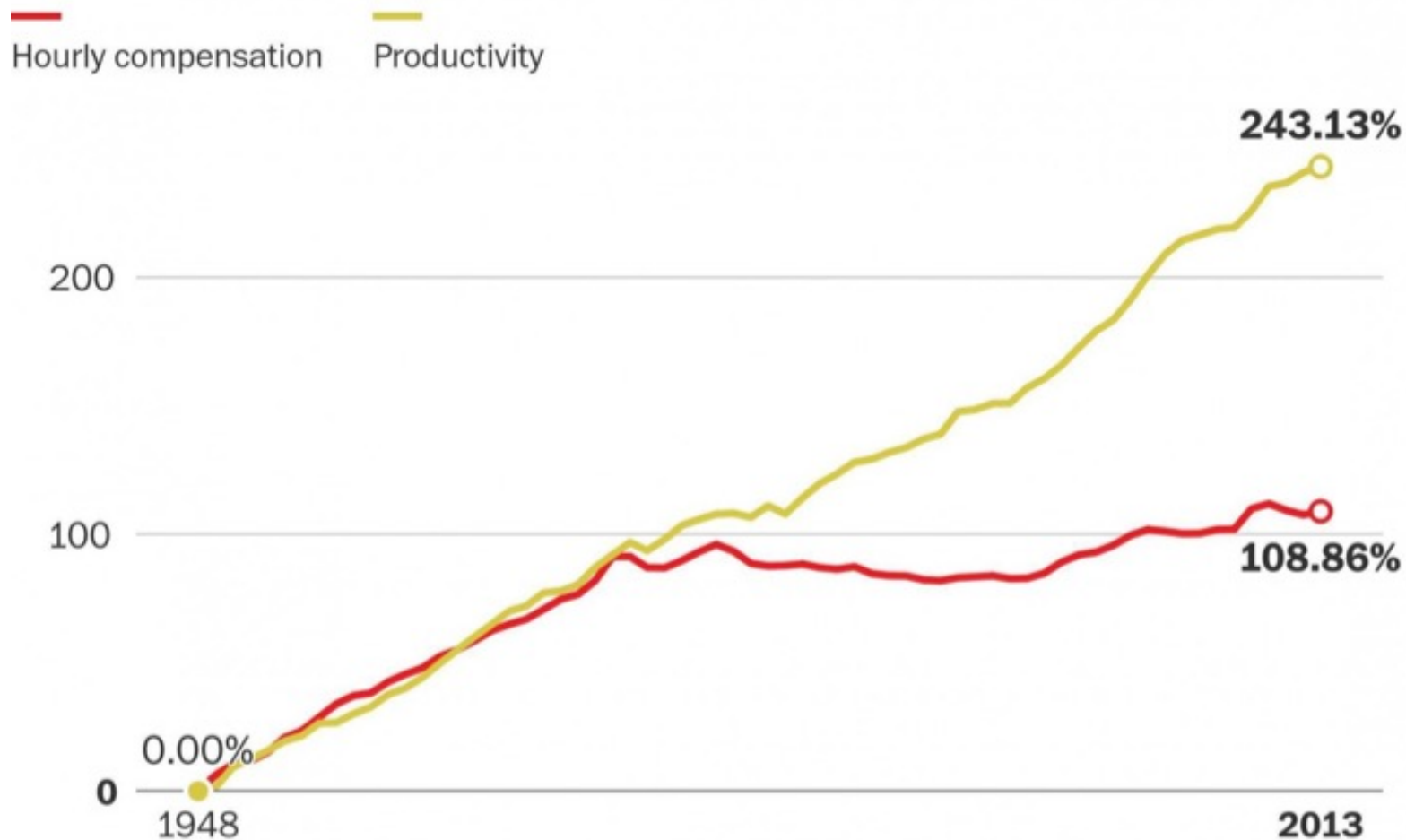


Figure is for U.S. . Adapted from Washington Post, Wonkblog. March 10, 2017. https://www.washingtonpost.com/news/wonk/wp/2017/03/10/the-people-who-were-left-behind-two-months-ago-are-still-left-behind/?utm_term=.6d19ba72044a

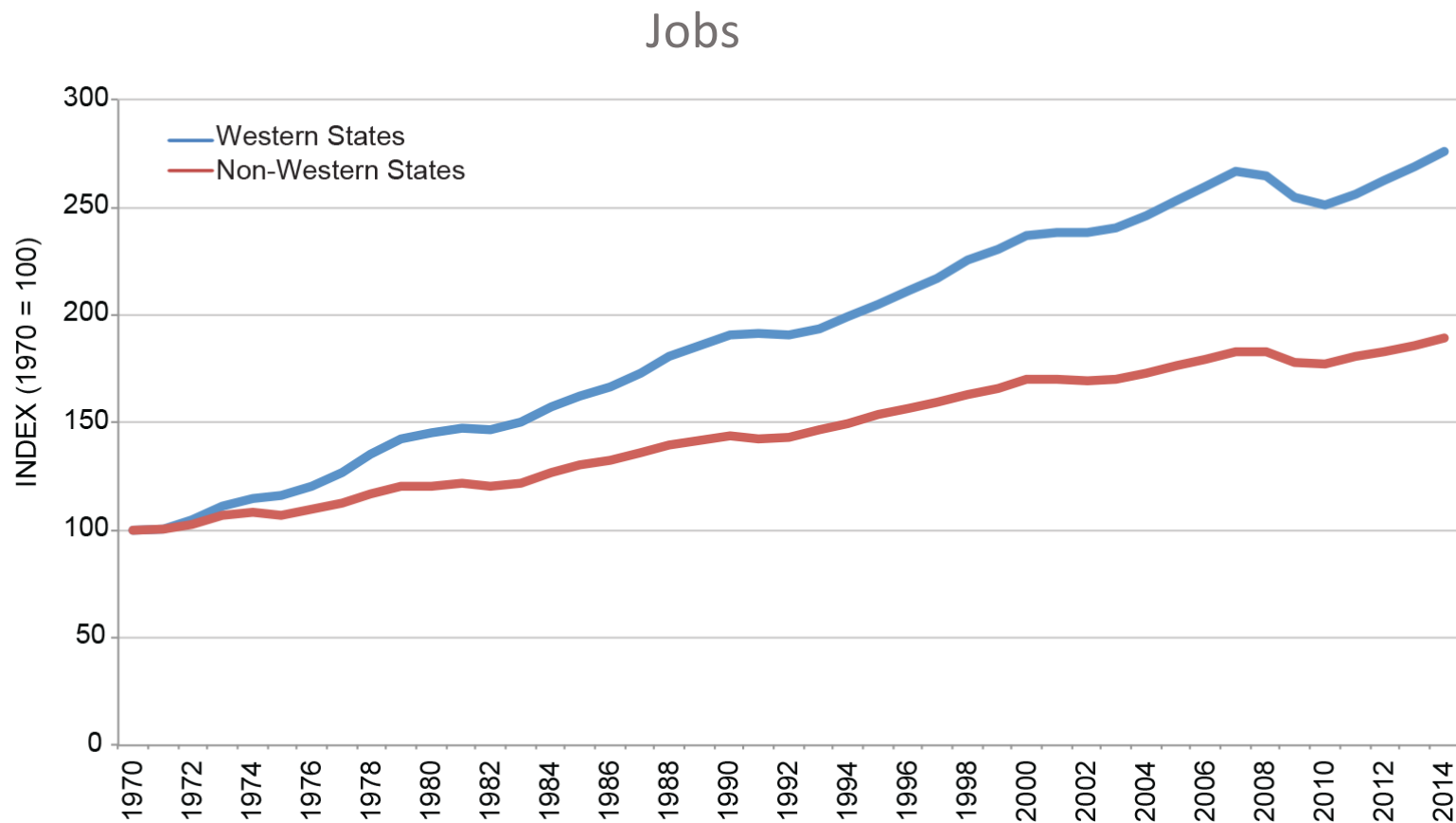
Economic context

The West



The WEST

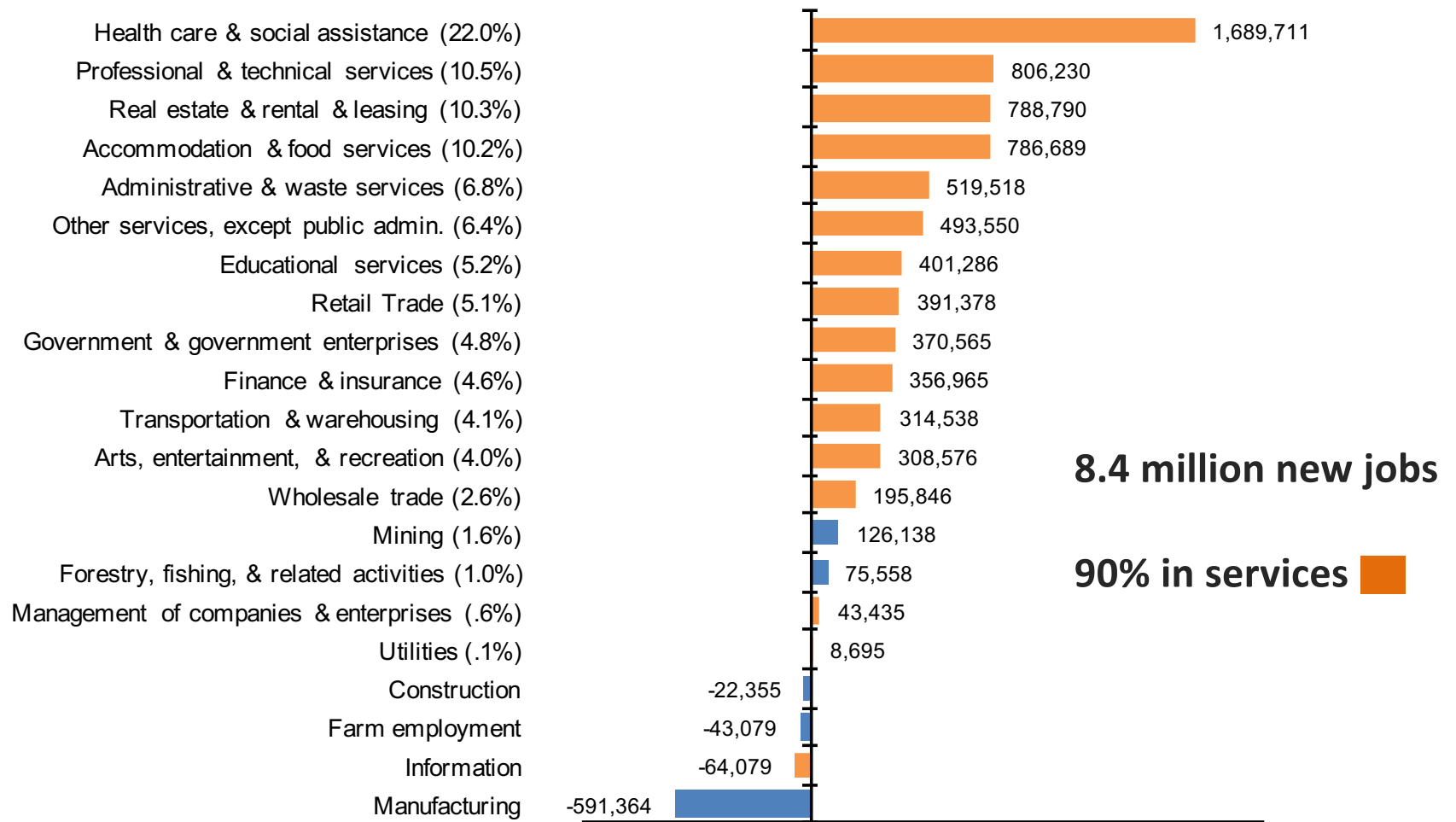
The West outperforms the rest of the country



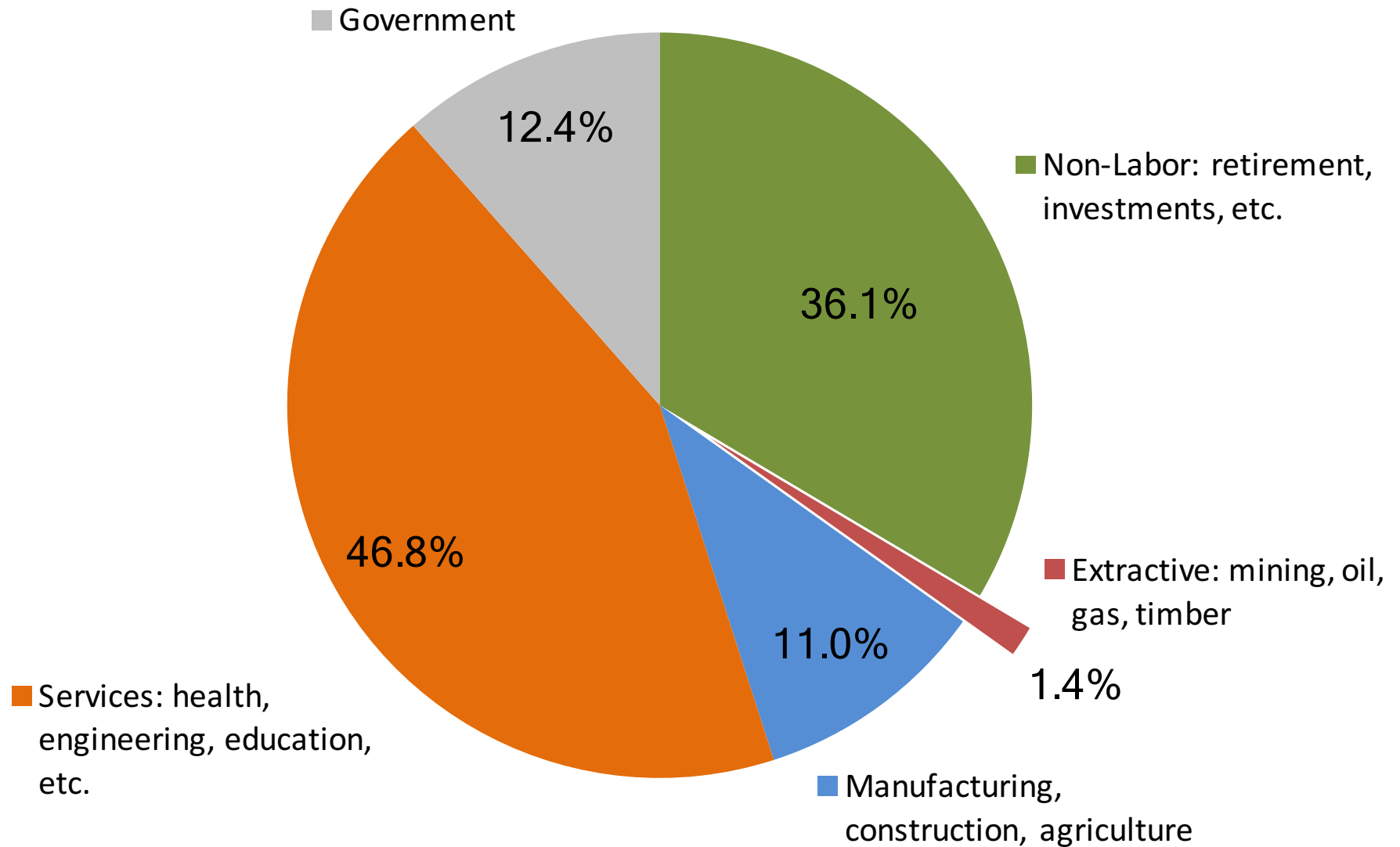
Most job growth in services

West change in jobs 2000-2015

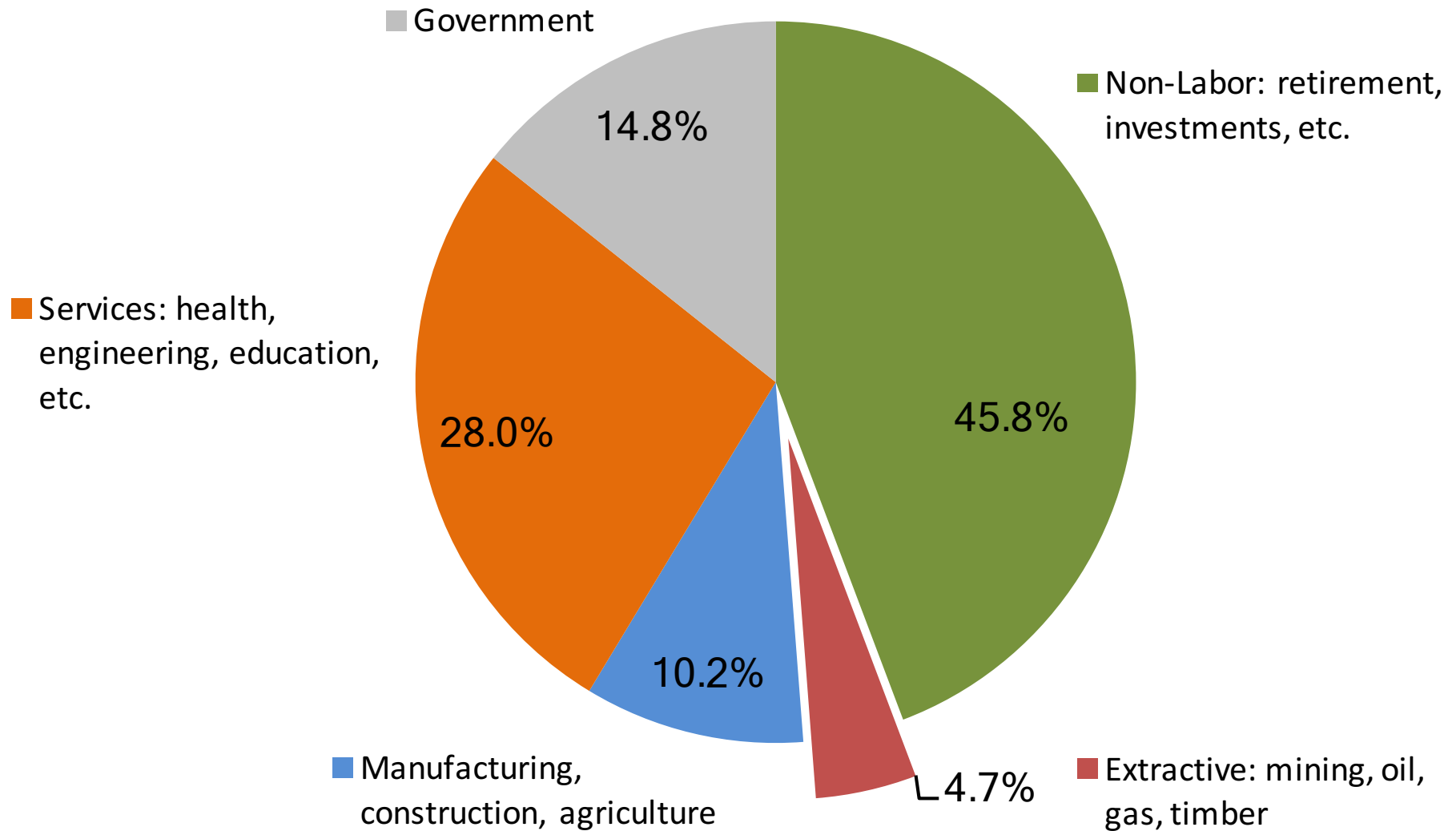
(% of total growth in parenthesis)



West personal income by source, 2015

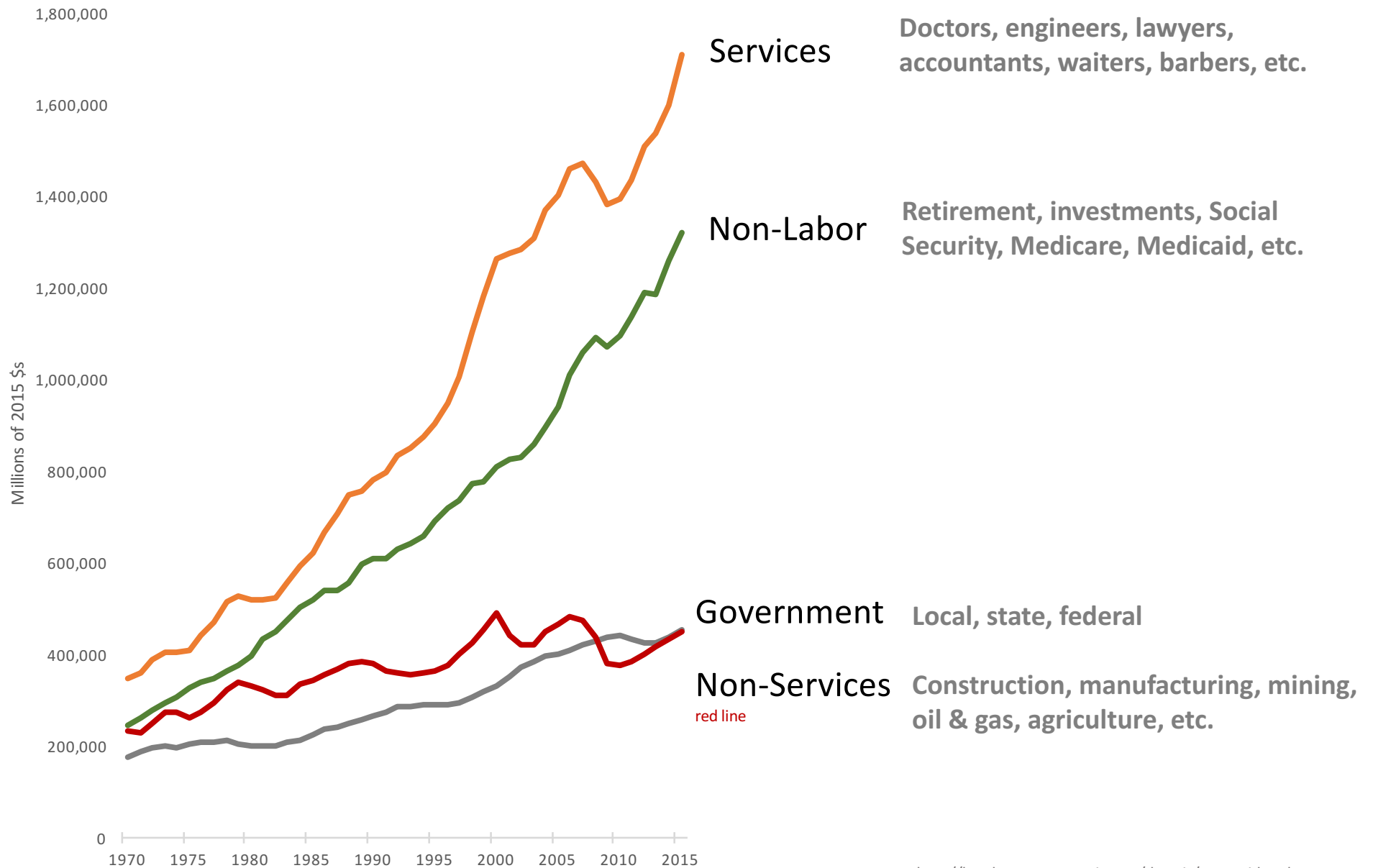


Rural West – very similar; personal income by source, 2015



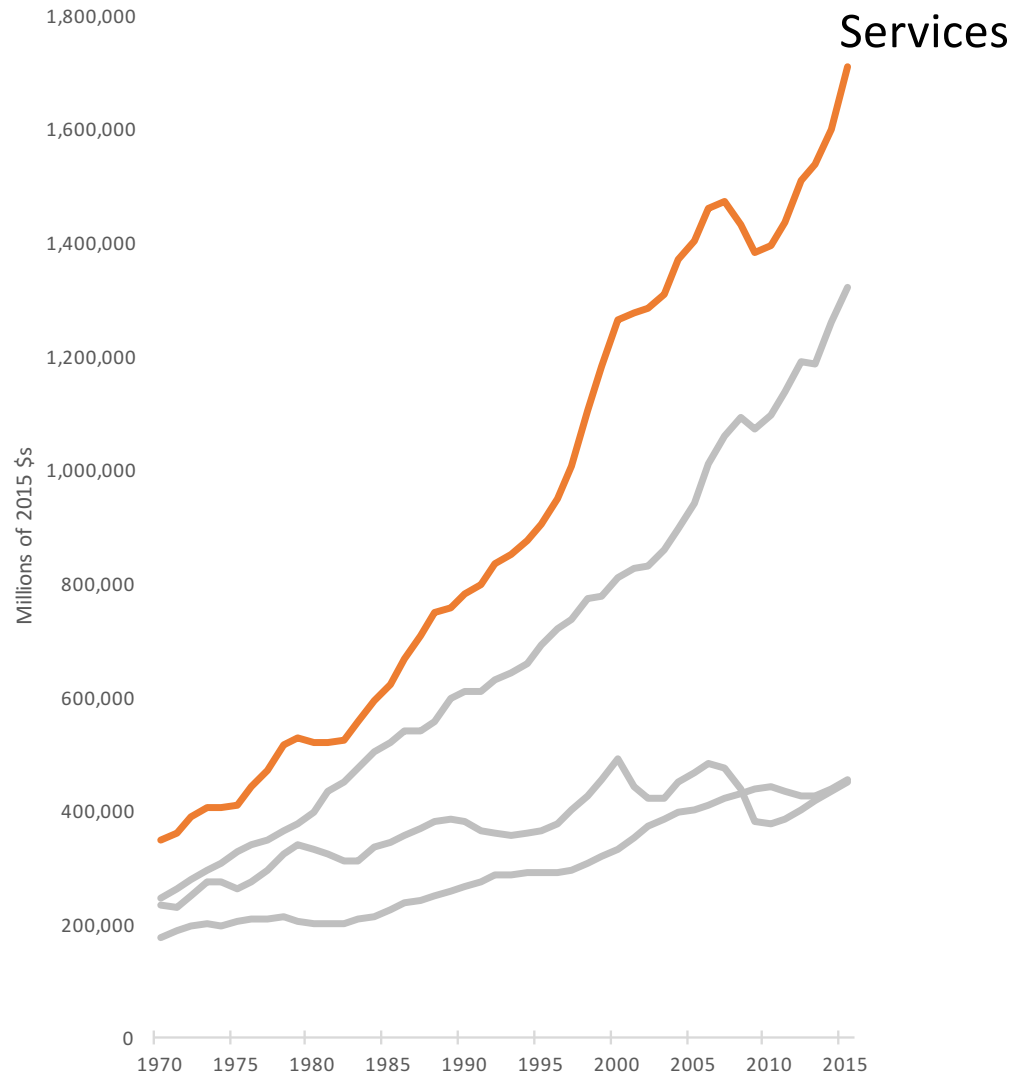
We define rural as non-metro. Metro counties contain a core population of 50,000 or more people or are "outlying" counties and tied economically to the core areas by labor force commuting. Data from: U.S. Department of Commerce. 2016. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Table CA25N. Agriculture in 2015 represented 3% of total personal income in the non-metro, or rural West.

Personal income in the West



Why so much growth in services?

> 90% of LABOR income growth in last decade



Demand has increased:

Health care, insurance
High tech products
Leisure, entertainment

Supply has increased:

New industries (software)

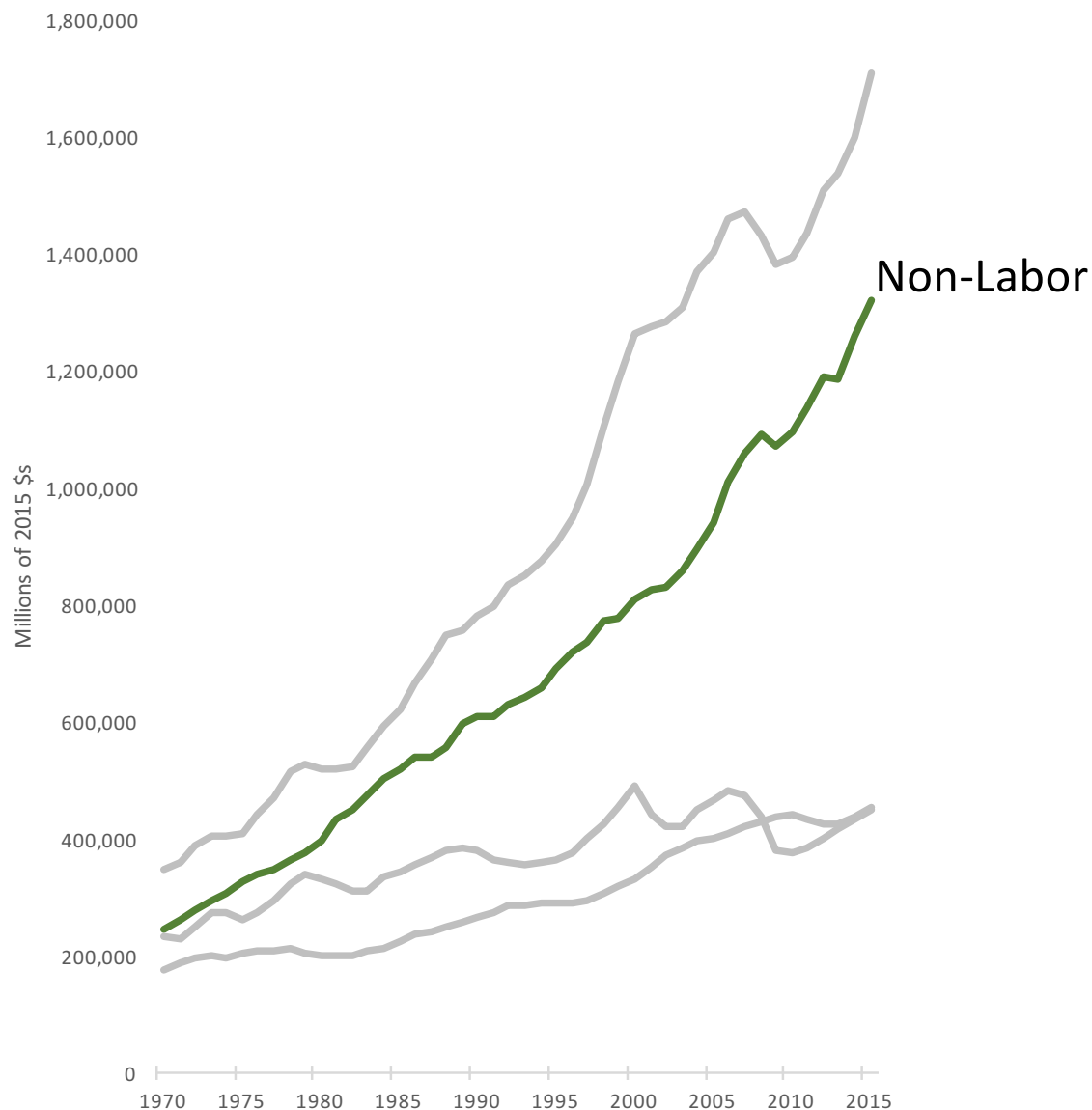
Some functions once internal
to “goods production” now
outsourced & counted as
services (e.g. accounting)

**Services not highly automated
(the way manufacturing is)**

Services are 50% of labor income in 2015. Figure is in terms of labor income, a subset of total personal income; the remainder is non-labor income. U.S. Department of Commerce. 2016. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Table CA25N.

Why so much growth in non-labor income?

> 55% of TOTAL PERSONAL INCOME growth in last decade



Baby Boomers & the stock market

Three types of non-labor income:

Investment Related
(dividends, interest & rent)

Age Related
(retirement, Medicare, social security, etc.)

Hardship-related
(Medicaid, food stamps, etc.)

Investment-related

20% of total personal income in the West

(Dividends, Interest & Rent)



Age-related

8% of total personal income in the West

(Social Security, Medicare)



Hardship-related

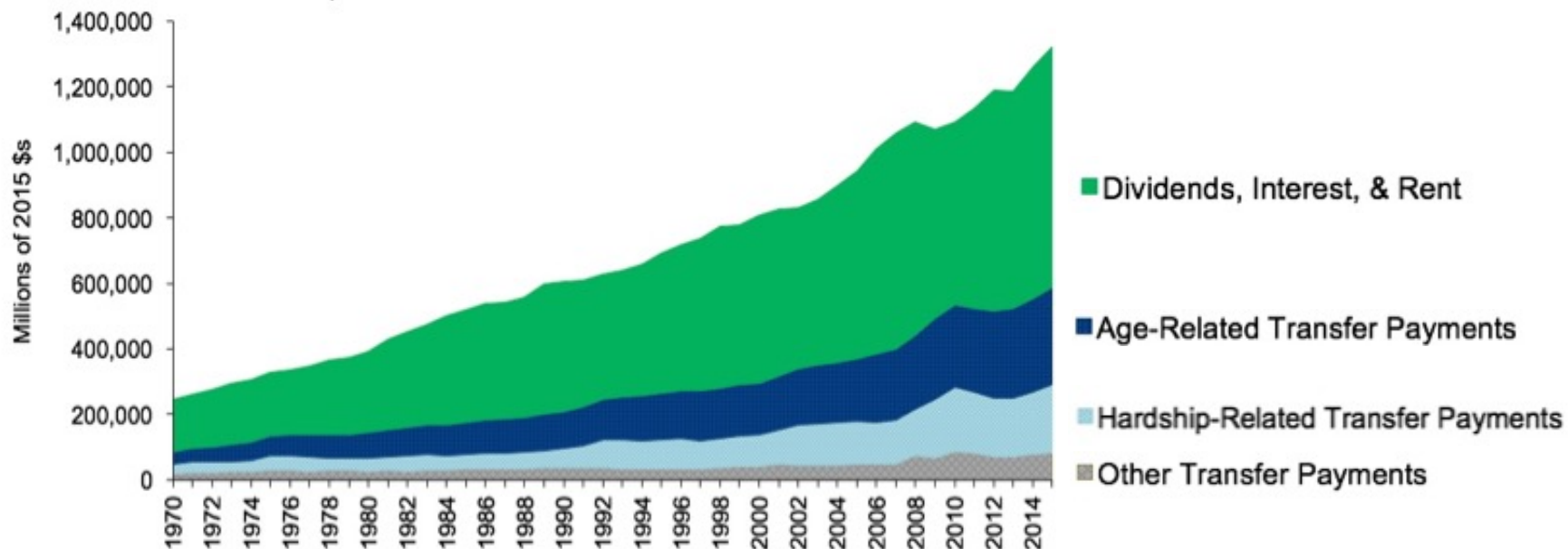
5.7% of total personal income in the West

(Medicaid, income maintenance, unemployment compensation)



Non-labor income will continue to grow

In just five years 1/4 of us
will be 55 years or older



Baby Boomers control 80% of the financial assets of the country

Western counties depend mostly on services & non-labor income

> 10% of labor earnings from:

| | |
|---------------|------------------------------------|
| Timber | 1% of all counties |
| Mining | 12% of all counties (2% oil & gas) |

> 50% of labor earnings from:

| | |
|-----------------|---------------------|
| Services | 41% of all counties |
|-----------------|---------------------|

> 50% of total personal income from:

| | |
|------------------|---------------------|
| Non-Labor | 25% of all counties |
|------------------|---------------------|

A theory of rural development

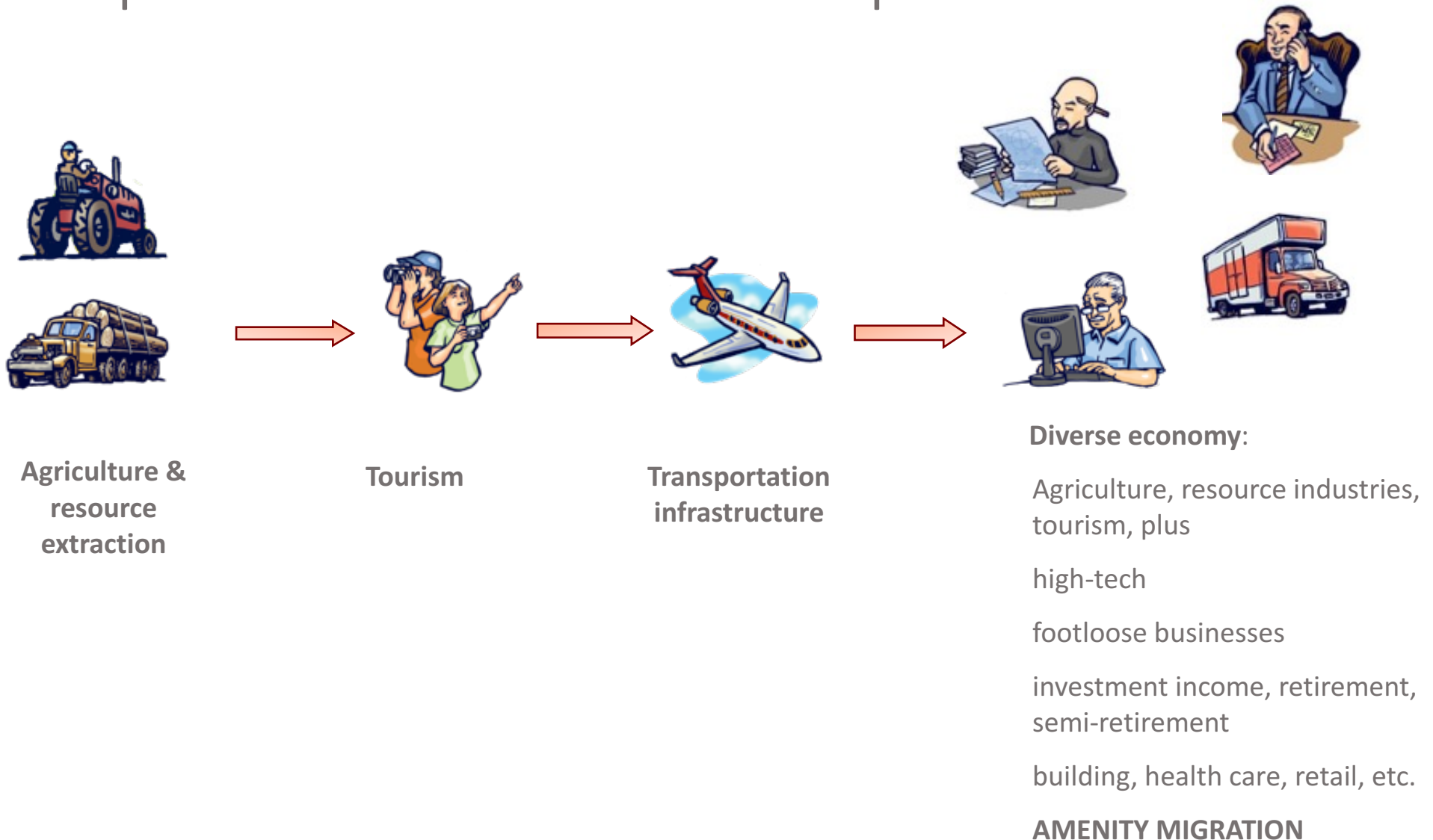
Access to major population centers is a principle driver of economic opportunity



Tourists need access by air: nearly 4 out of 5 air trips are for leisure (79%)

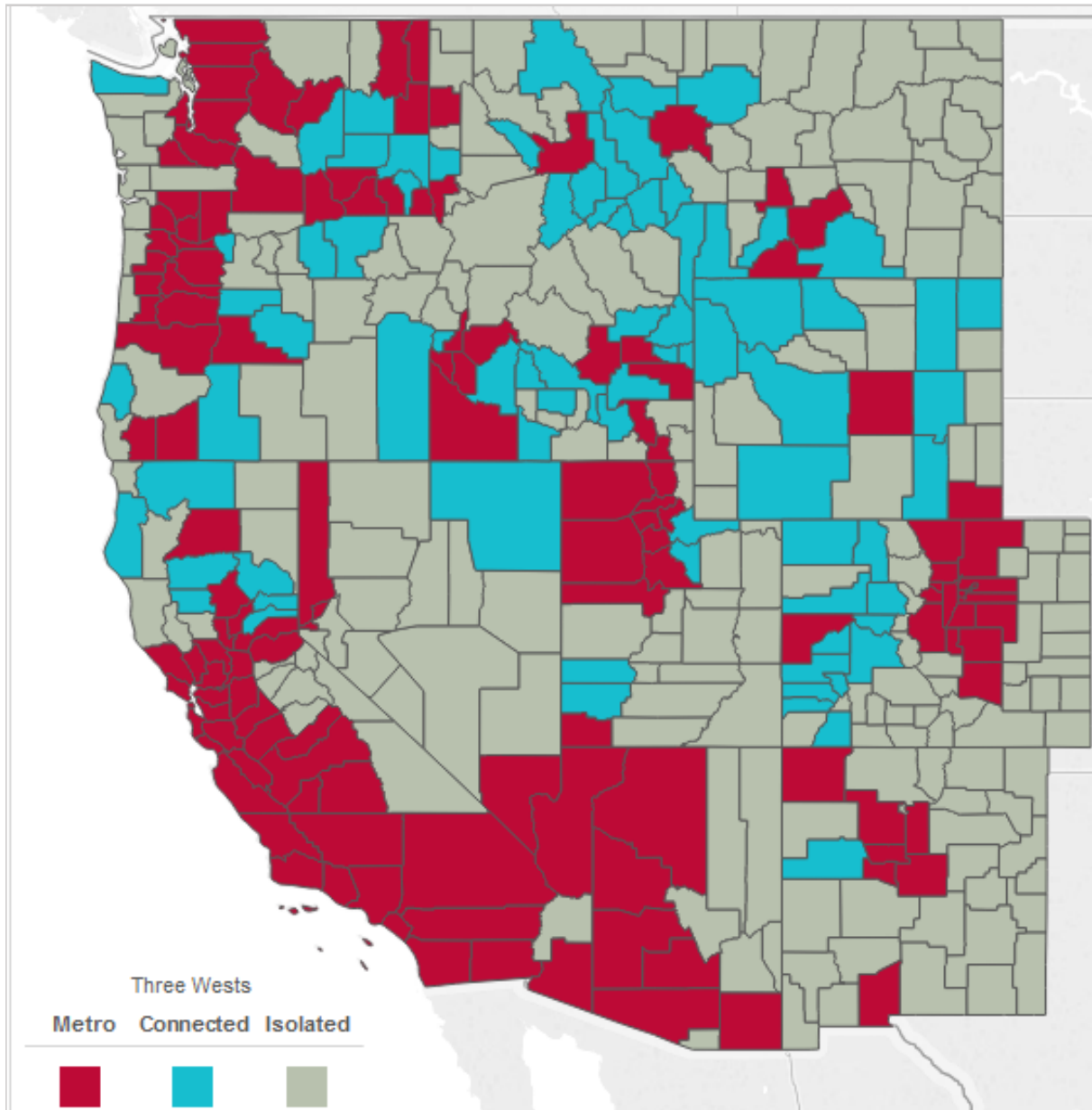
Air access benefits the rest of the economy; e.g. tech workers travel by air 60-400% more than general workforce

Over time, as a community diversifies from resource industries to include tourism, the economy will expand if transportation infrastructure also expands



There are 3 types of counties

97% of population lives in either METRO or CONNECTED



METRO (& commuter shed)
Higher wages
Less volatility
More high-wage services
Fastest-growing
Younger
More educated

CONNECTED (via airports)
Over time, perform more like METRO

RURAL & ISOLATED
Lowest wages
Most volatility
Few high-wage services
Slowest-growing
Older & aging
Less educated



75% of all
jobs are
concentrated
in cities ●

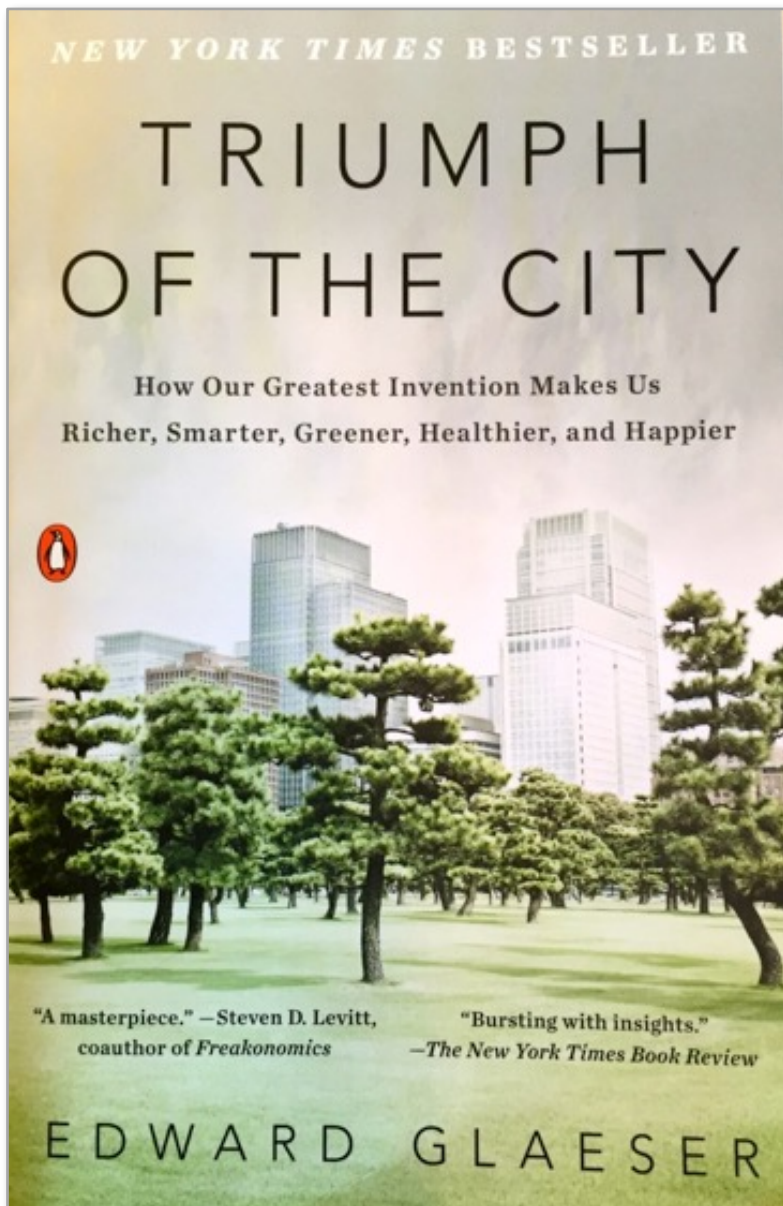
<https://headwaterseconomics.org/economic-development/trends-performance/urban-areas-drive-economic-growth-in-the-west/>

92%
West
live in
metro
areas

75%
rest of
country

The West is the most
urban part of the country

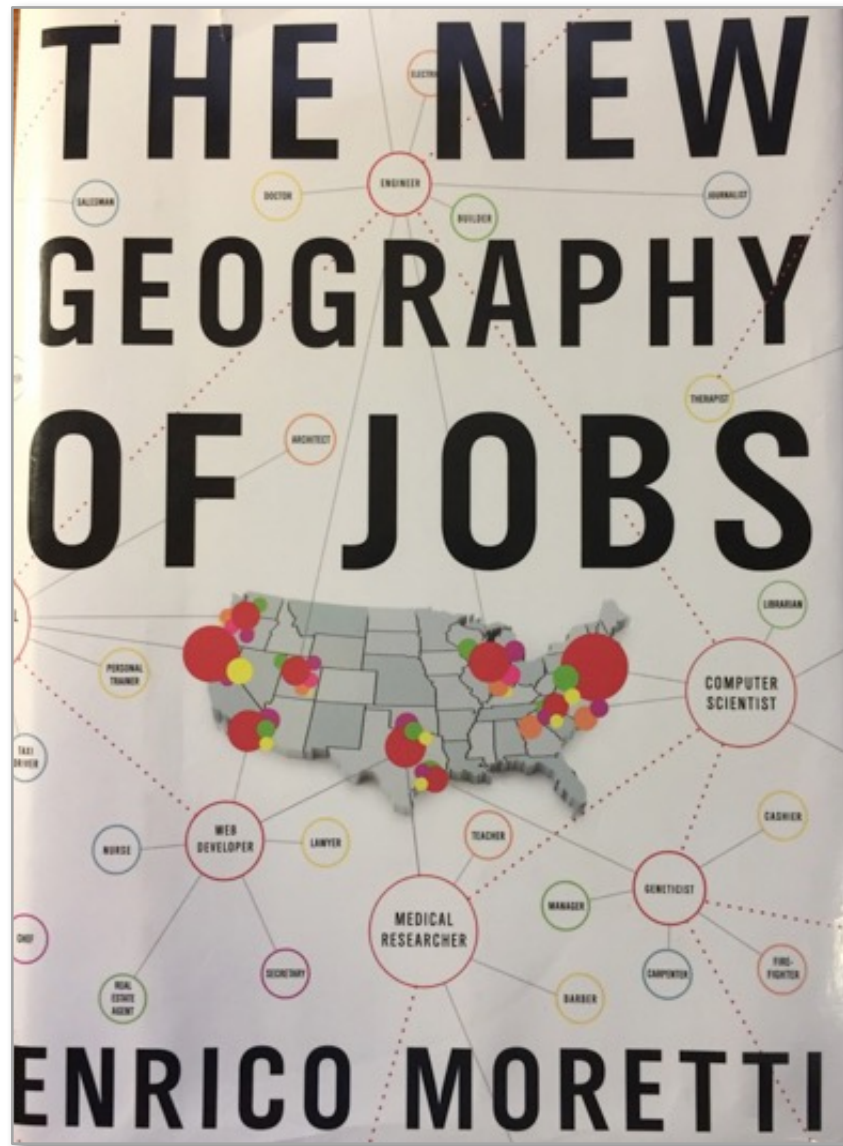




The advantage of cities is the social network

“For over a century pundits have been predicting that new forms of communication would make urban life irrelevant.

To defeat the human need for face-to-face contacts, our technological marvels would need to defeat millions of years of human evolution that has made us into machines for learning from the people next to us.”



Human capital is critical

“In the twentieth century, competition was about accumulating physical capital.

Today it is about attracting the best human capital.”

Higher education levels mean

lower unemployment & higher wages

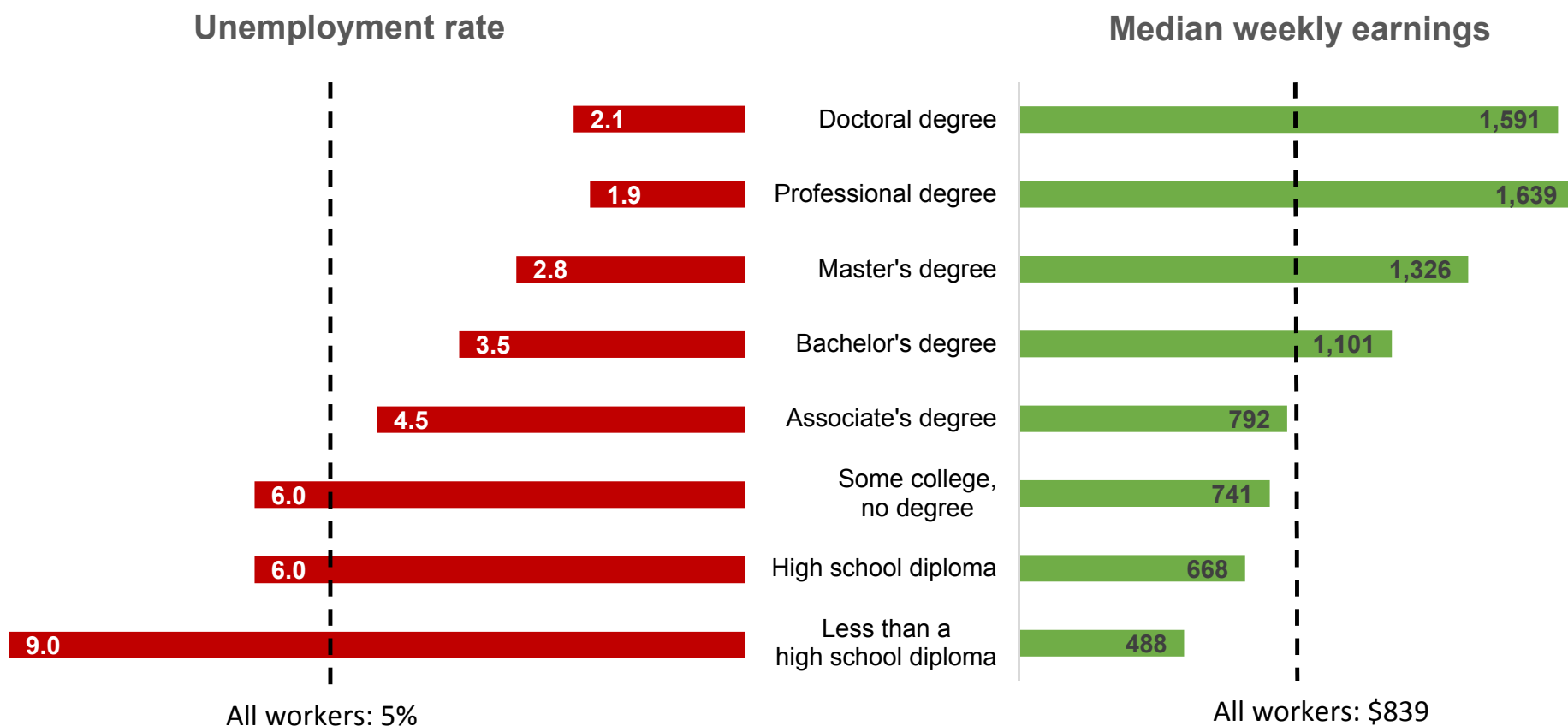


Figure is for U.S. in 2014 from U.S. Dept. Labor, Bureau of Labor Statistics, Current Population Survey.

SUMMARY: the economy of the West

Very urban



Urban & rural with airports
do better



Resource dependence is rare



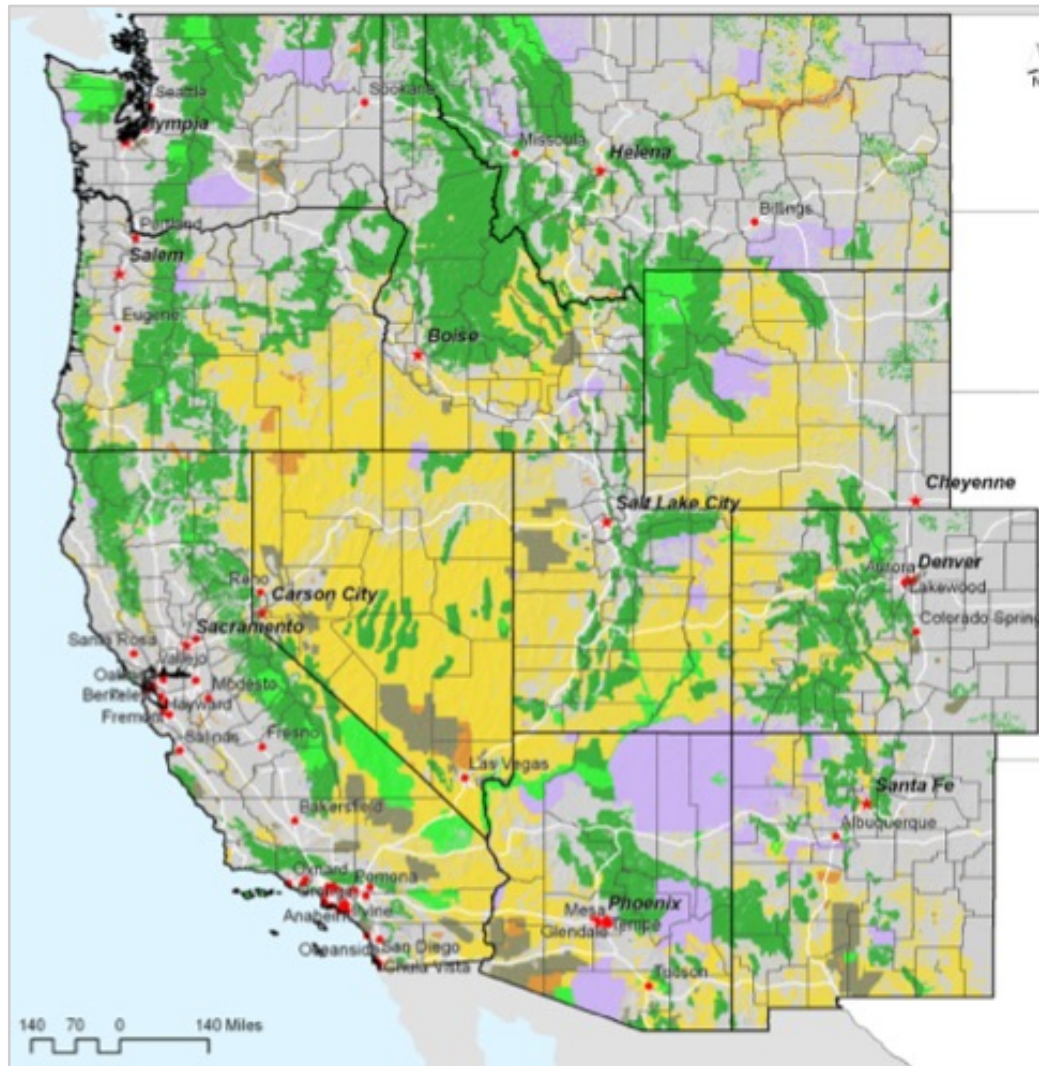
Growth in services & non-labor income
&
Human capital is key



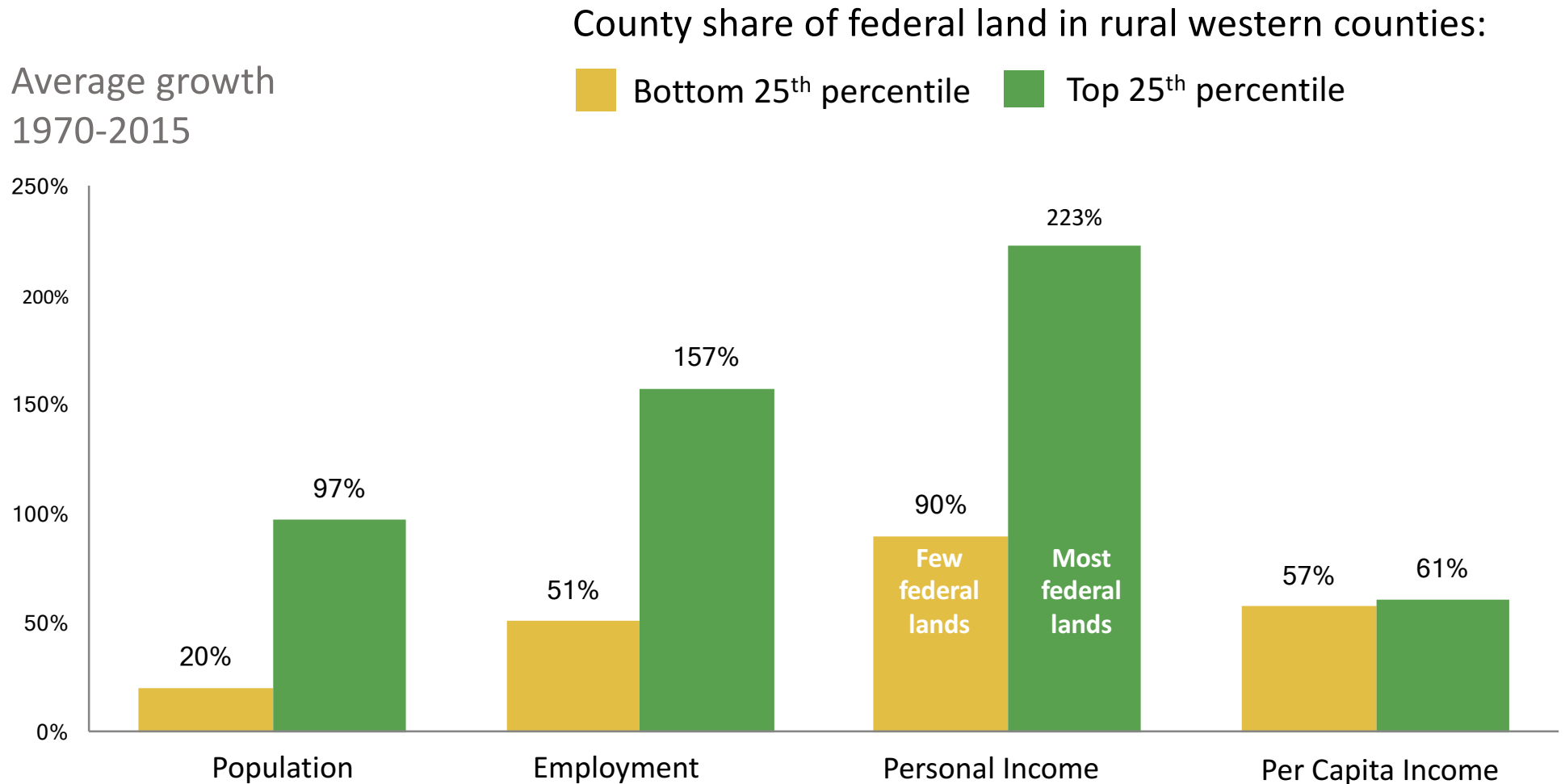
What role do federal public lands play?

Federal lands & rural economies

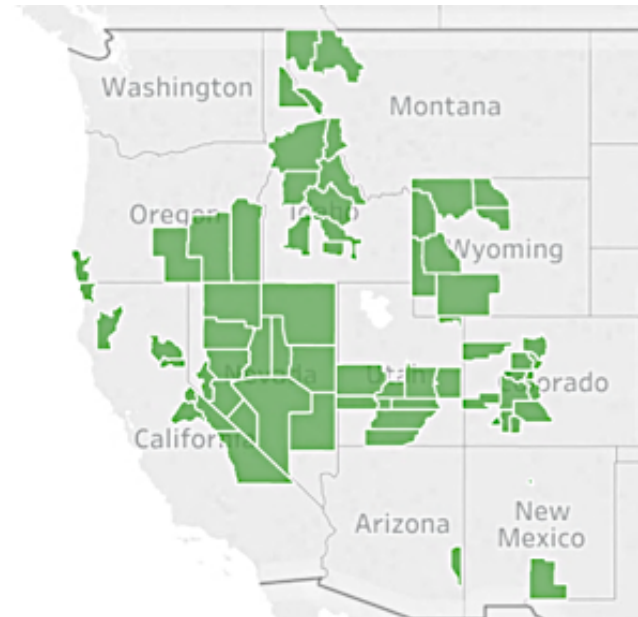
What is the economic performance of rural counties with federal lands?



Counties with more federal lands grow faster

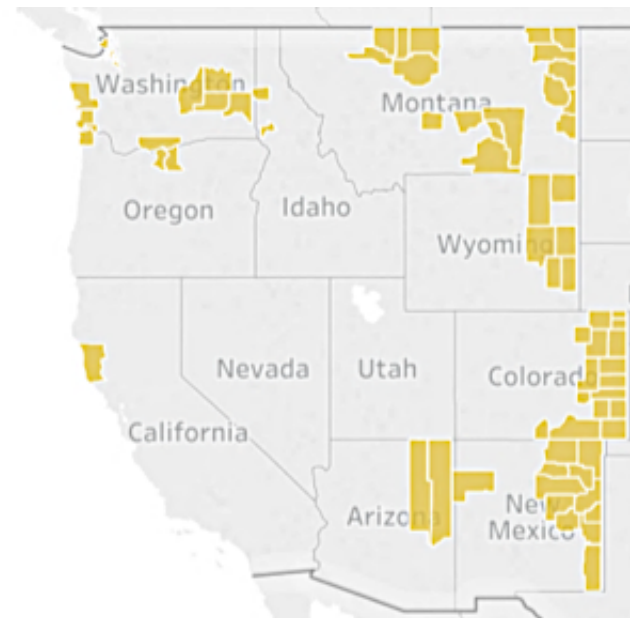


As a group, these counties have experienced more economic growth.



Top 25th
federal lands

As a group, these counties have experienced less economic growth.

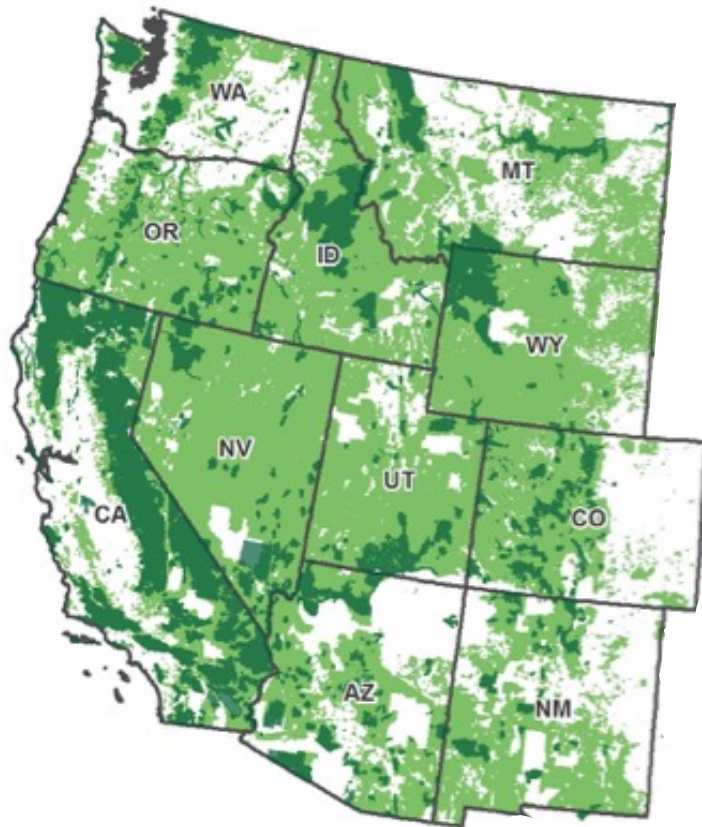


Bottom 25th
federal lands

Growth could be because of recreation, timber, minerals, energy, services, migration, non-labor income, home building, medical, etc.

25% of federal lands are PROTECTED

Federal lands in the West: 346 million acres
(non-military)



Protected (Nat. Park, Wilderness, N. Monument, etc.)

25%

Somewhat protected (Wilderness Study, Roadless)

14%

Multiple Use



61%

Protected includes: National Parks and Preserves (NPS), Wilderness (NPS, FWS, FS, BLM), National Conservation Areas (BLM), National Monuments (NPS, FS, BLM), National Recreation Areas (NPS, FS, BLM), National Wild and Scenic Rivers (NPS, FS, BLM), Waterfowl Production Areas (FWS), Wildlife Management Areas (FWS), Research Natural Areas (FS, BLM), Areas of Critical Environmental Concern (BLM), and National Wildlife Refuges (FWS).

Somewhat protected includes: Wilderness Study Areas (NPS, FWS, FS, BLM), Inventoried Roadless Areas (FS).

Multiple use includes Public Domain Lands (BLM), O&C Lands (BLM), National Forests and Grasslands (FS).

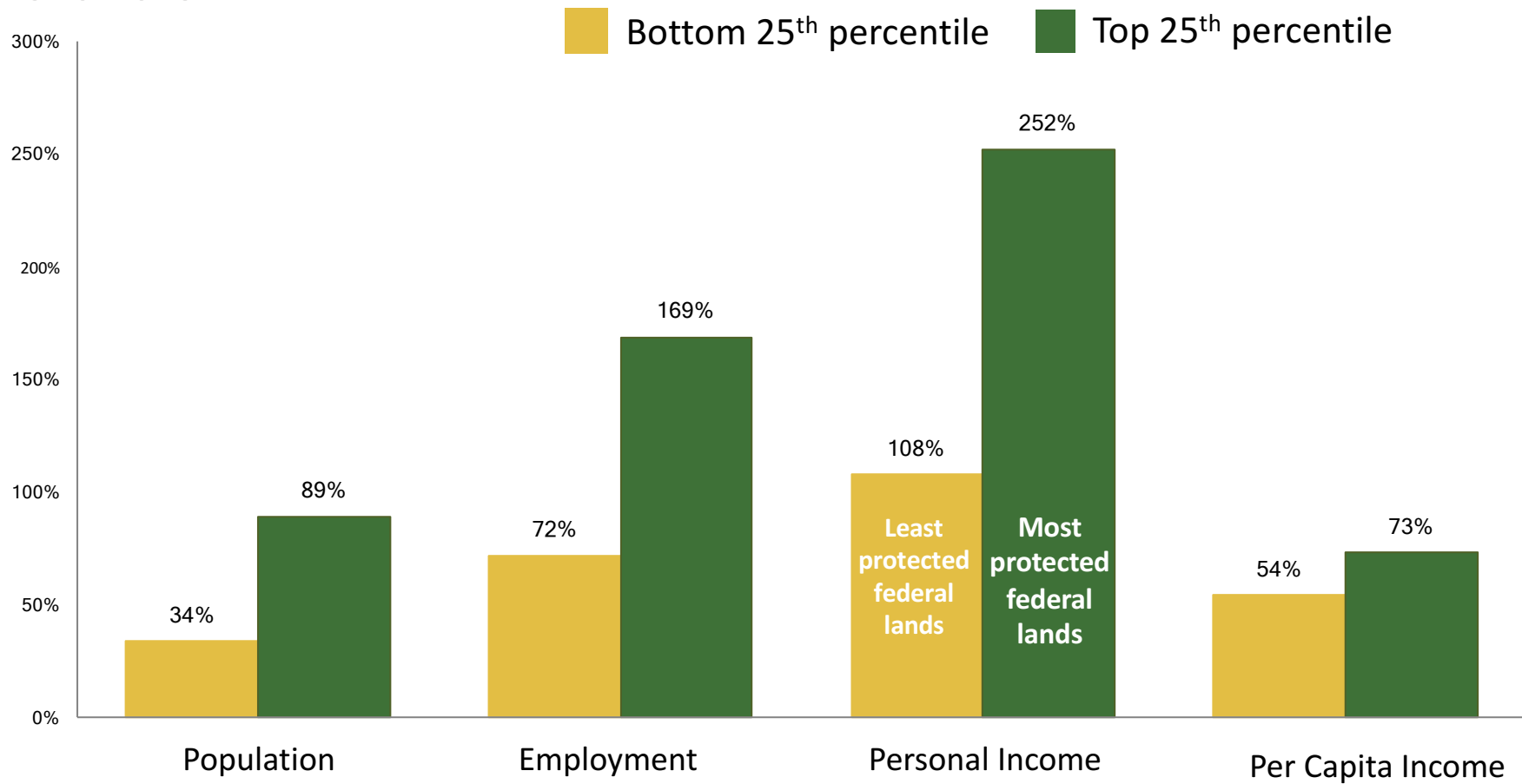
Source: U.S. Geological Survey, Gap Analysis Program. 2016. Protected Areas Database of the United States (PADUS) version 1.4

 Protected Federal Lands
 Other Federal Lands

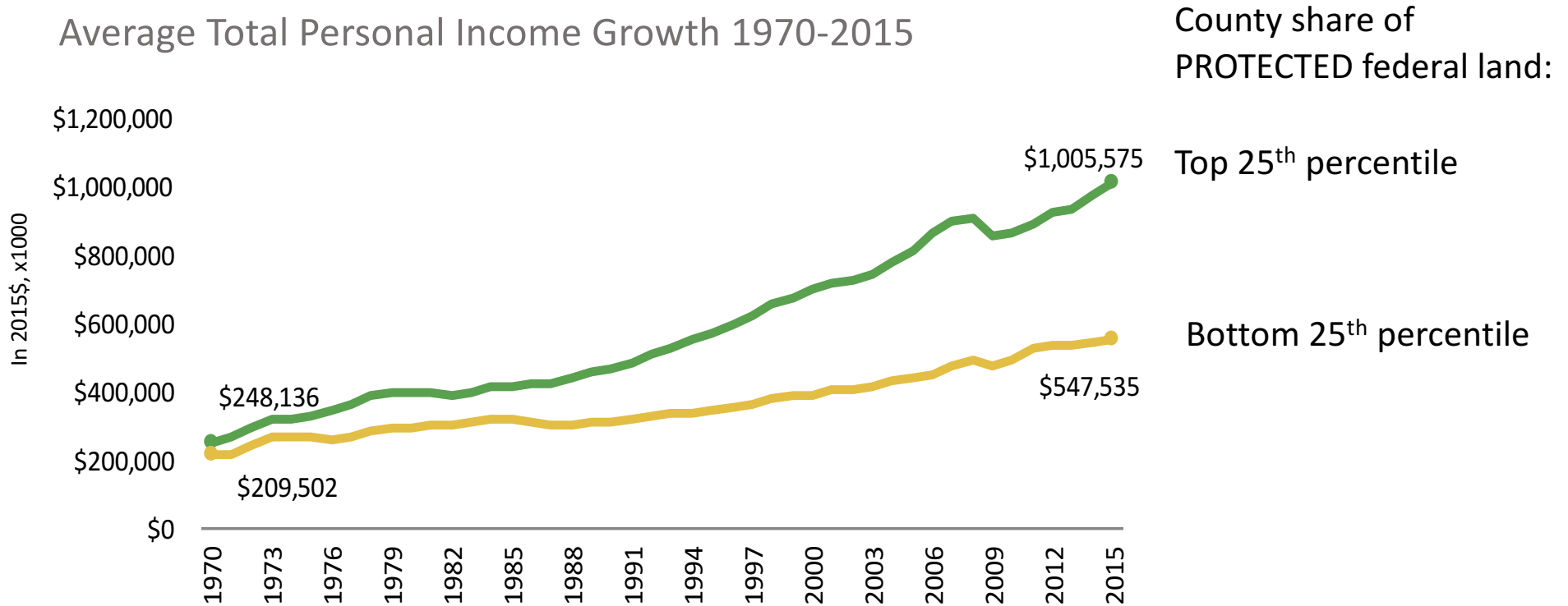
Counties with more PROTECTED federal lands grow faster

Average growth
1970-2015

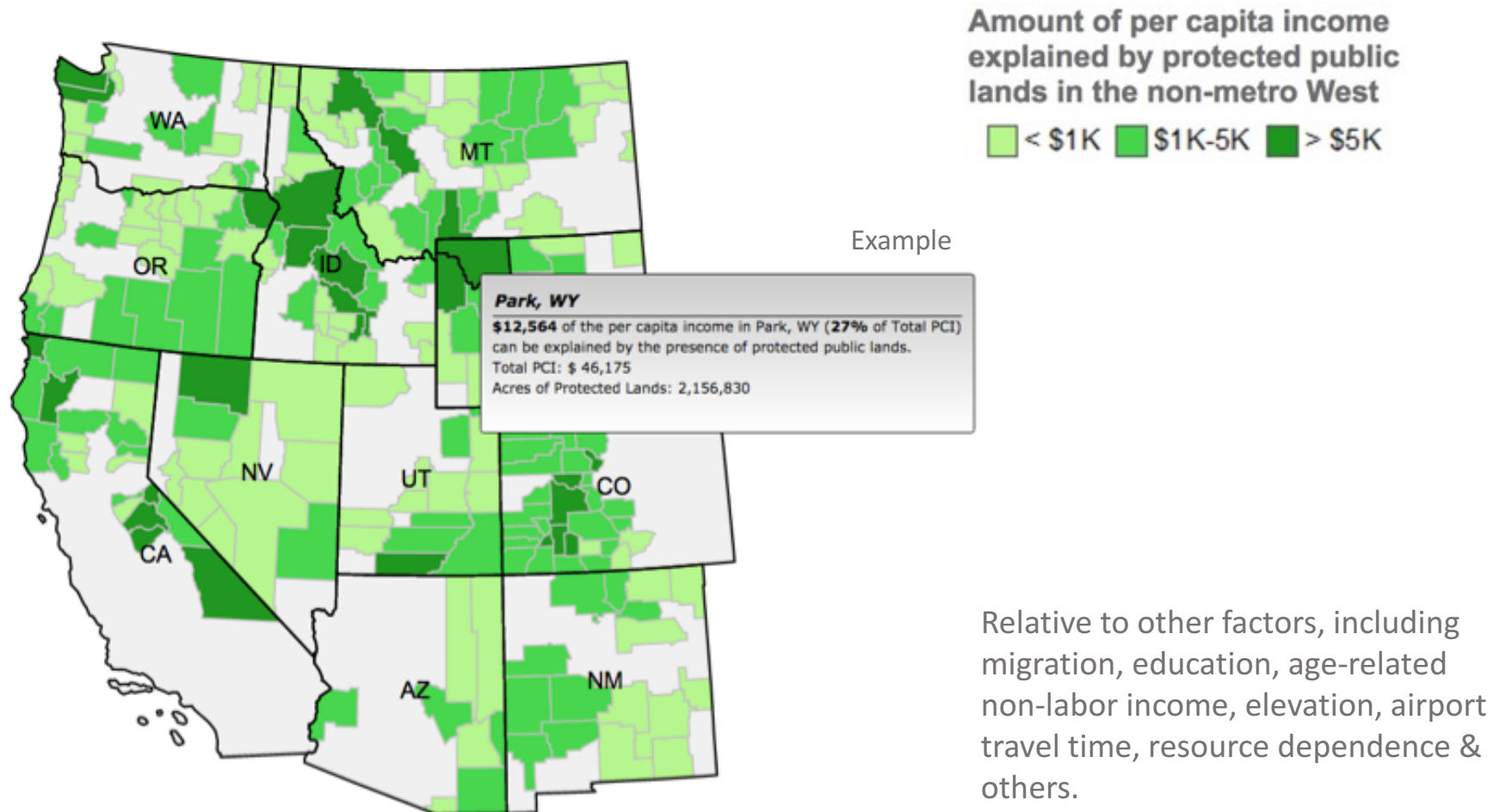
County share of PROTECTED federal land in rural western counties:



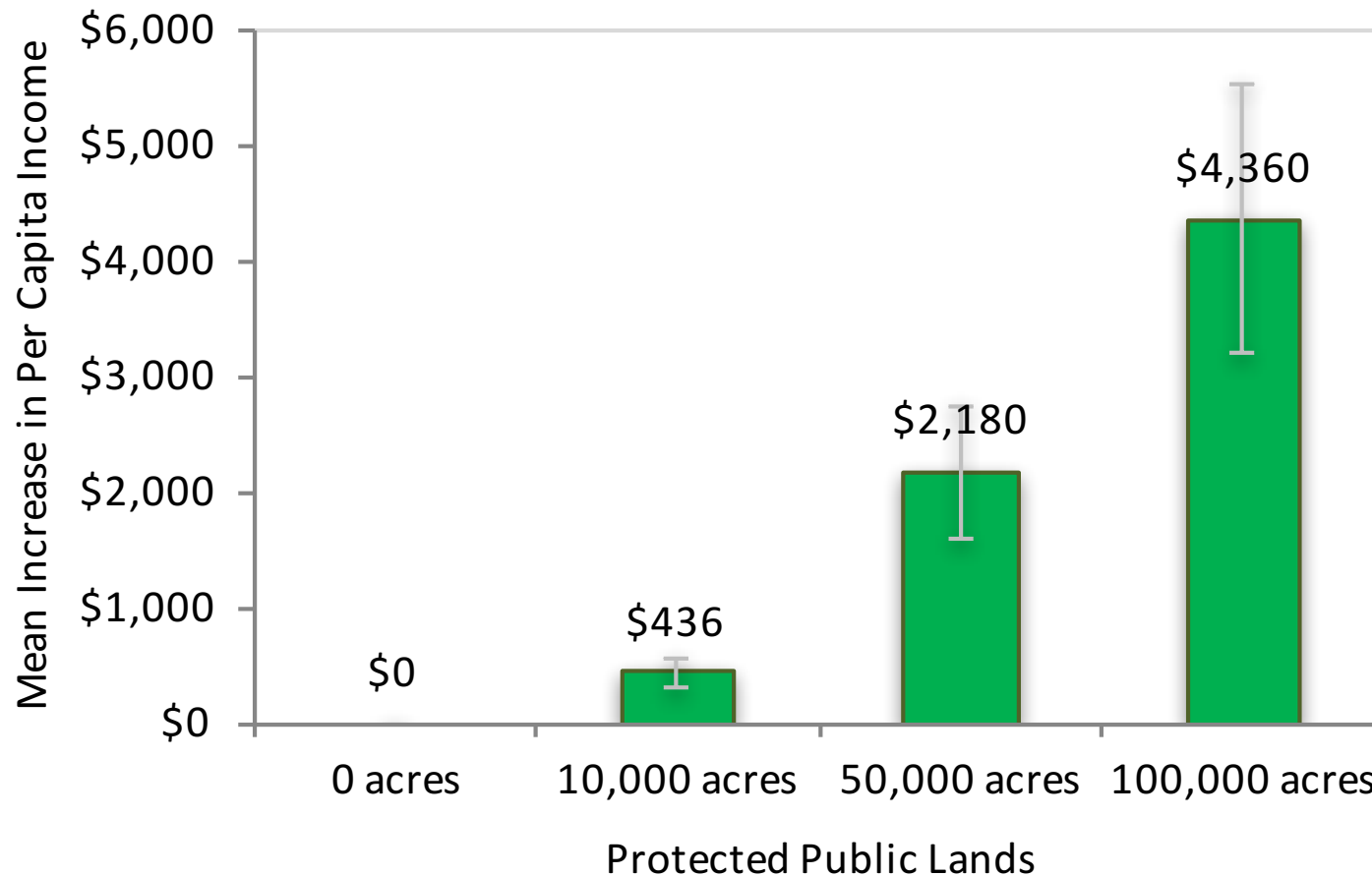
Rural counties with high level of PROTECTED have faster personal income growth



Protected federal lands explain part of the relative size of per capita income for rural counties



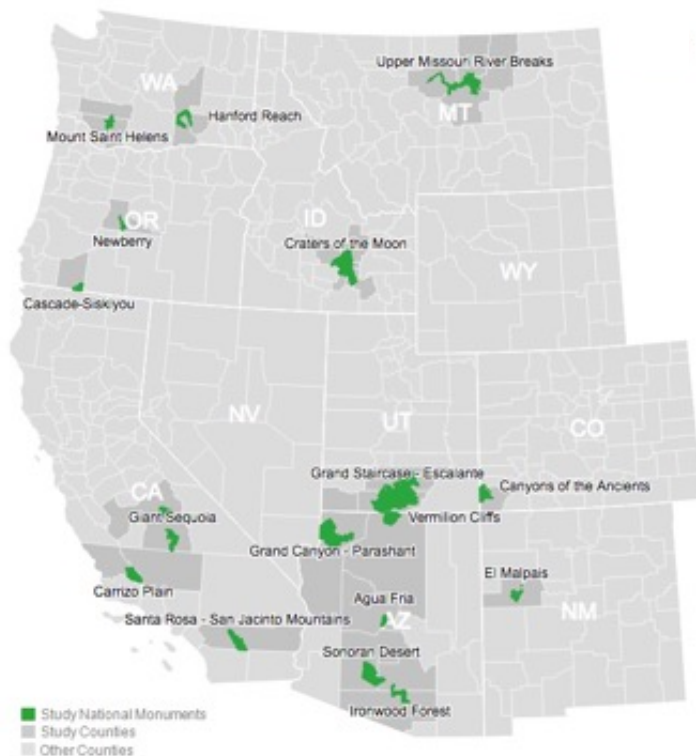
For each 100,000 acres of Wilderness, National Park, National Monument in a county the Per Capita Income increases \$4,360



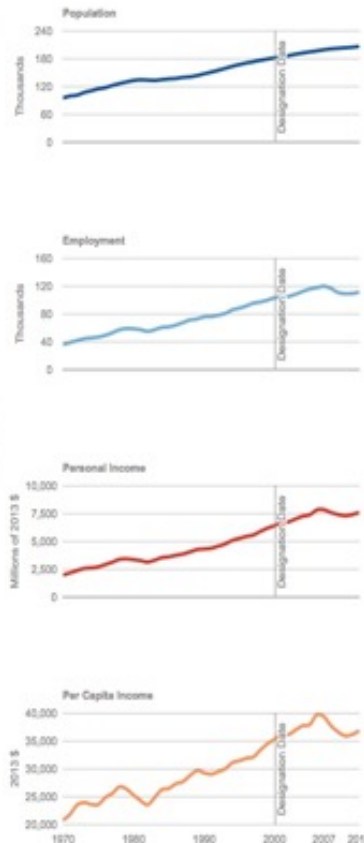
If counties A & B were identical in every way, but county A had a 50,000 acres of protected public land and county B had none, you would expect income in county A to be on average \$2,180 higher per person.

National Monuments: growth before & after designation

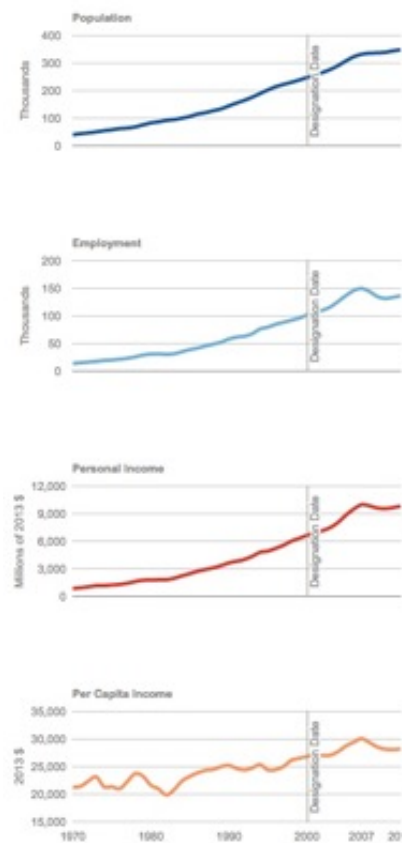
17 National Monuments >10,000 acres & designated in 1982 or later – economy grew in each



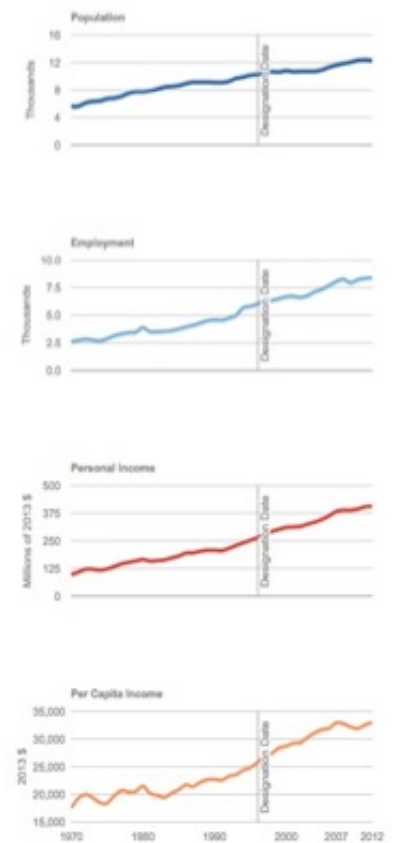
Cascade-Siskiyou
Designated: 2000



Grand Canyon Parashant
Designated: 2000



Grand Staircase-Escalante
Designated: 1996



Does not imply cause & effect, but proves no decline in economy

The above are examples. To see how each monument performed, see: <https://headwaterseconomics.org/dataviz/national-monuments/>

National Parks create jobs



In the WEST

104 million visitors spent \$6.7 billion

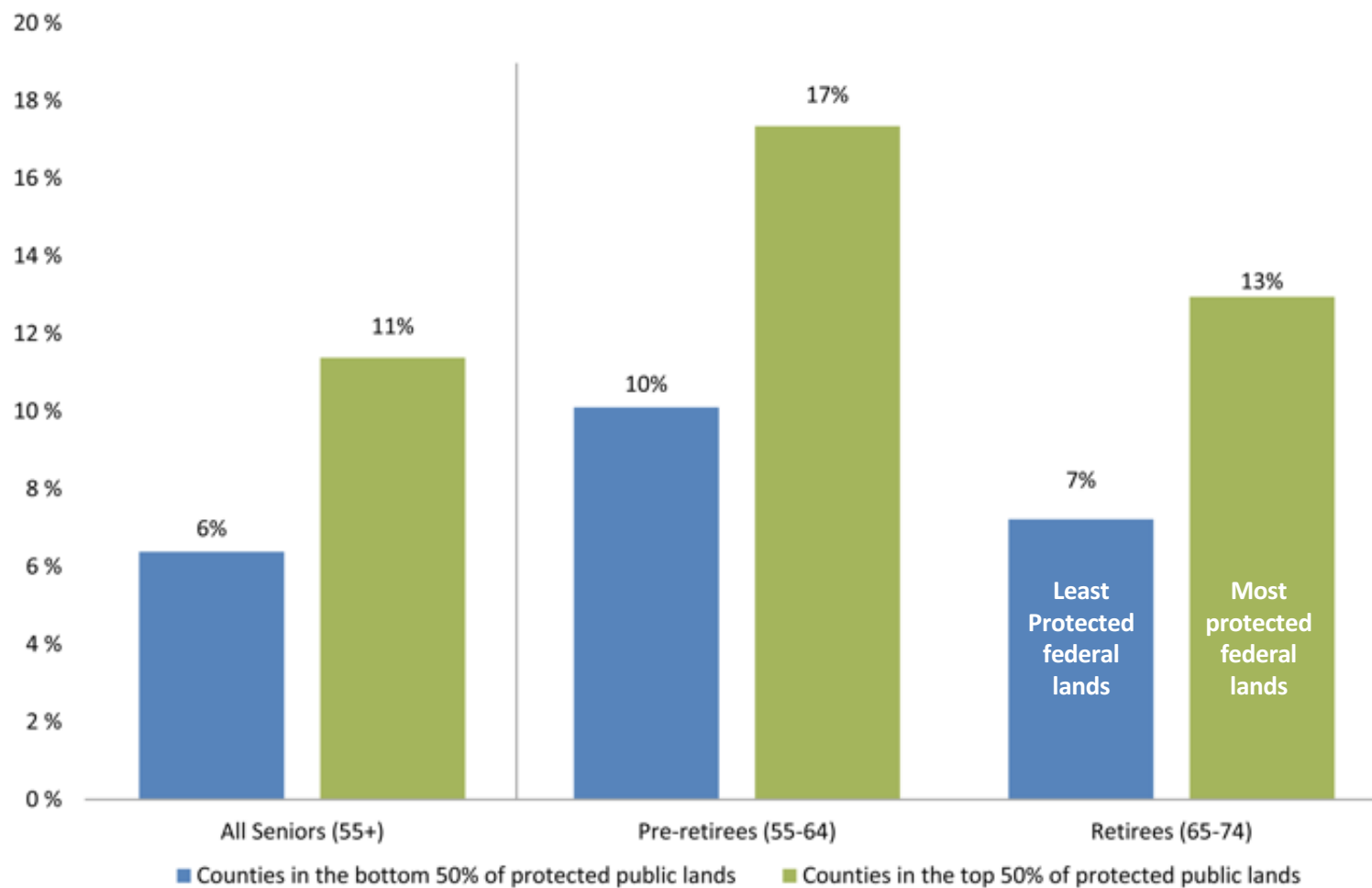
creating 104,000 jobs &

\$3.7 billion in labor income

Retirees migrate to western counties with protected public lands



**Average Net Migration Rate, 1970 to 2010, by Age, for Western Counties
Based on Protected Public Lands**



Federal lands & politics

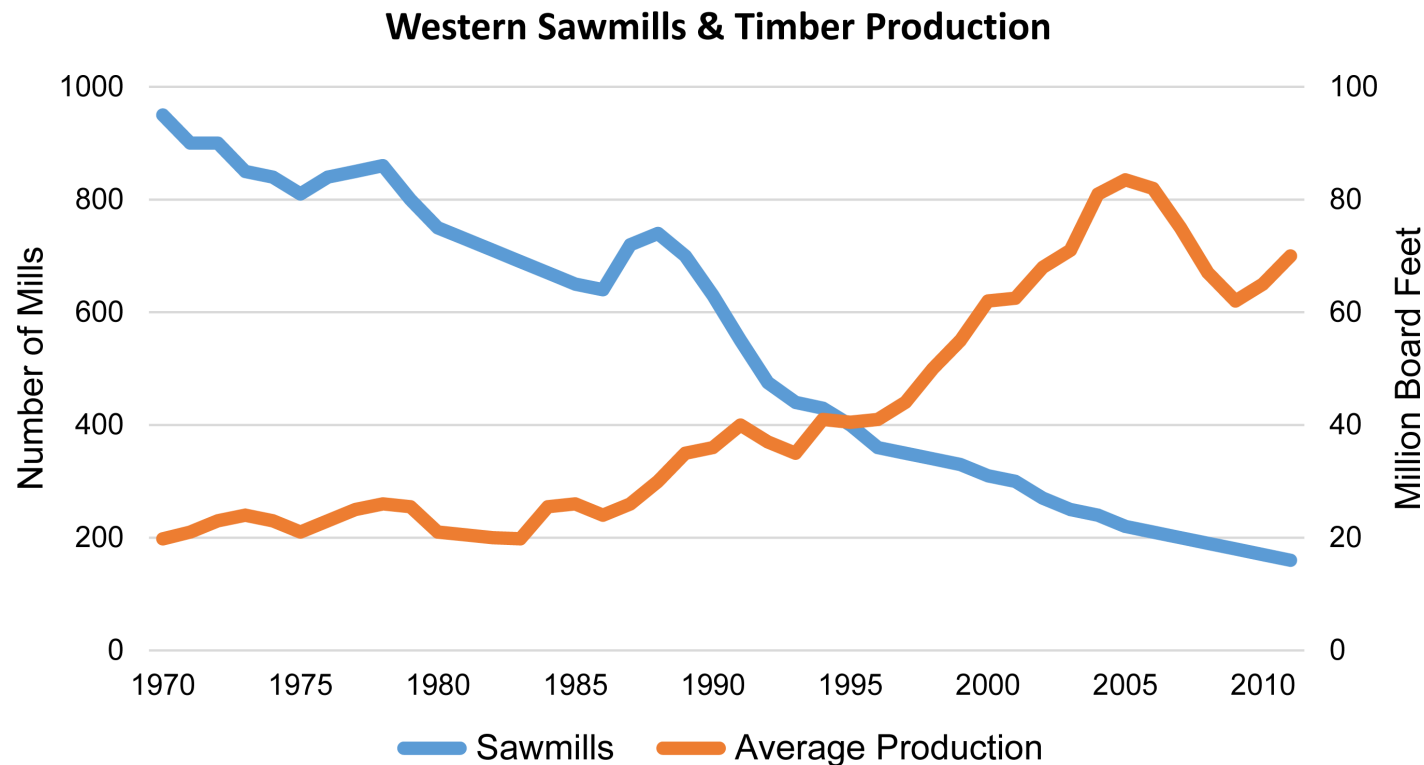
Parts of the rural West are being left behind

“It is our goal to get the logger back to logging, to get the rancher back to ranching, to get the miner back to mining, the farmer back to farming — and to jump-start this economy in Harney County.”



Ammon Bundy
Malheur Wildlife Refuge

Manufacturing automation also impacts rural Western counties



In Oregon, the most timber-dependent state, timber harvests increased by 50% between 2009 & 2013, while timber employment increased by 1%

Rural western county economics affects politics

Rural counties have:

less poverty

but

older & rely more
on retirement \$

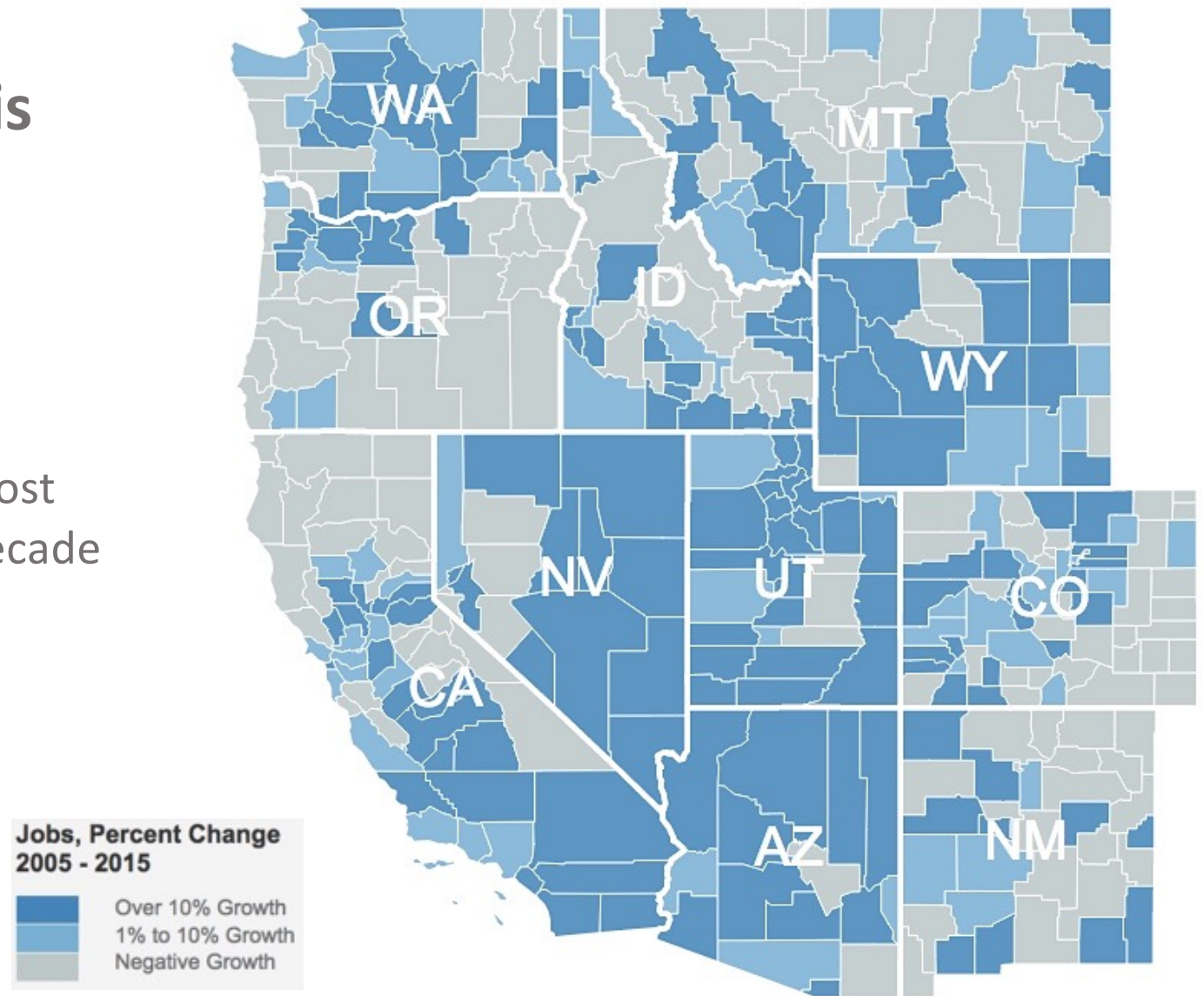
slower job growth

lower wages

| | Rural (Non-Metro) | Urban (Metro) | U.S. |
|------------------------------------|----------------------|------------------|----------|
| Families below poverty | 9.4% | 11.9% | 11.5% |
| <u>Households receiving:</u> | | | |
| Supplemental S. Security (welfare) | 4.8% | 5.3% | 5.3% |
| Food stamps | 9.8% | 10.9% | 13% |
| Retirement income | 22.8% | 16.1% | 17.8% |
| Social Security | 36.4% | 26% | 29.3% |
| % population 65 yrs. or older | 17.3% | 12.2% | 14.1% |
| Rate of job growth 2000-2015 | 12% | 21% | 15% |
| Ave. earnings/job 2015 | \$44,336 | \$62,338 | \$58,228 |

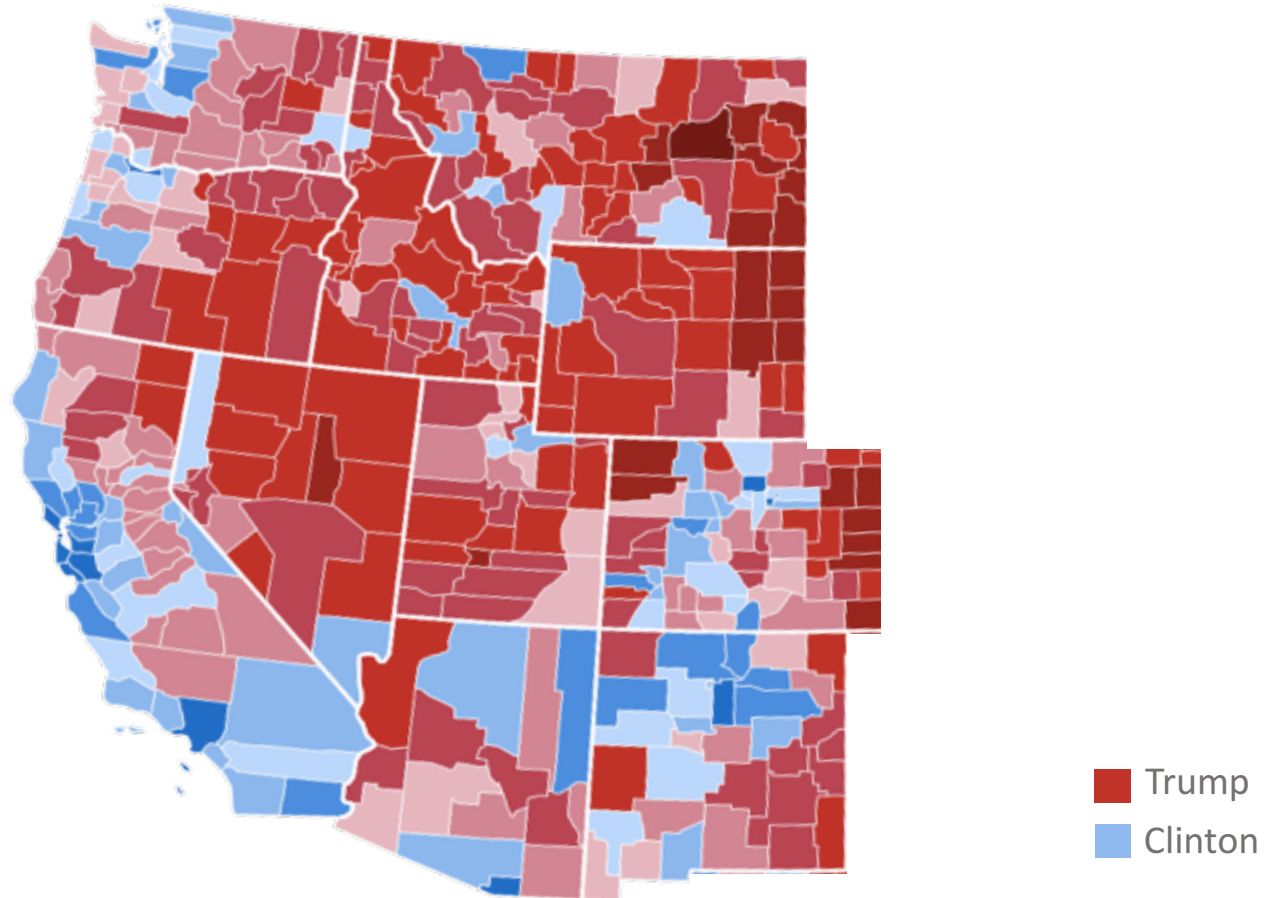
Job growth is not evenly distributed

16% of counties lost jobs in the last decade



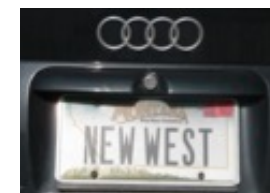
Rural isolated counties perform worse than those connected via air travel

Are differences in job growth reflected in the 2016 presidential election?



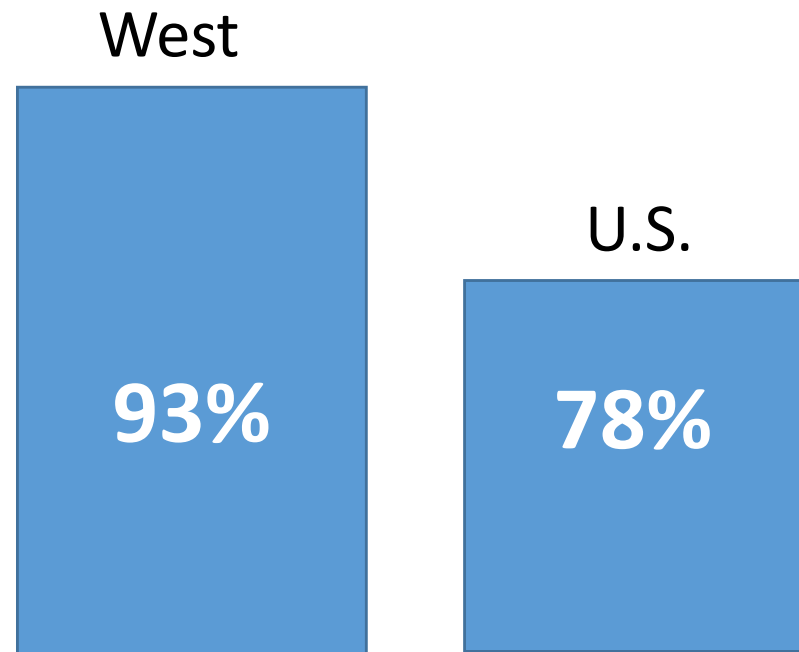
Or are they also a reflection of rural counties being older, with older voters favoring Trump?

Not surprisingly, tensions rise on all sides



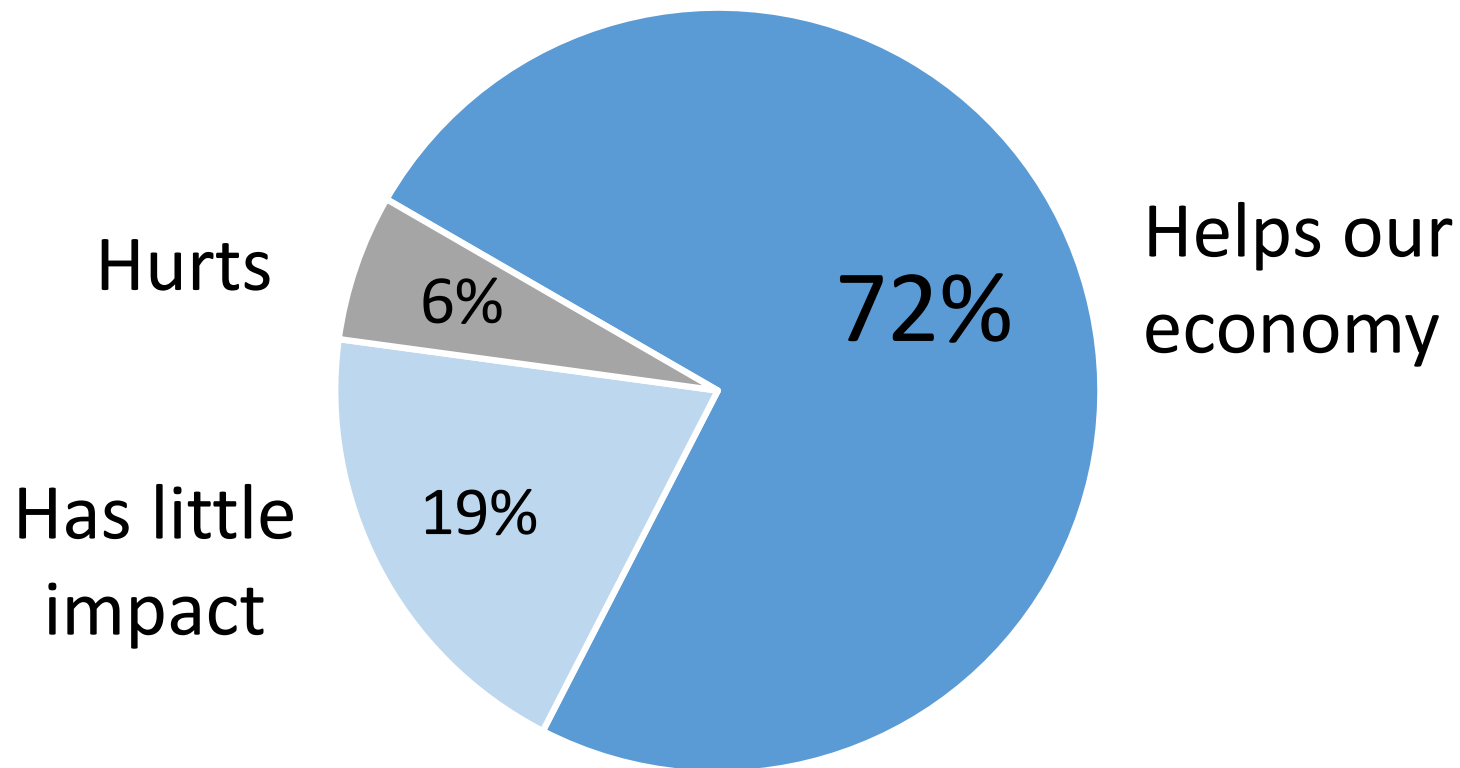
POLL: Westerners visit public land the most

Visited in the last year

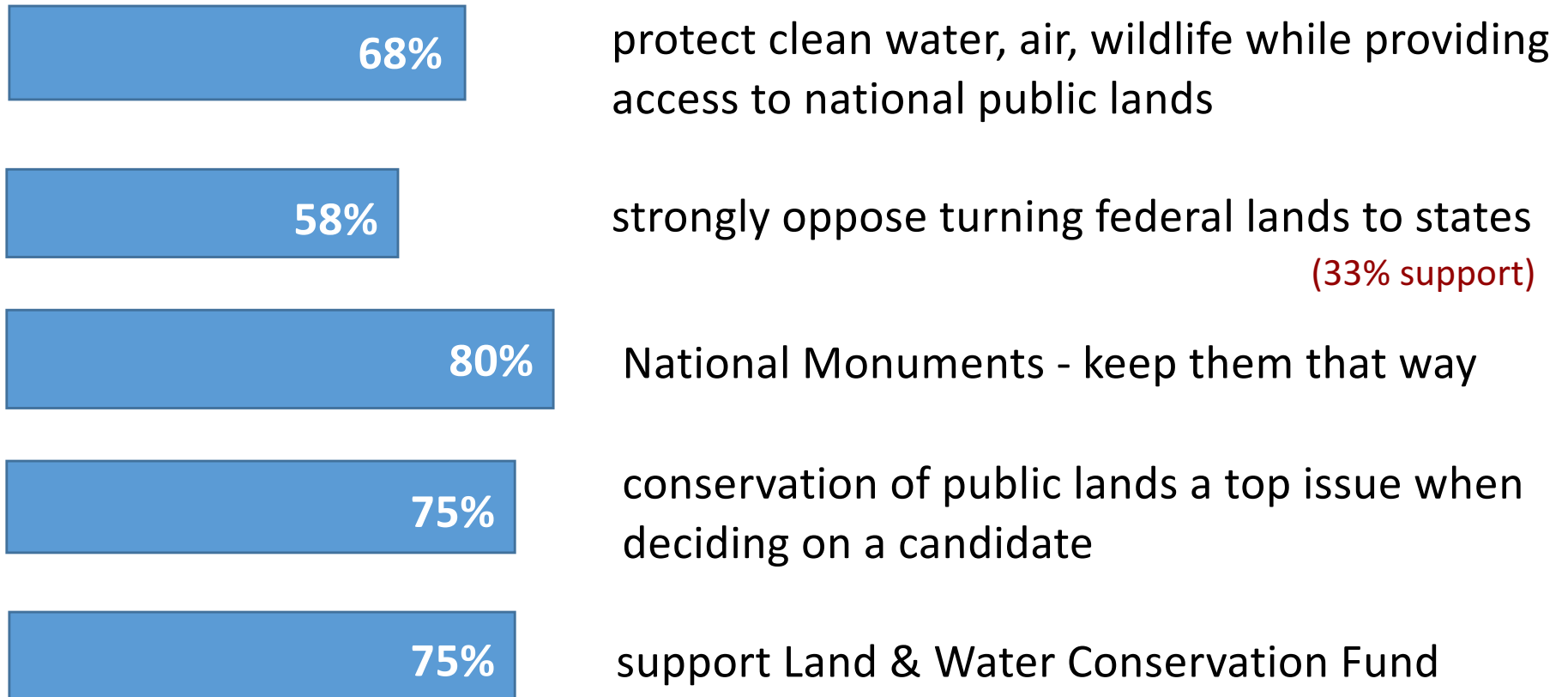


17% of westerners visited more than 20 times, compared to 4% for U.S.

POLL: Most believe federal public lands help economy



POLL: Westerners support conservation of federal lands



Federal lands are in the news

The Washington Post

House GOP rules change will make it easier to sell off federal land

The New York Times

Nominee for Interior Vows to Preserve, and Develop, Public Lands

Idaho Statesman

Chaffetz withdraws public land sale bill after outcry from hunters, anglers

Jan. 3, 2017. https://www.washingtonpost.com/news/energy-environment/wp/2017/01/03/house-gop-rules-change-would-make-it-easier-to-sell-off-federal-land/?utm_term=.480ab9240a70 Jan. 4, 2017 <http://www.greatfalls Tribune.com/story/news/local/2017/01/04/zinke-vote-federal-land-comes-fire/96171020> From <https://zinke.house.gov/issues/public-lands> "I will not tolerate selling our public lands." Jan. 17, 2017 <https://www.nytimes.com/2017/01/17/us/politics/ryan-zinke-interior-secretary.htm>. Rep. Chaffetz's bill proposed to sell 3.3 million acres of fed land. <http://www.idahostatesman.com/news/local/news-columns-blogs/letters-from-the-west/article130291054.html>

The Salt Lake Tribune

Outdoor Retailer is leaving Utah over public lands issues, a move Herbert calls 'offensive'



Generated \$45 million
for Salt Lake City



Ray Rasker, Ph.D.
Executive Director
ray@headwaterseconomics.org
406 570-7044



**HEADWATERS
ECONOMICS**

RESOURCES

Headwaters Economics: <https://headwaterseconomics.org/>

Free analytical tools: <https://headwaterseconomics.org/tools/>

Public lands: <https://headwaterseconomics.org/topic/public-lands/>

Federal lands: liability or asset: <https://headwaterseconomics.org/public-lands/federal-lands-performance/>

The value of public lands: <https://headwaterseconomics.org/public-lands/public-lands-research/>

National Monuments: <https://headwaterseconomics.org/dataviz/national-monuments/>

National Parks: <https://headwaterseconomics.org/public-lands/protected-lands/economic-impact-of-national-parks/>

Economic development: <https://headwaterseconomics.org/topic/economic-development/>

Local studies: <https://headwaterseconomics.org/topic/economic-development/local-studies/>

Three Wests: <https://headwaterseconomics.org/dataviz/three-wests/>

Trails benefits library: <https://headwaterseconomics.org/trail/>

For high resolution copies of any slide please contact Ray Rasker ray@headwaterseconomics.org or 406 570-7044

Caveats

Federal lands = more growth does not imply cause & effect

But, no evidence that public lands, or conservation, hurts local economies

Public land amenities are important, but not sufficient

Also needed:

- Access to population centers

- Education

- Diverse economy

Some differences in economic performance may also be a function of topography and historical land use: communities dominated by flat, arable land tend to depend more on agriculture, and are not doing as well in the rural West. Western lands unsuitable for agriculture are more likely to have a large share of federal land, which in some places has spurred more diverse economic activity.