



An Overview of the Economy of Alaska



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The Economy of Alaska
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oleanchorage.org



There is no single or “best” way to measure or describe an economy.

My goal for today’s class is to show you some of the ways we can measure or describe the Alaska economy, including . . .

- Population
- Employment
- Gross State Product
- Earnings
- Income

. . . and some of the ways the economy has been changing over time.

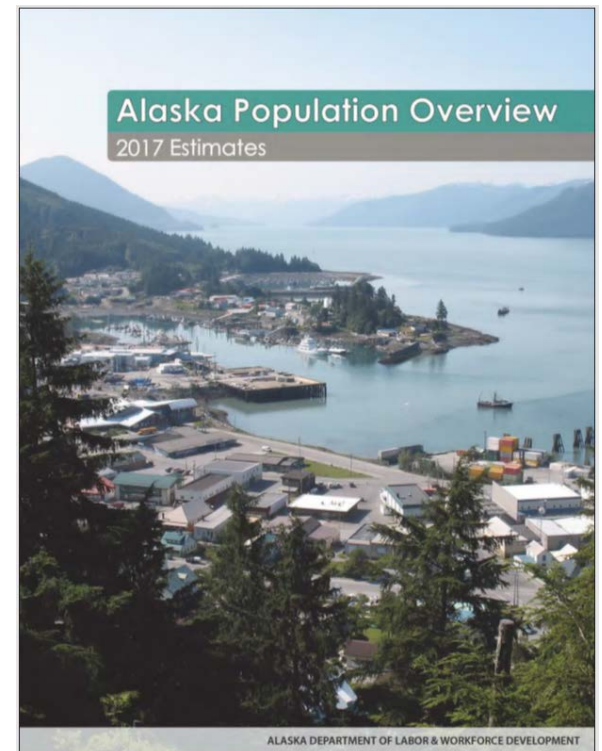
In future classes we’ll discuss:

- What explains the relative scale of and trends in major Alaska industries and the Alaska economy
- What factors will drive the future of Alaska industries and the Alaska economy
- How can different government policies affect the economy and its future

A look at Alaska's population . . .

The screenshot shows the website live.laborstats.alaska.gov/pop/index.cfm. The header features the State of Alaska logo and navigation links: myAlaska, My Government, Resident, Business in Alaska, Visiting Alaska, and State Employees. The main title is "Department of Labor and Workforce Development Research and Analysis". A search bar is located on the right. Below the title is a horizontal menu with the following categories: Population & Census, Wages, Employers, Resident Hire, Unemployment Data, Employment, Occupational Information, Workplace Safety, Cost of Living & Housing Information, Training Information, Local & Regional Information, and Publications & Manuals. A red arrow points to the "Population & Census" link.

The screenshot shows the United States Census Bureau website at <https://www.census.gov/topics/population.html>. The header includes the "United States Census Bureau" logo and a search bar. Below the header are four main navigation categories: BROWSE BY TOPIC, EXPLORE DATA, LIBRARY, and SURVEYS/PROGRAMS. The breadcrumb trail reads: // Census.gov > Topics > Population. The main heading is "Population".



Alaska's population is about 740,000.

Alaska's population compared with other states

California	40 million
Washington	7.5 million
Oregon	4.2 million
Maine	1.3 million
North Dakota	760 thousand
Alaska	737 thousand
Vermont	627 thousand
Wyoming	577 thousand

Alaska's population compared with selected metropolitan areas

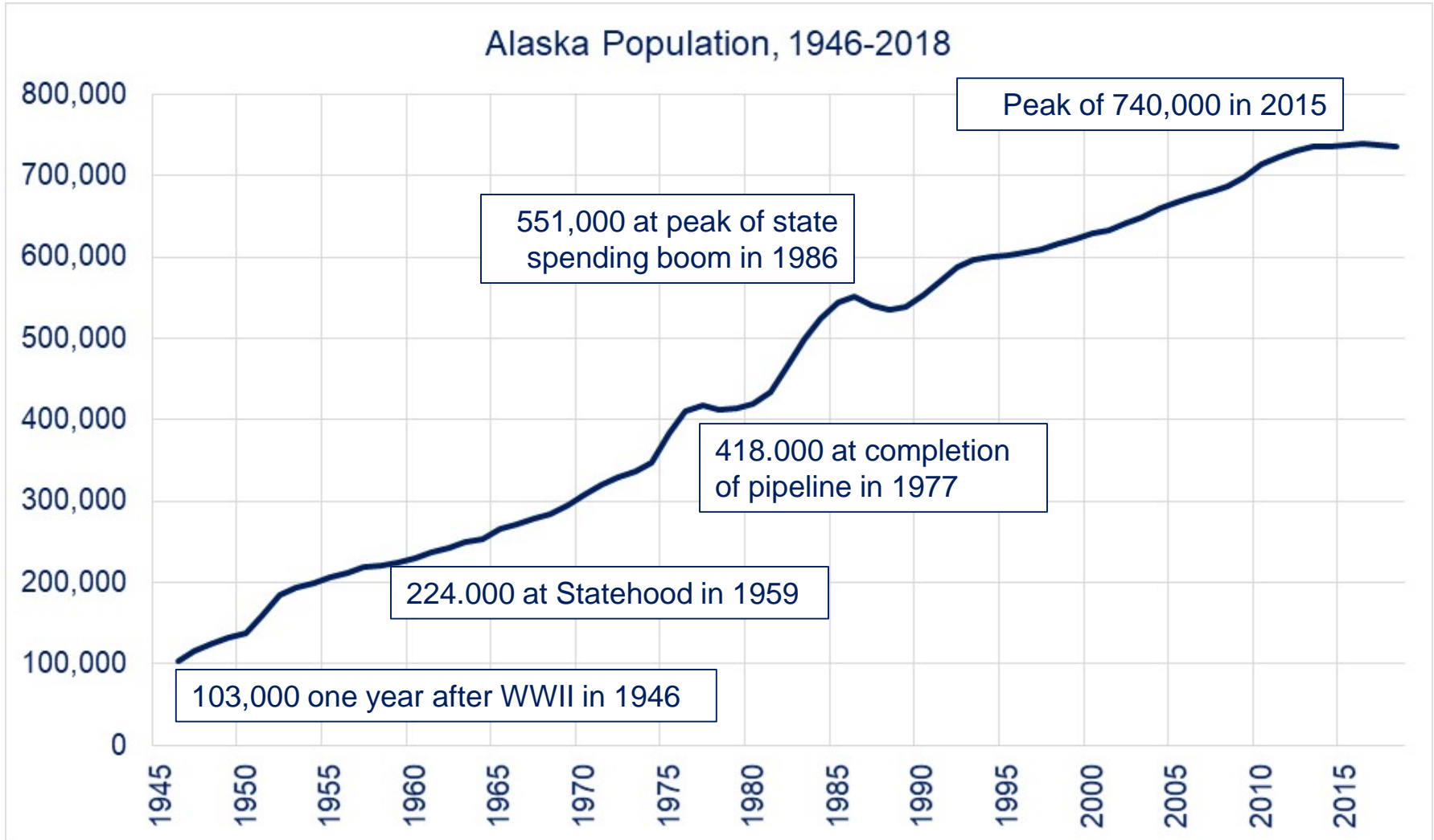
New York, NY	20 million
Seattle, WA	3.0 million
Colorado Springs, CO	739 thousand
Alaska	737 thousand

Alaska's population compared with selected countries

Finland	5.5 million
Norway	5.3 million
Alaska	737 thousand
Iceland	353 thousand

Source: *U.S. Bureau of the Census; World Bank.*
Data are estimated populations for 2018.

Alaska's population has grown dramatically since World War II.

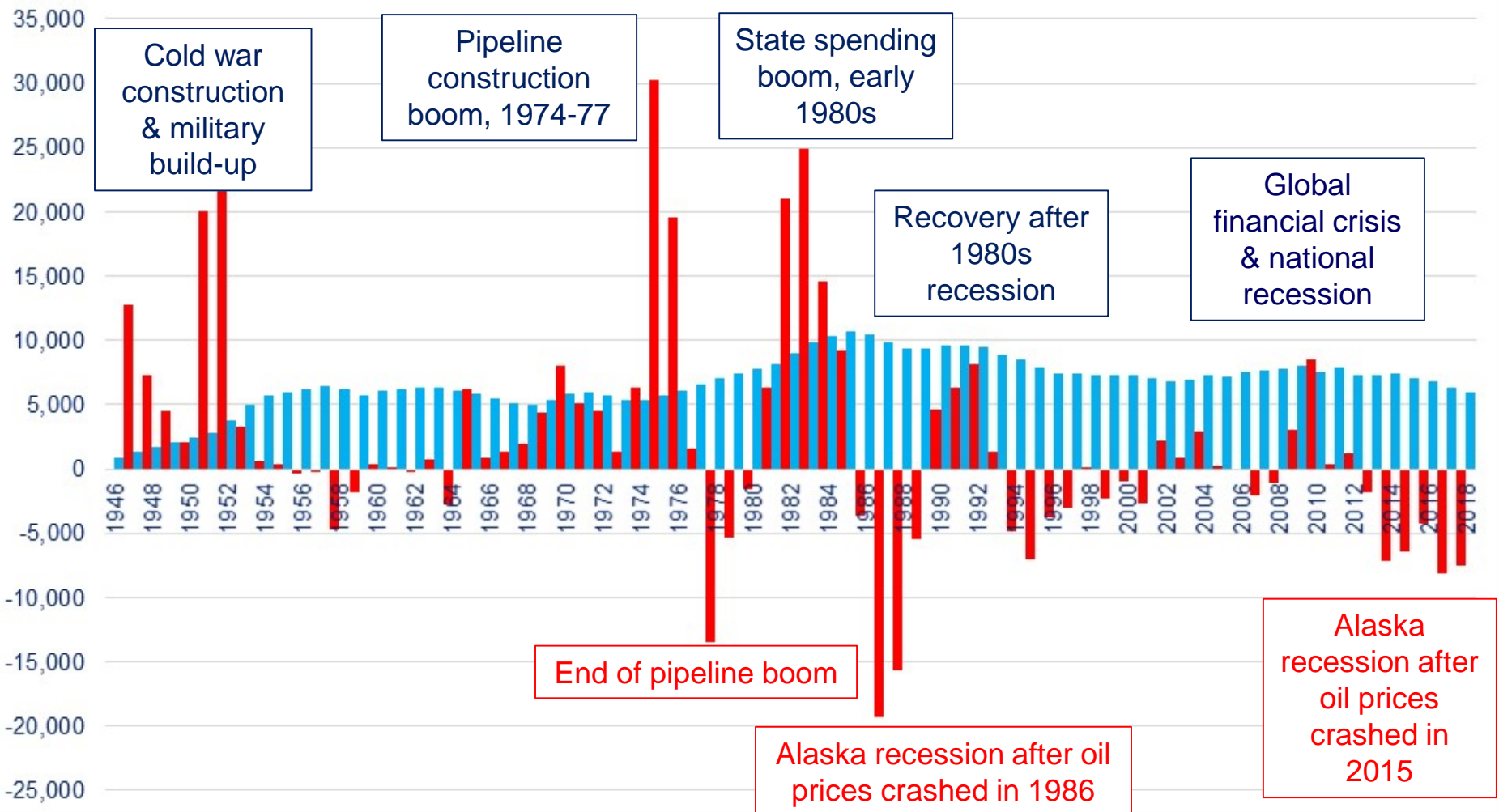


Natural increase and net migration drive changes in Alaska's population.

Natural increase = births minus deaths

Net migration = people moving in minus people moving out

Alaska Population Natural Growth and Net Migration, 1946-2018



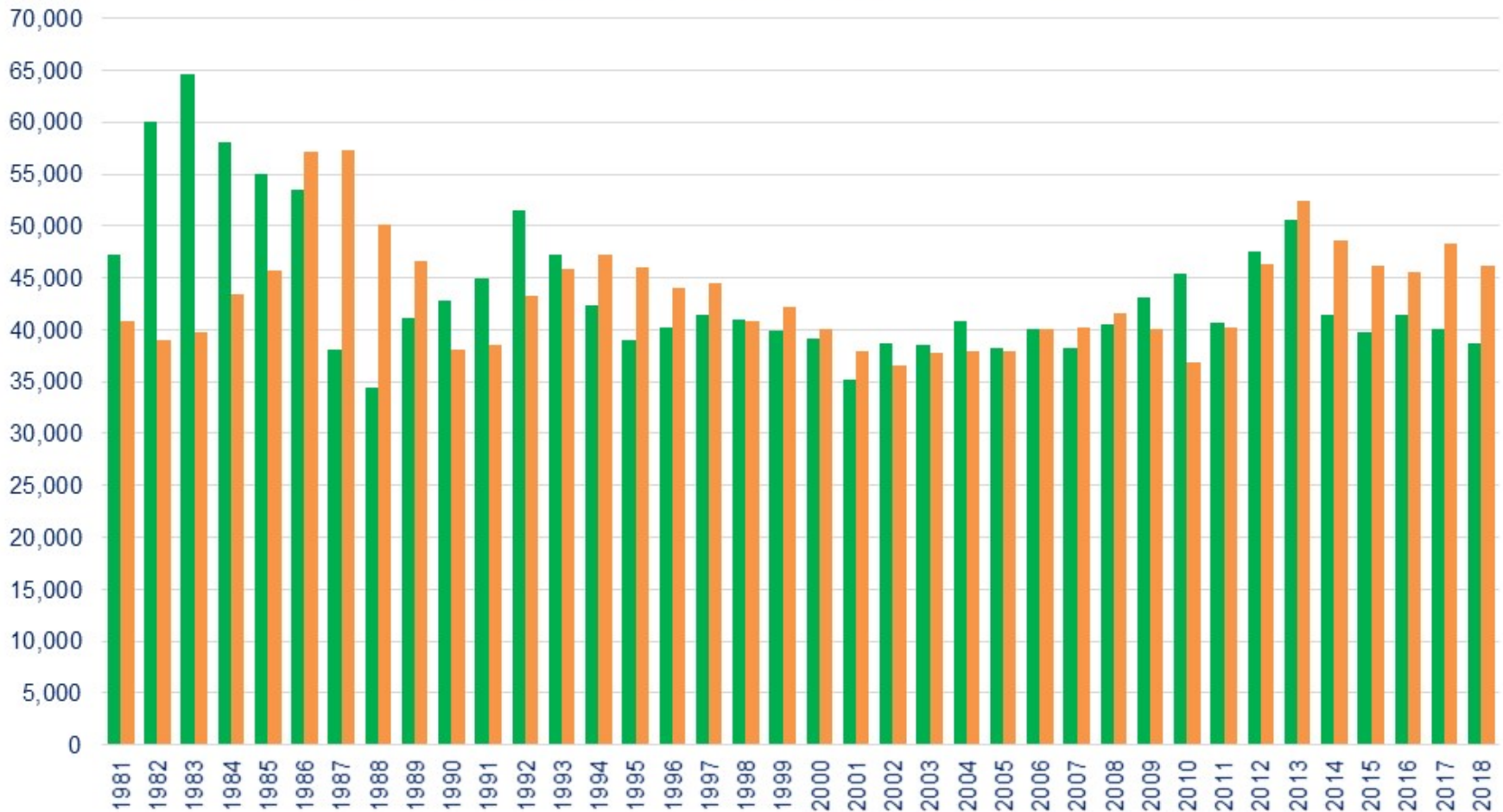
$$\text{Net migration} = \text{In-Migration} - \text{Out-Migration}$$

Every year, 5% or more of Alaskans leave and are replaced by new Alaskans.

This churning” of Alaska’s population has important political implications!

Many residents have little knowledge of Alaska and little stake in its long-term future.

Alaska In-Migration and Out-Migration, 1981-2018

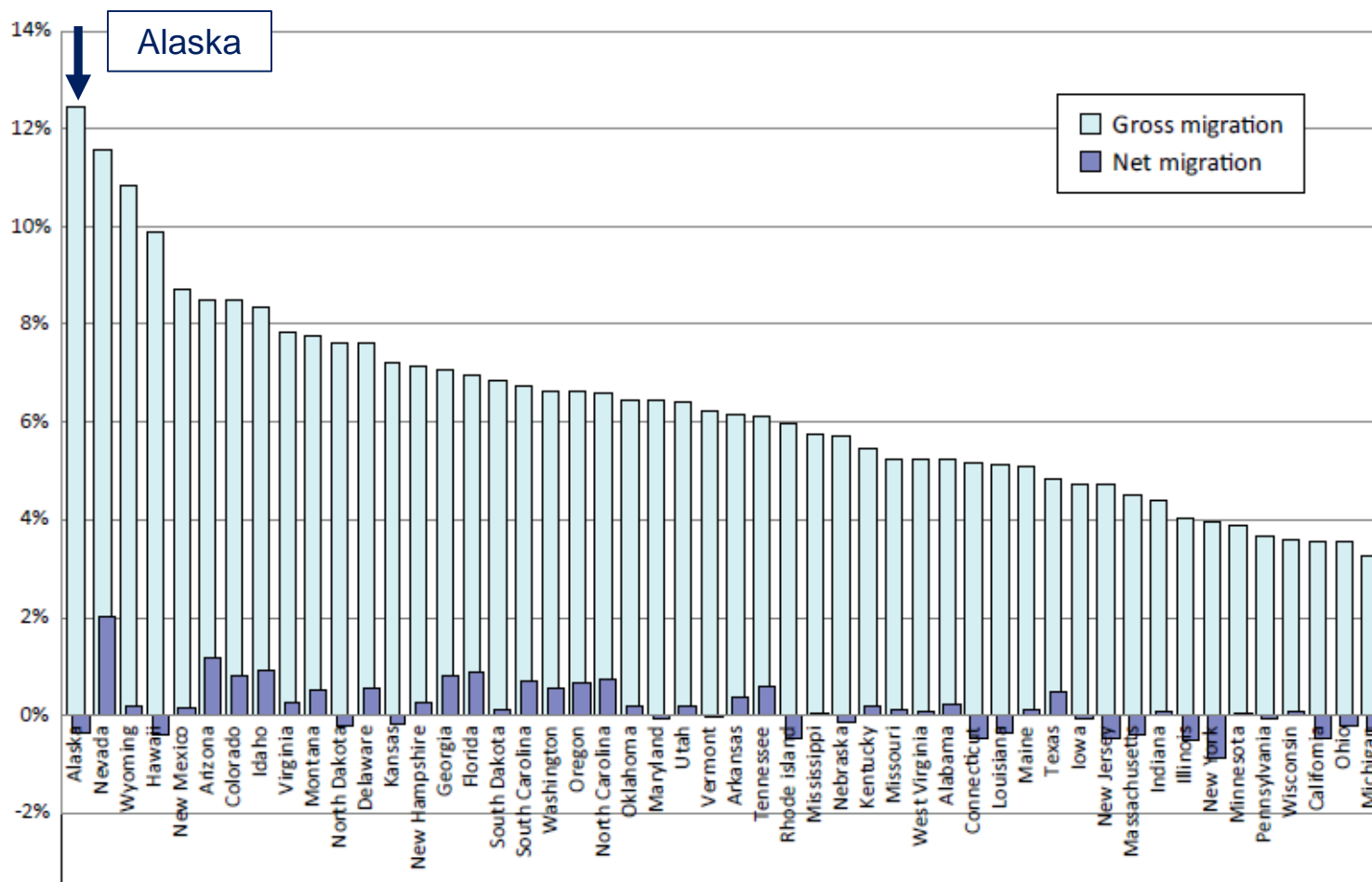


Alaska has the highest gross migration rate of any state

1

Average Yearly Gross and Net Migration* Rates by State

AS A PERCENT OF STATE'S TOTAL POPULATION, 1990 TO 2016

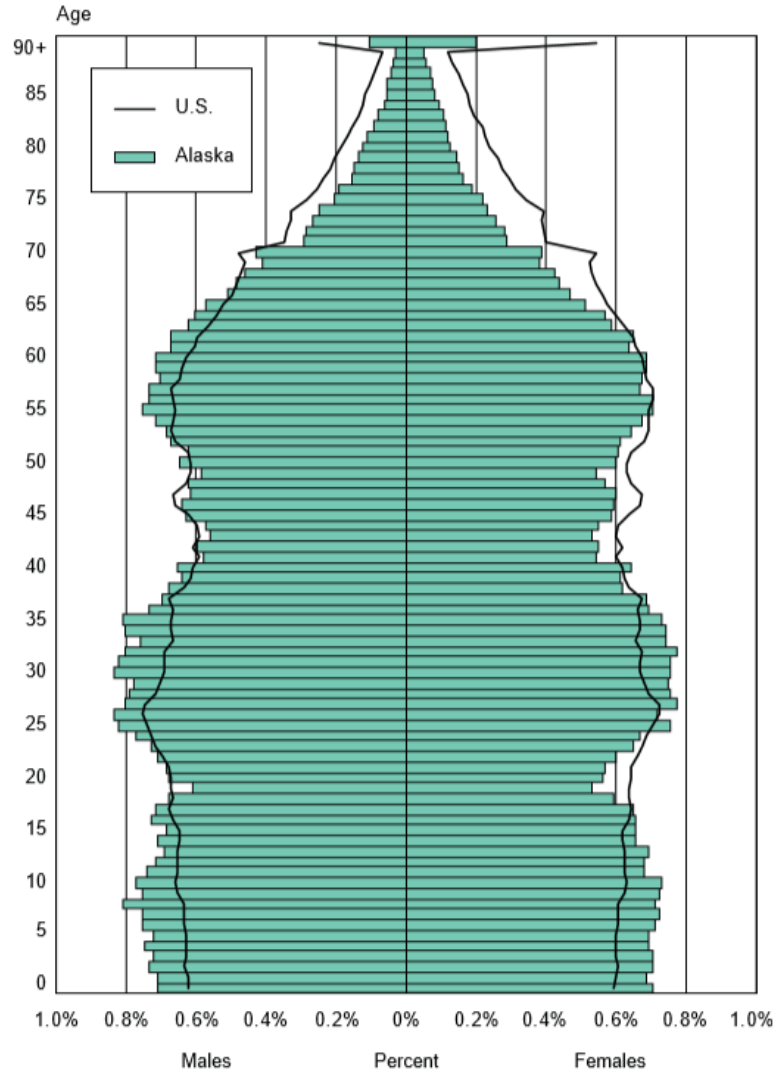


*Gross migration is the sum of all movers in both directions. Net migration is the number in minus the number out.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

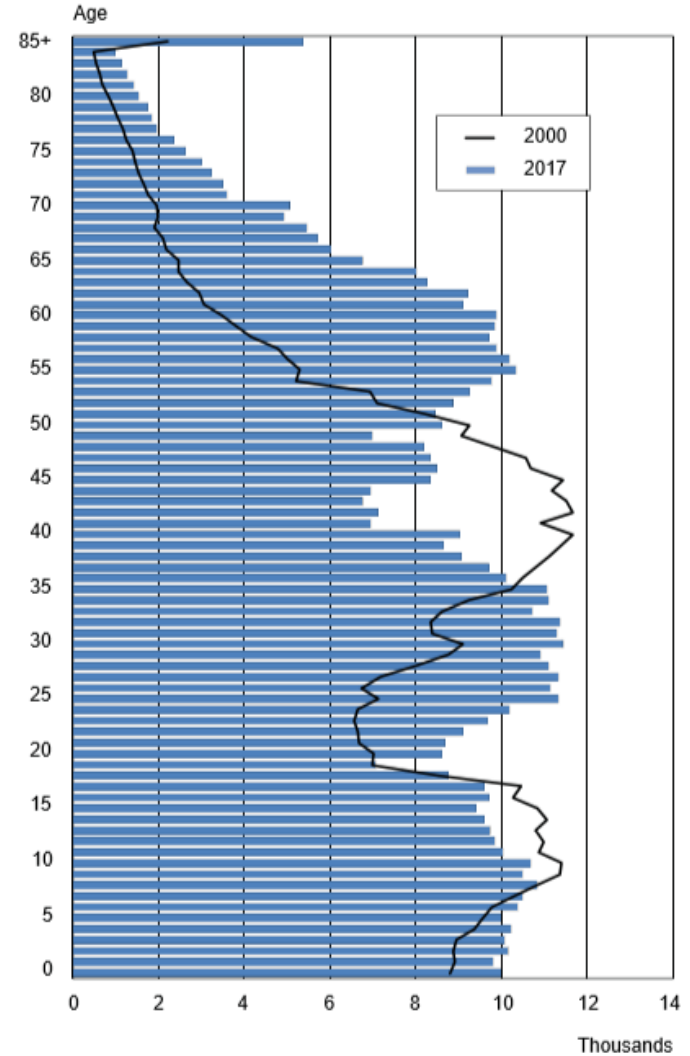
Alaska's population is much younger than that of the US. But the elderly population is growing rapidly.

Alaska and U.S. Population by Age and Sex, 2017
(Percent Distribution)



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and U.S. Census Bureau

Alaska Population by Age, 2000 and 2017

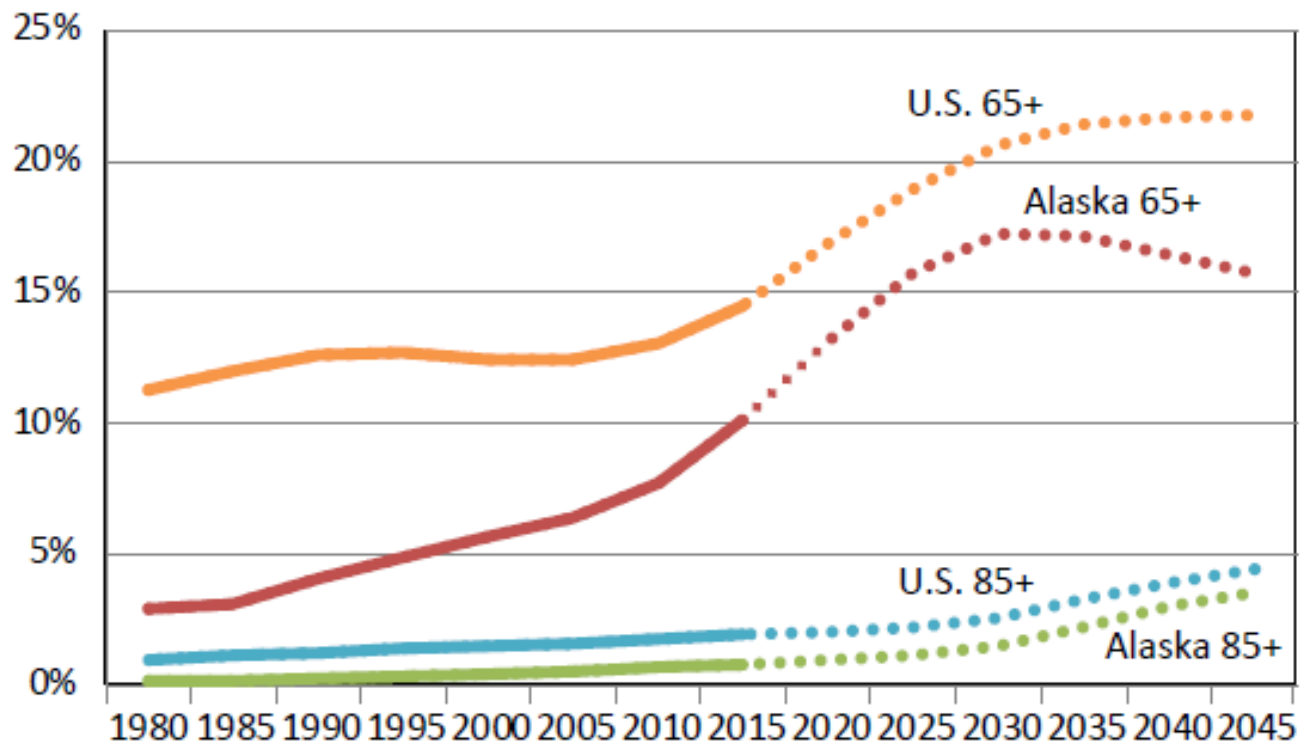


Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; and U.S. Census Bureau

Alaska's senior population is projected to continue to grow

Senior Projections for Alaska, U.S.

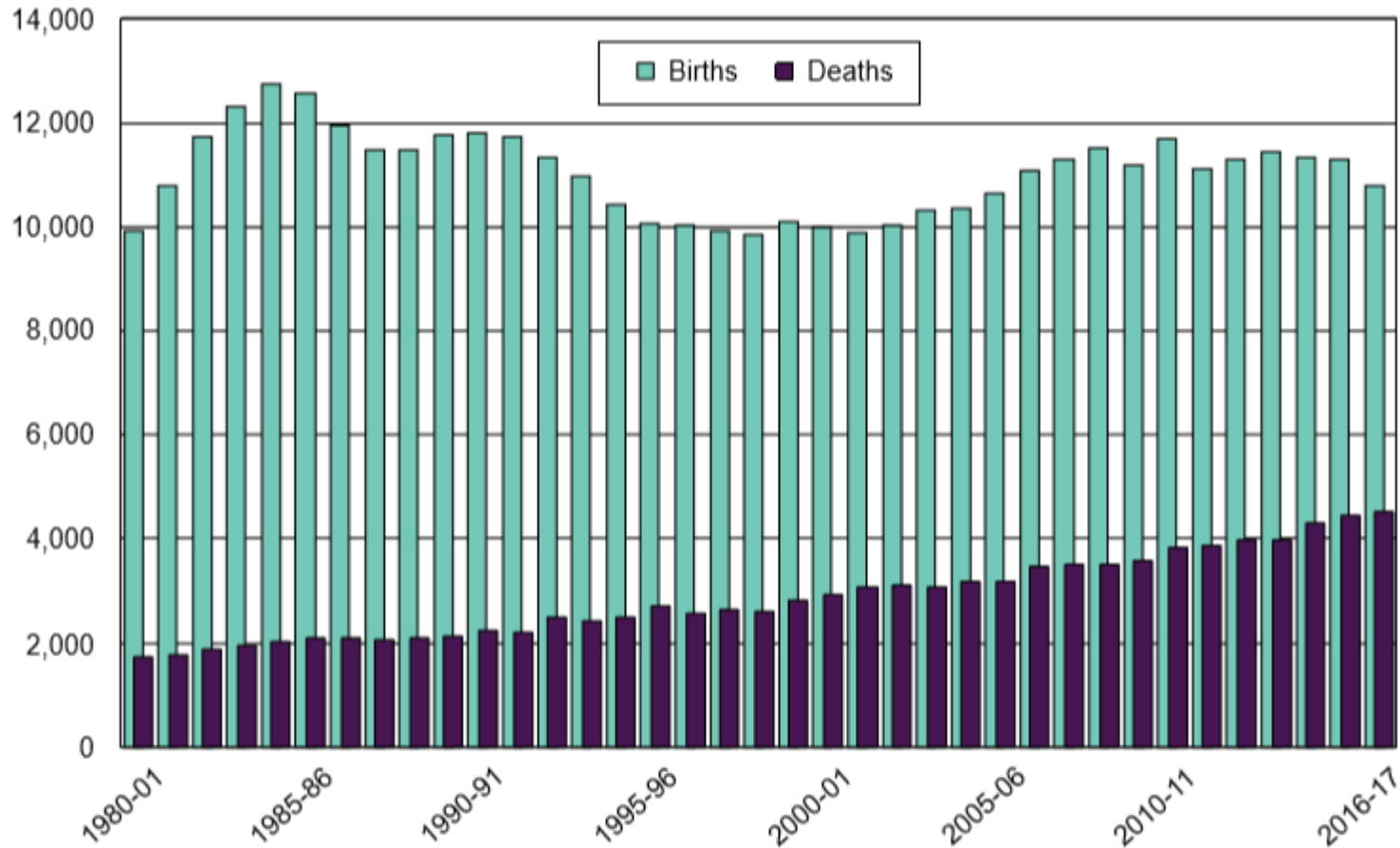
1980 TO 2045



Sources: U.S. Census Bureau; and Alaska Department of Labor and Workforce Development, Research and Analysis Section

As the elderly population rises, more people are dying in Alaska, but there are still many more births than deaths.

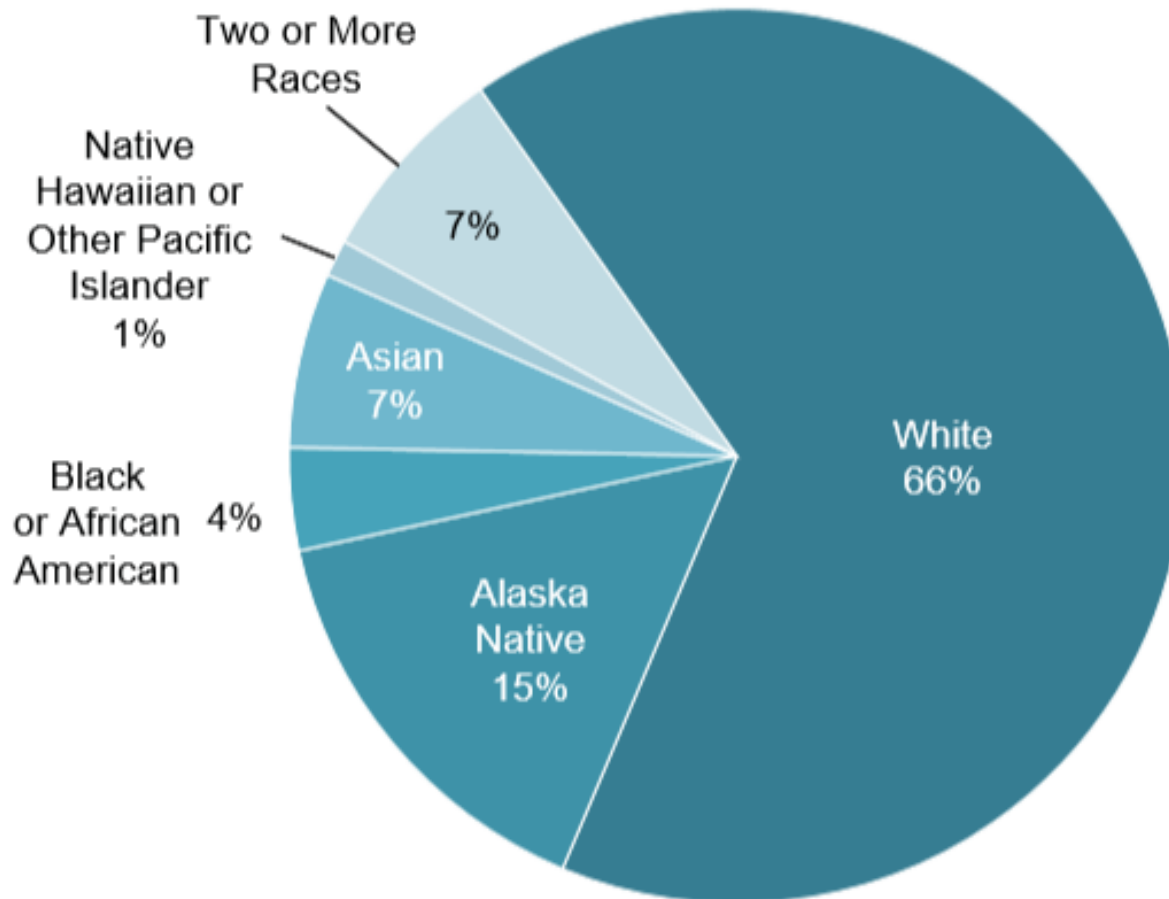
Births and Deaths in Alaska, 1980 to 2017



Note: Annual birth and death data are reported from July 1 through June 30.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

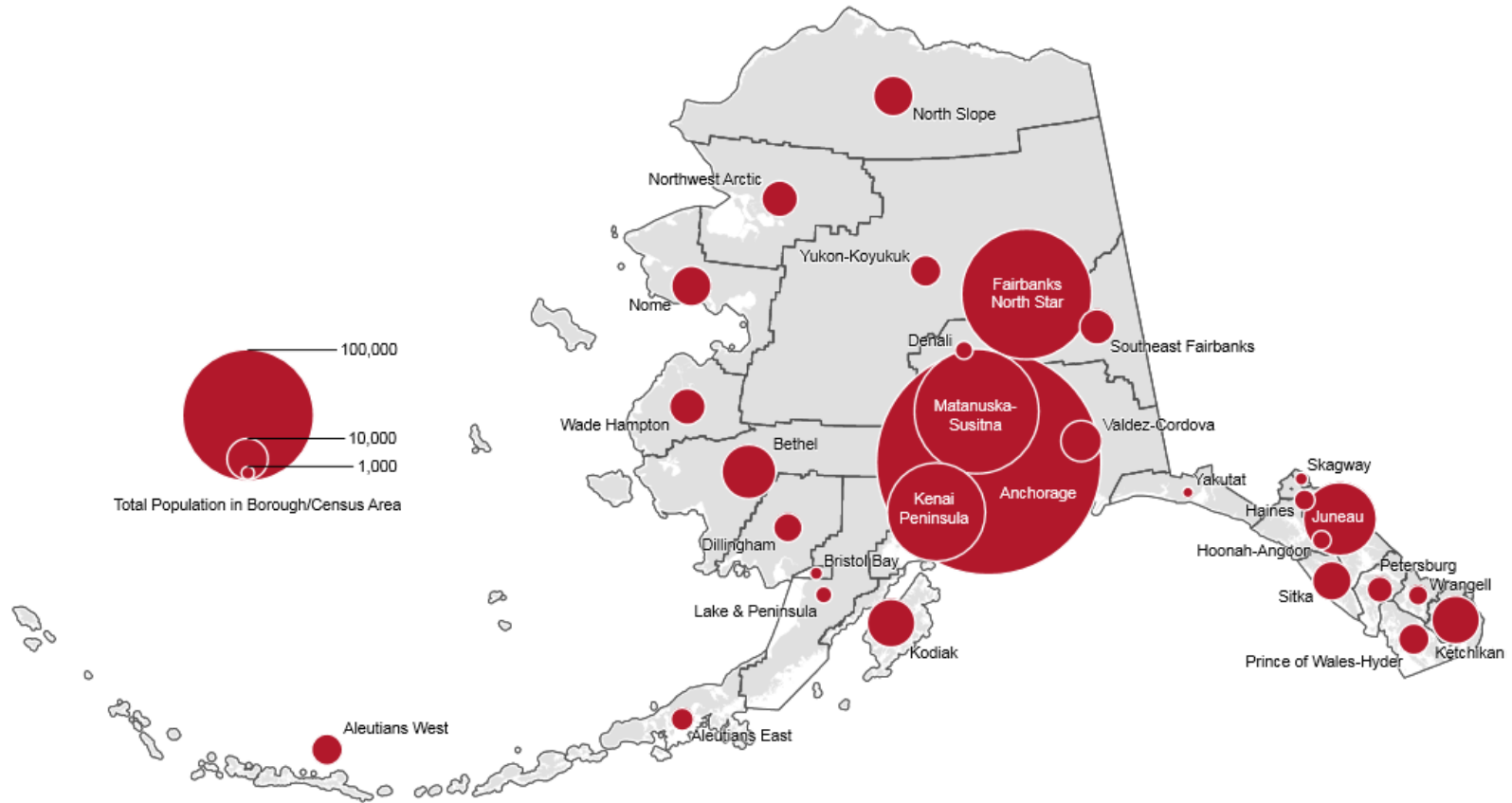
Proportion of Alaska Residents by Race (Alone), 2017



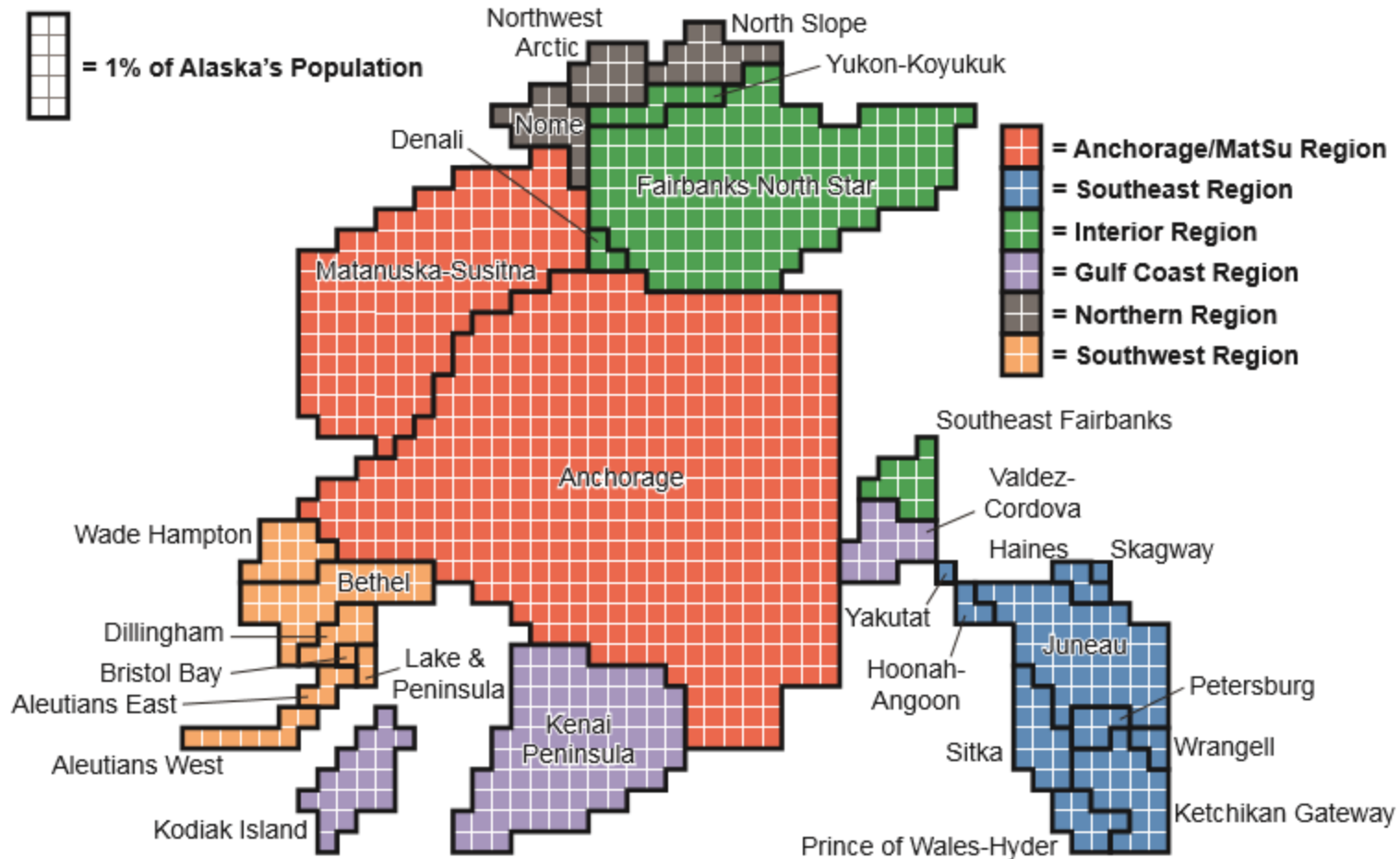
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Most Alaskans live in Anchorage, the Mat-Su, Fairbanks and Juneau

Alaska Total Population by Borough/Census Area in 2010



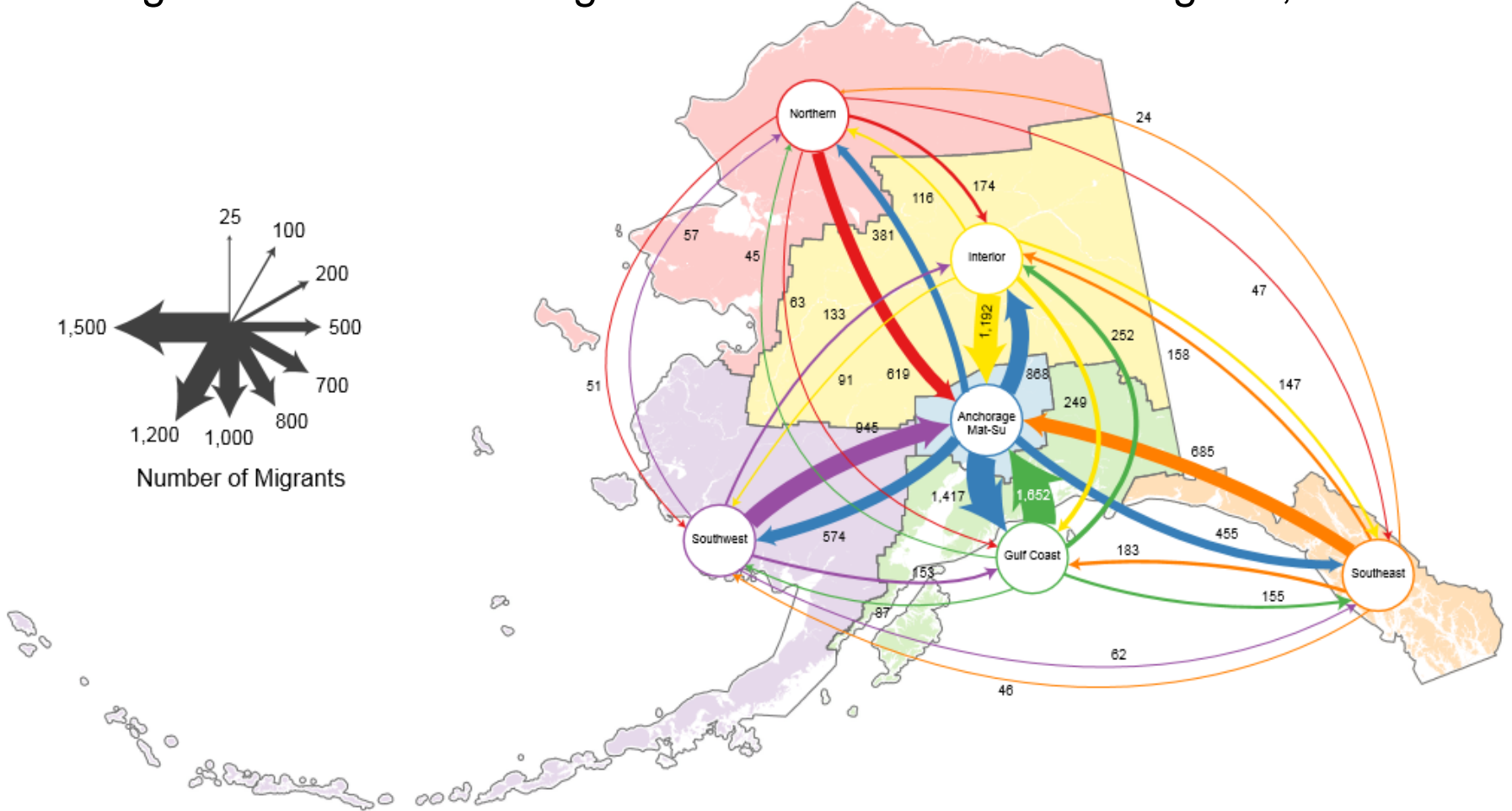
Proportion of Alaska Statewide Population by Borough in 2010



Produced by: Alaska Department of Labor and Workforce Development, Research and Analysis Section
 Source: 2010 US Census

There is significant migration between different regions of Alaska.
 On balance, people are moving from rural to urban areas.

Average Annual In-State Migration between Economic Regions, 2000-2010



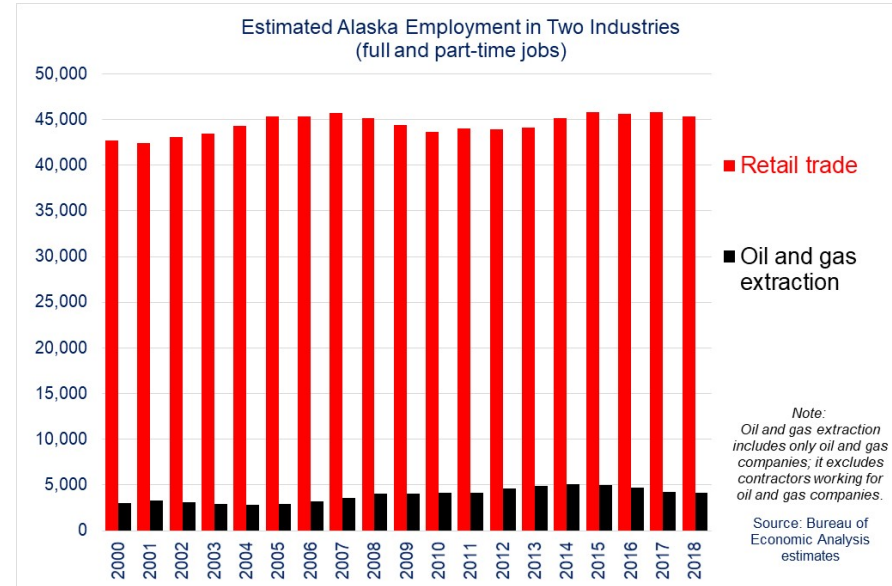
Three kinds of data most commonly used to describe the Alaska economy and Alaska industries . . .

- Employment: How many people are working
- Earnings: how much income people earn from working
- Gross State Product (GSP): The estimated value of all goods and services produced in Alaska by the market sector of the economy

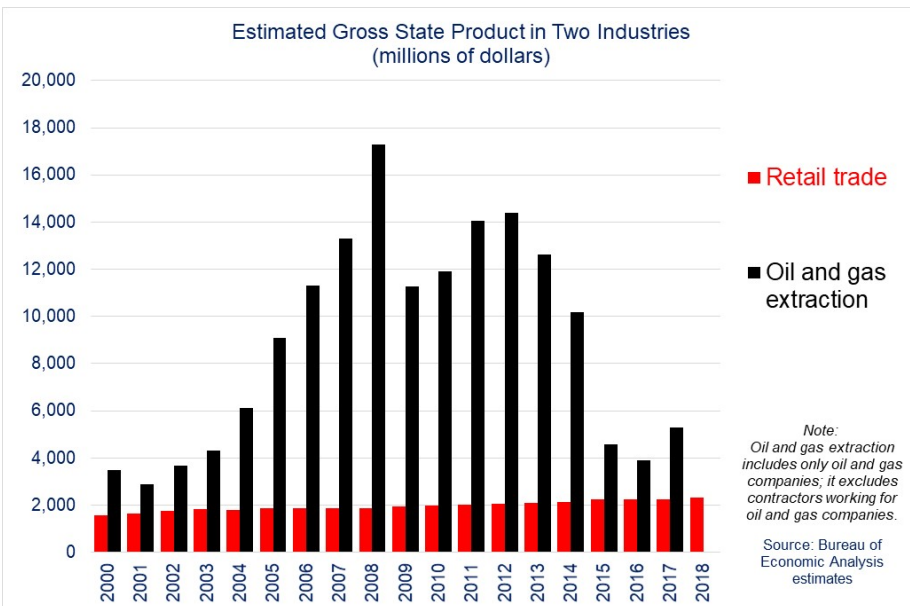
EMPLOYMENT

Which industry is more important?
Retail trade or **oil and gas extraction** ?

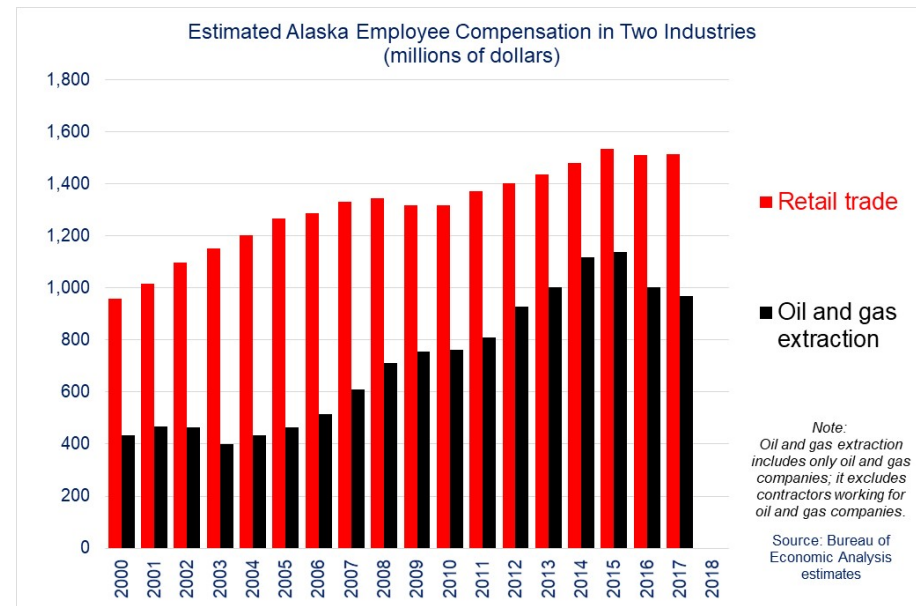
Different measures give very different pictures of the relative scale and importance of different industries!



GROSS STATE PRODUCT



EARNINGS



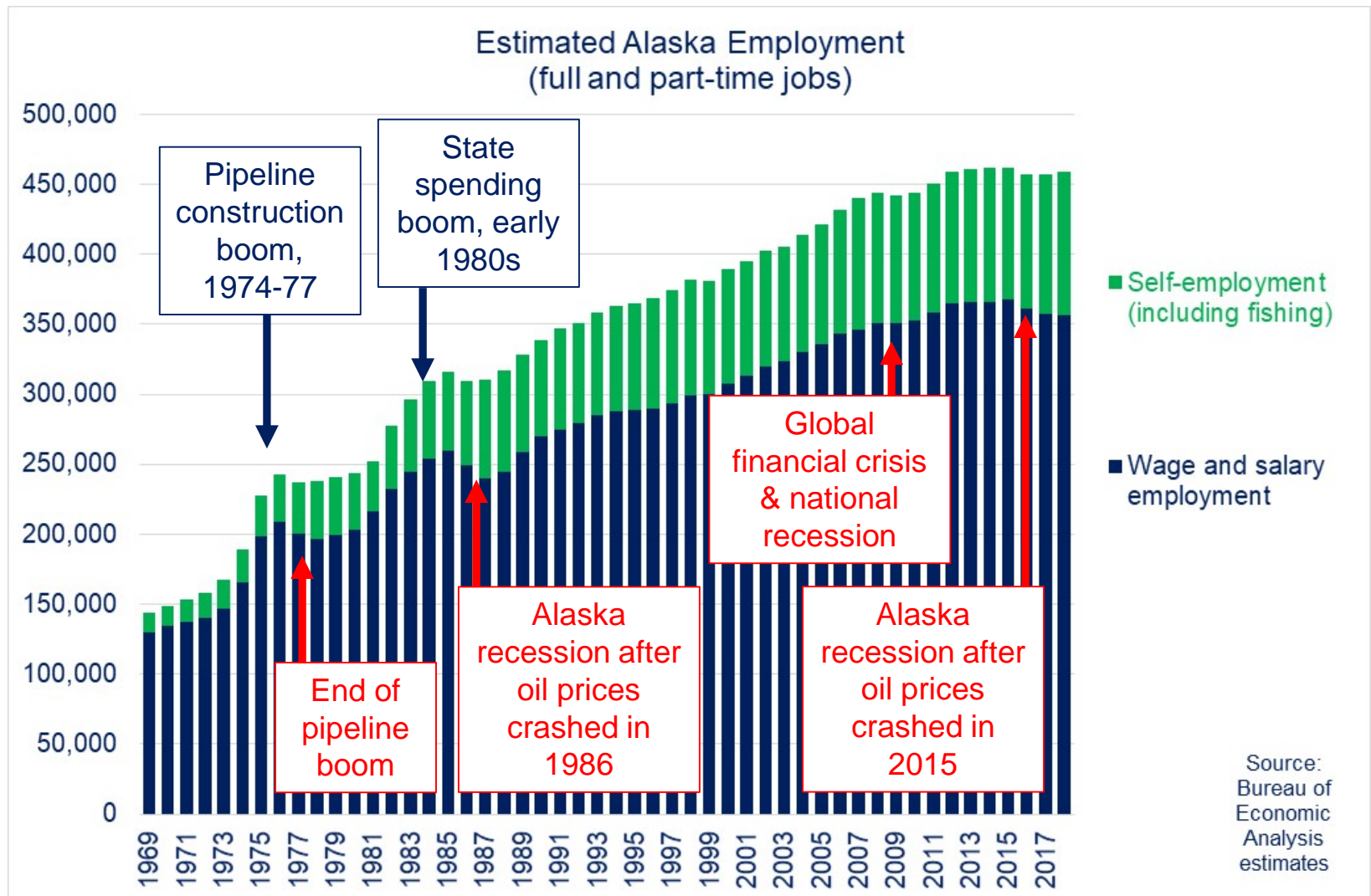
Alaska employment data . . .

- Wage and salary employment data by industry are collected by the Alaska Department of Labor and Workforce Development
- Wage and salary employment data don't count:
 - Self-employed people
 - Commercial fishermen
 - Unpaid work at home (cooking, cleaning, child care, etc.)
 - Subsistence hunting and fishing.
- Alaska employment is highly seasonal
- Employment is often reported as *annual average* employment.
- Employment data are typically by place of work and include non-residents

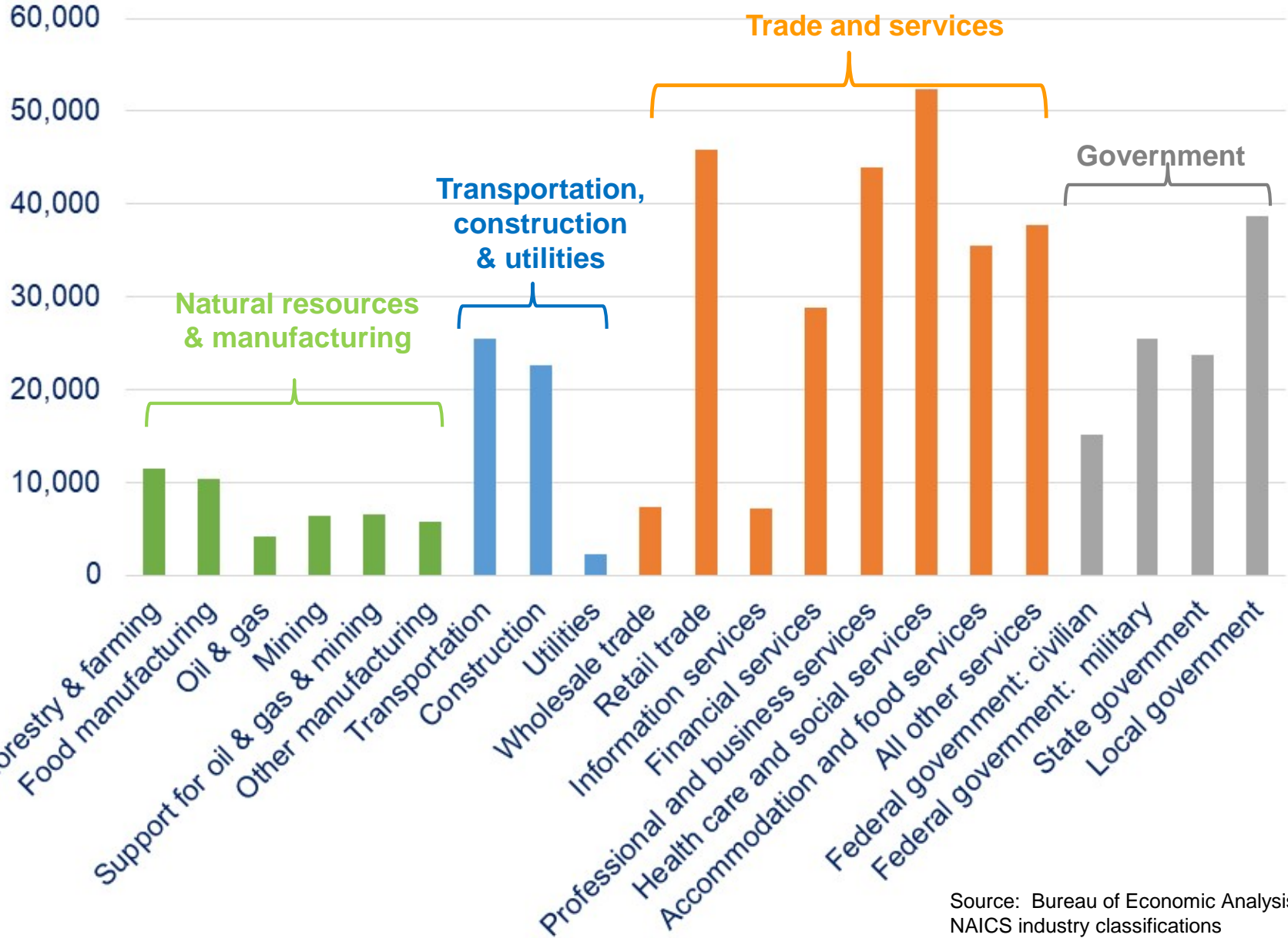


Total Alaska employment is about 450,000.

Wage and salary employment is about 350,000. Another 100,000 people are self-employed (including commercial fishermen, who are not counted in wage and salary employment data).

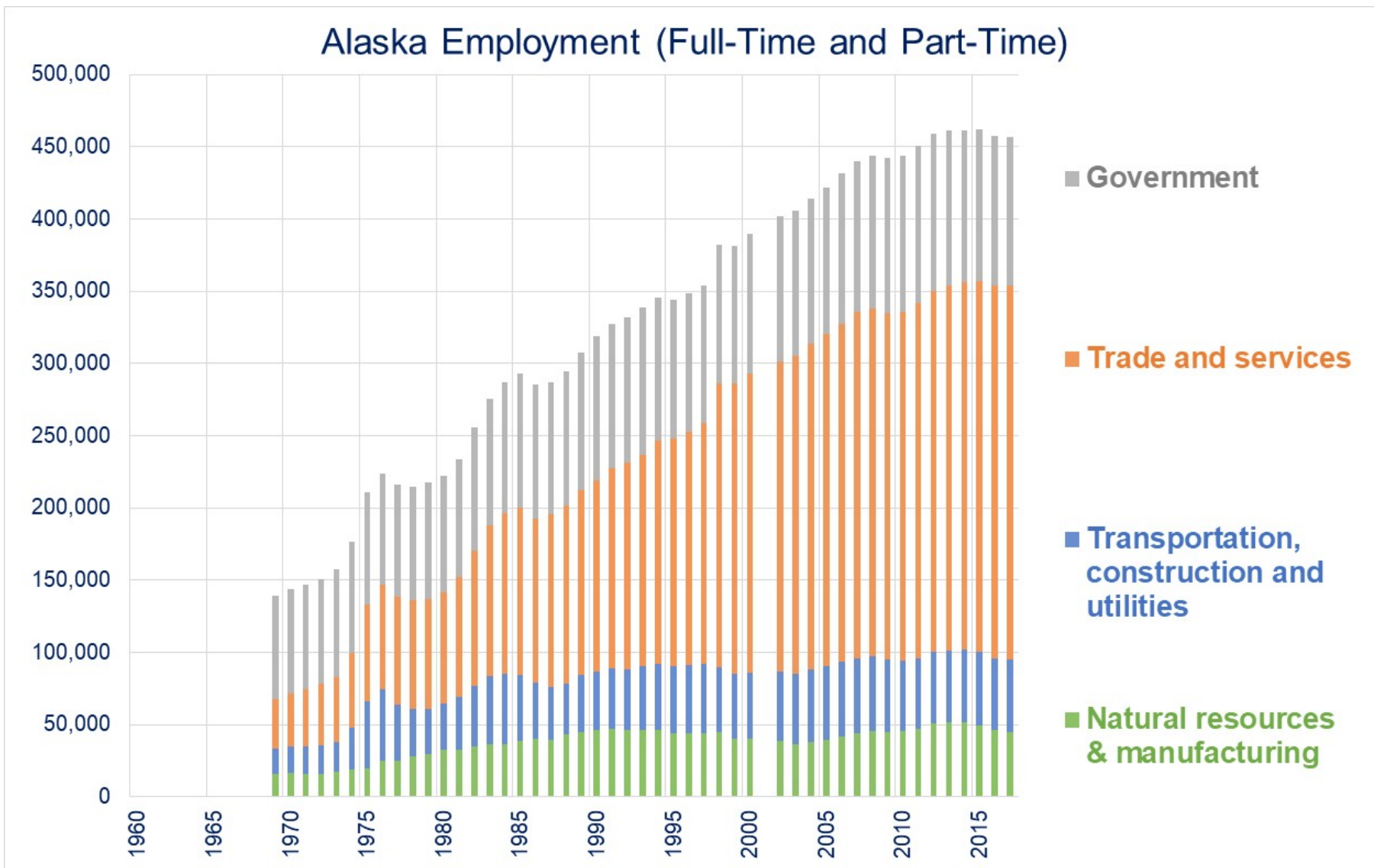


Alaska Employment by Sector & Industry, 2017 (full-time & part-time)

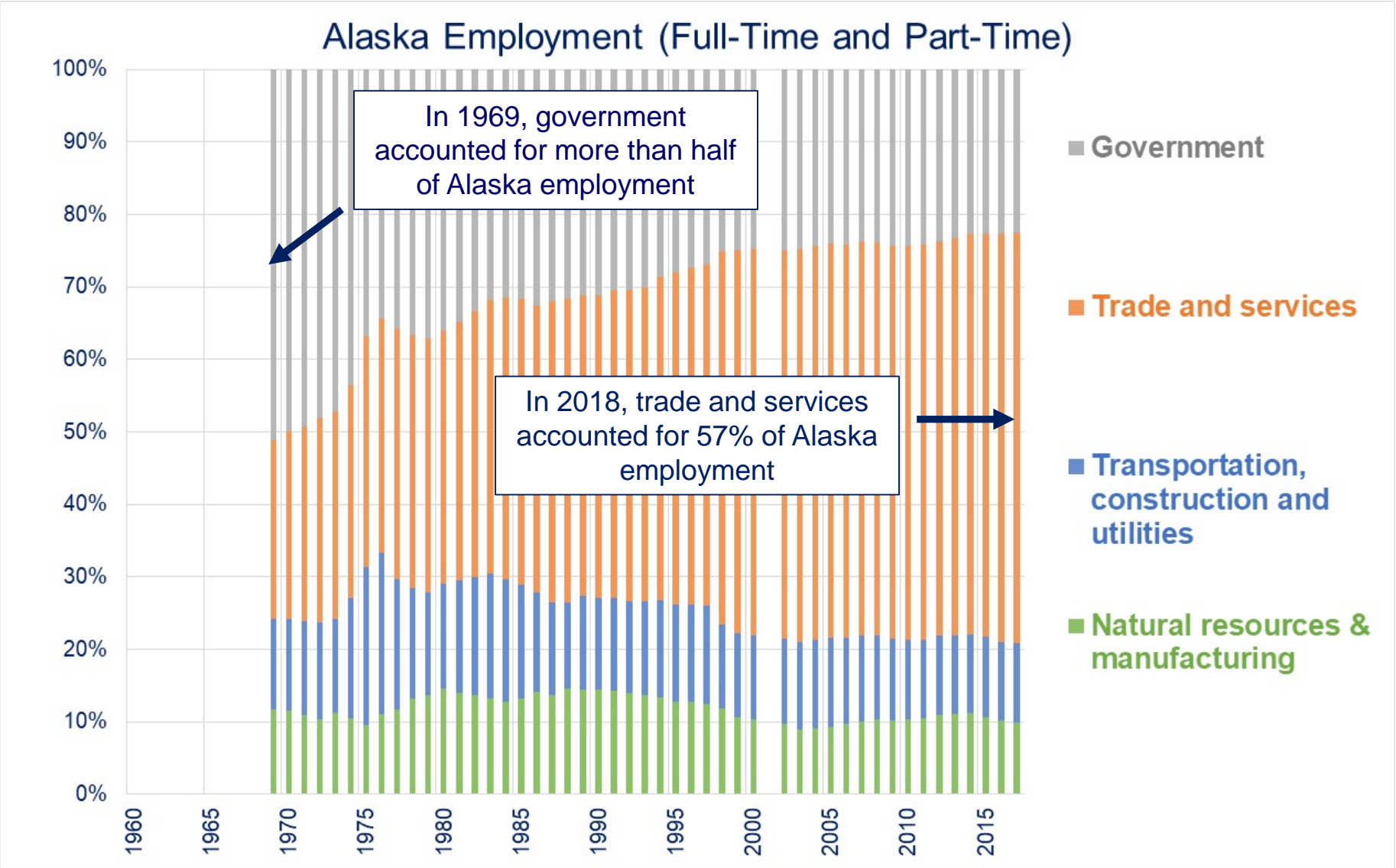


Source: Bureau of Economic Analysis, NAICS industry classifications

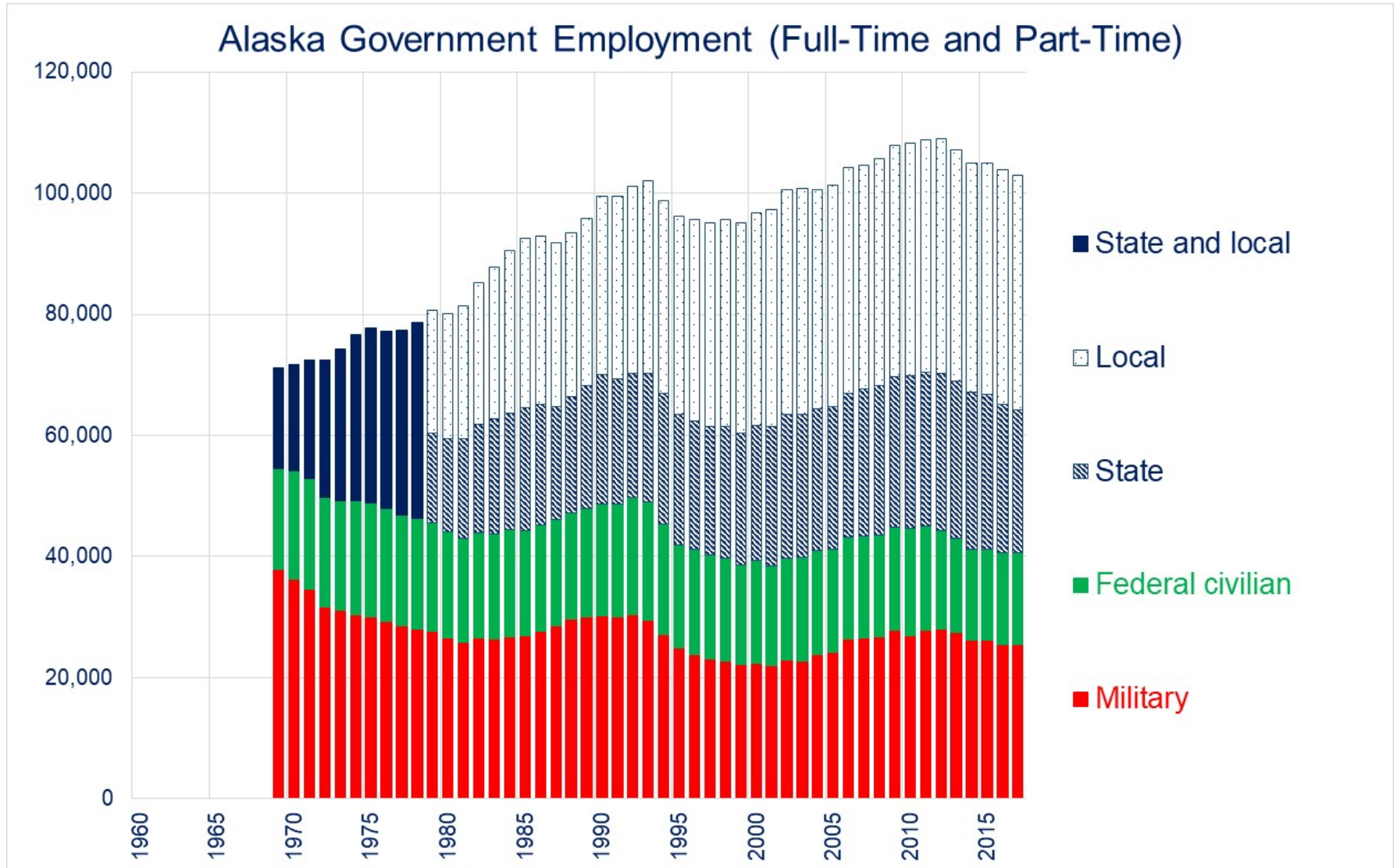
Most of the growth in Alaska employment over the past fifty years has been in trade and services . . .



The structure of Alaska employment has changed dramatically over the past 50 years.

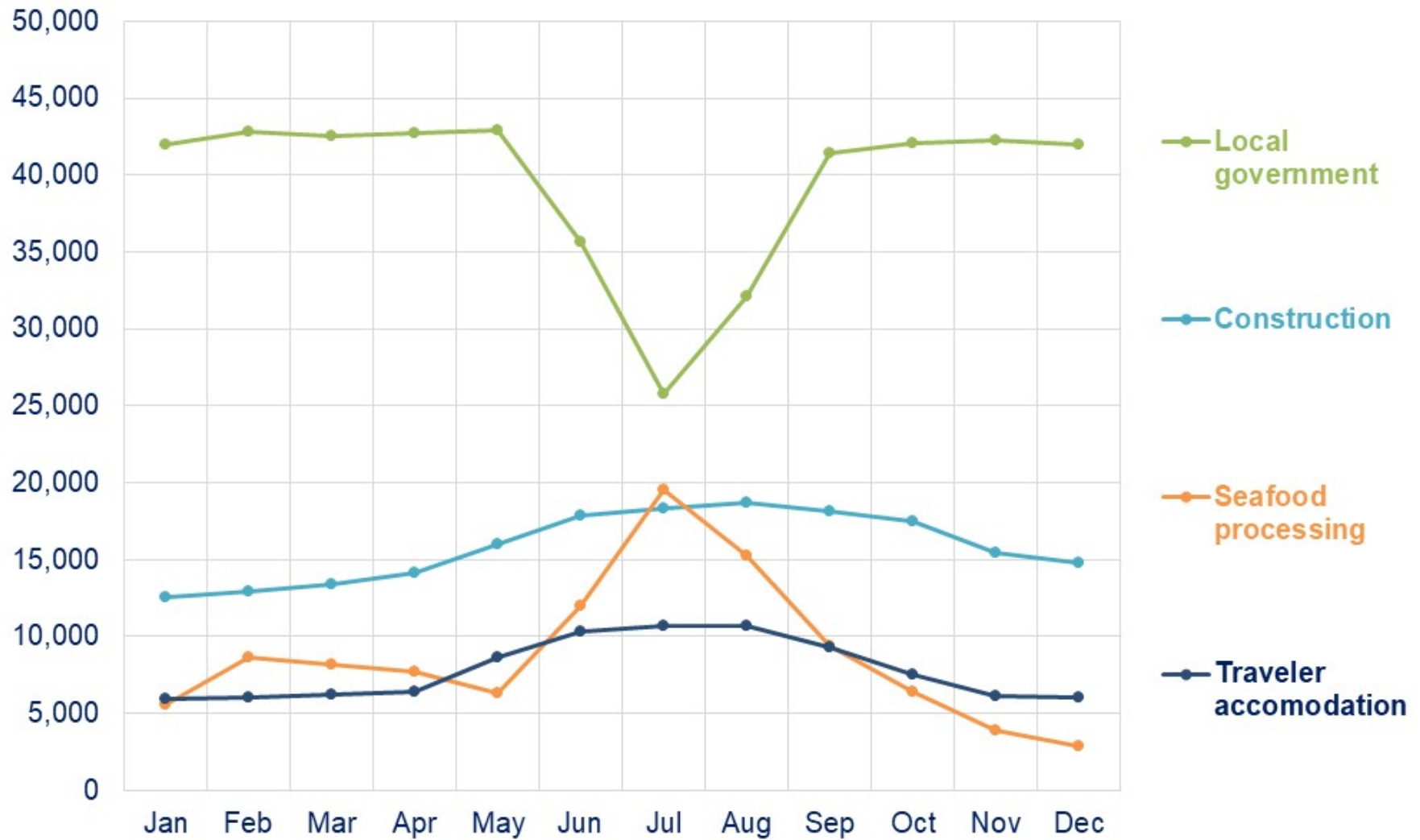


The **military** accounted for more than half of government employment in 1969. Since then, military employment has declined while state and local government have grown dramatically.

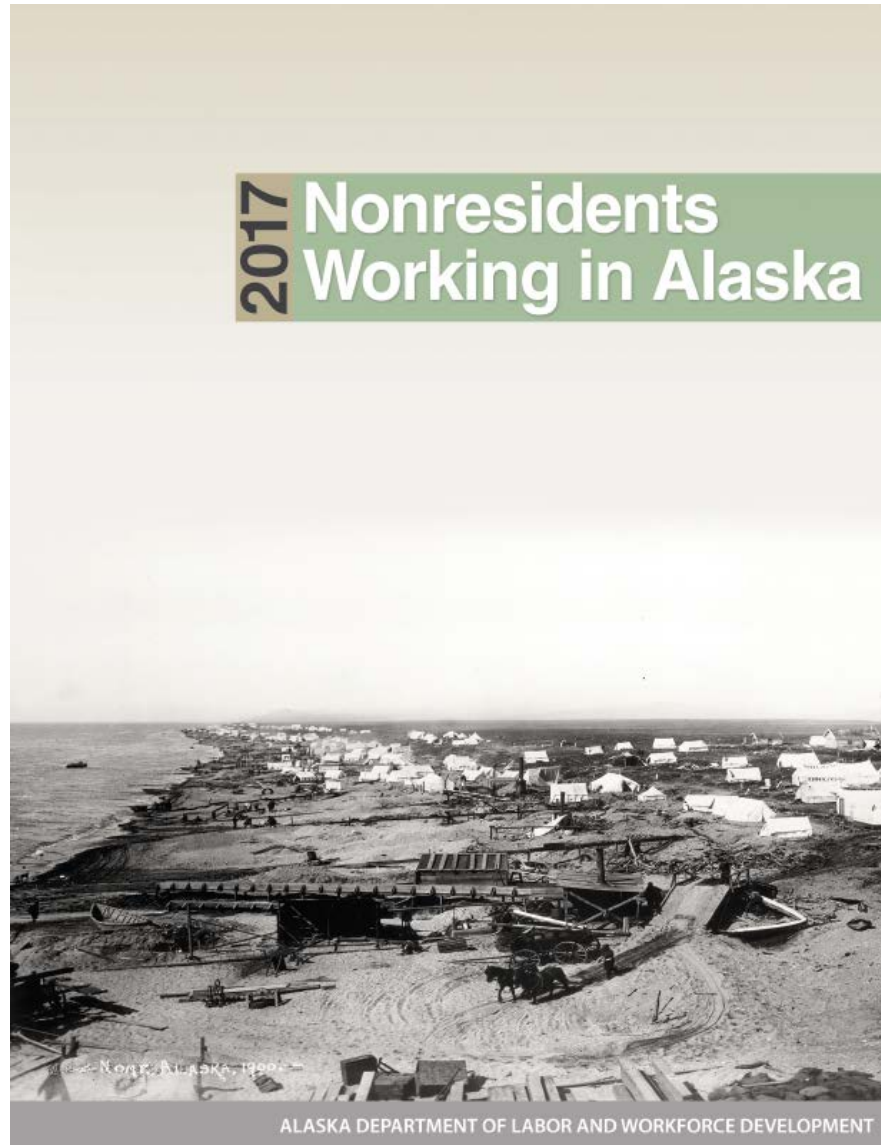


In some Alaska industries employment is highly seasonal.

Monthly Employment in Selected Alaska Industries, 2018

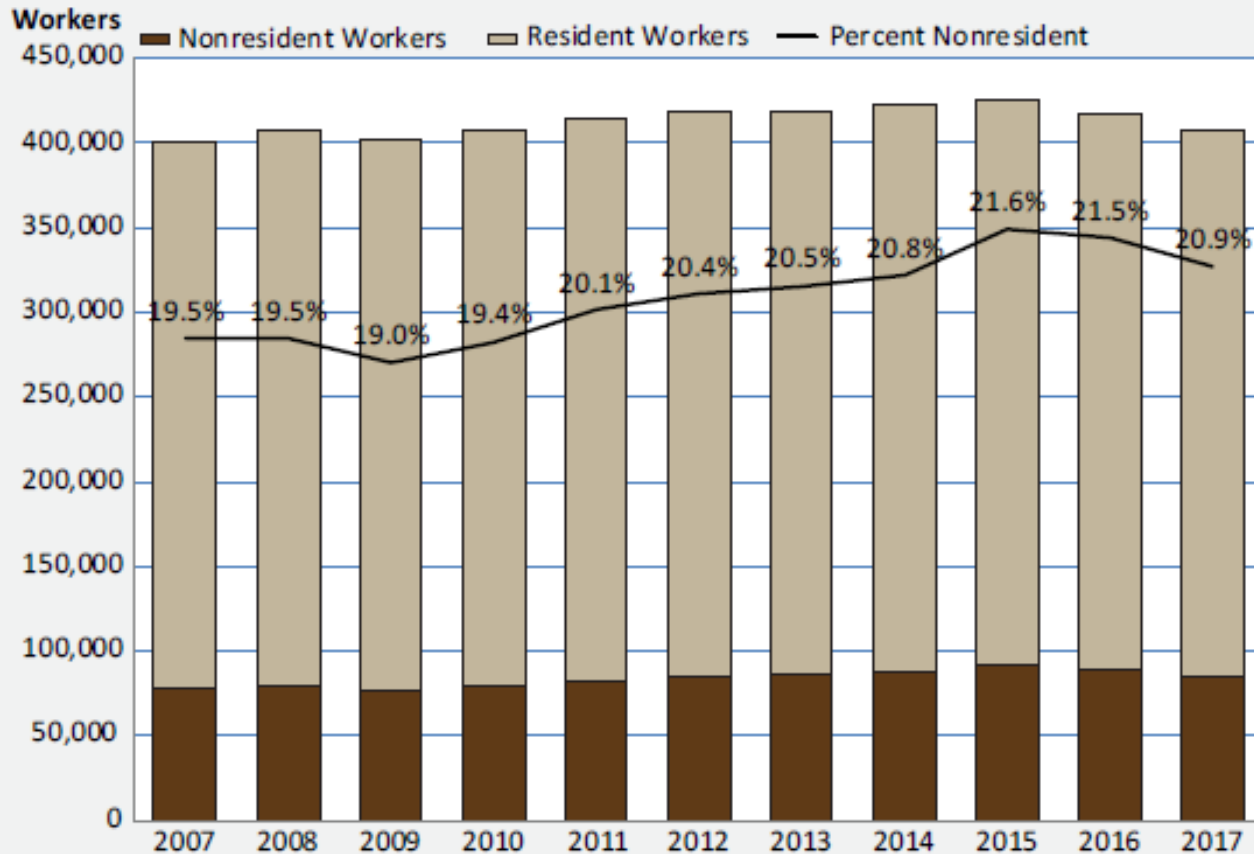


Nonresidents account for a significant share of Alaska employment and earnings.



About 20% of Alaska workers are nonresidents

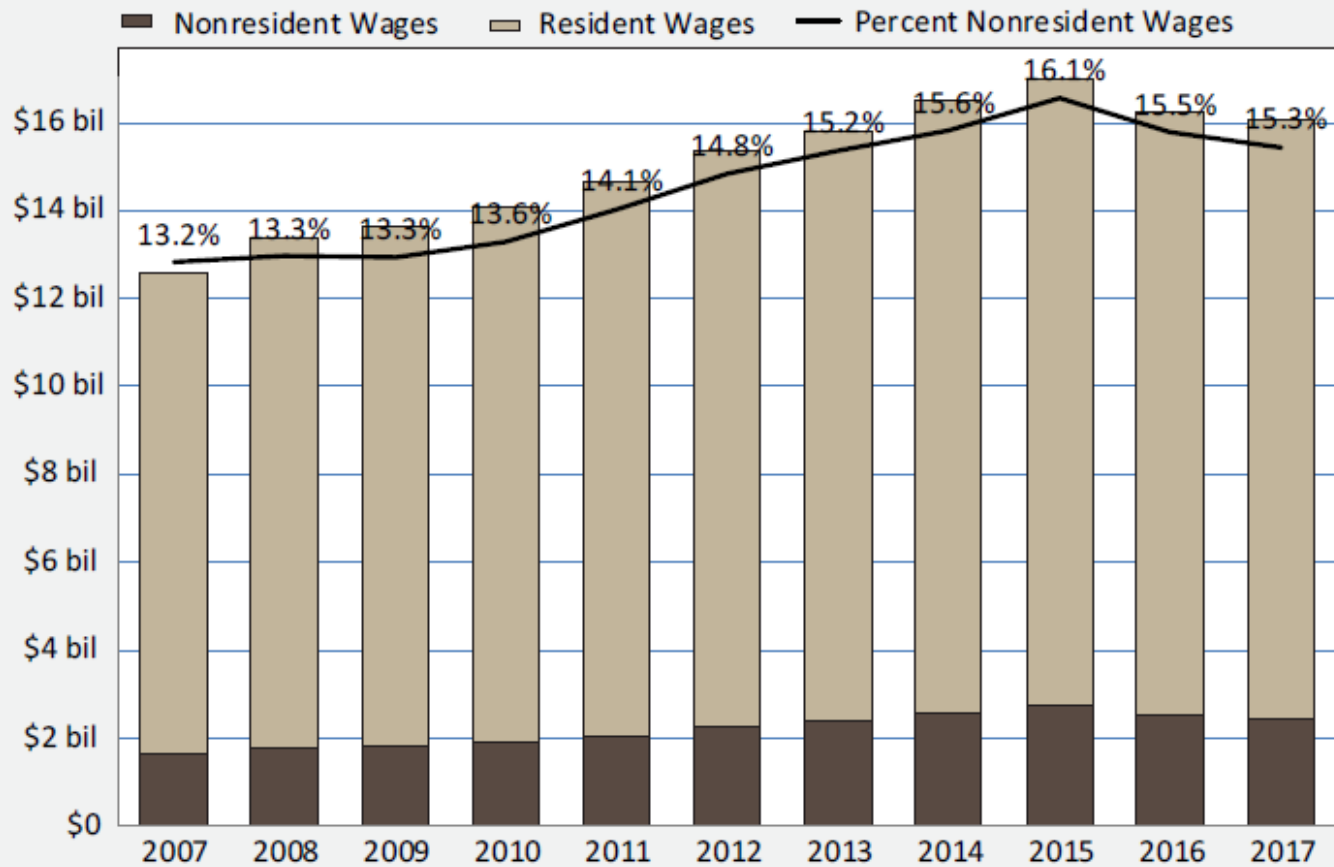
1 Resident and Nonresident Workers Alaska, 2007 to 2017



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Nonresidents earn about 15% of Alaska wages

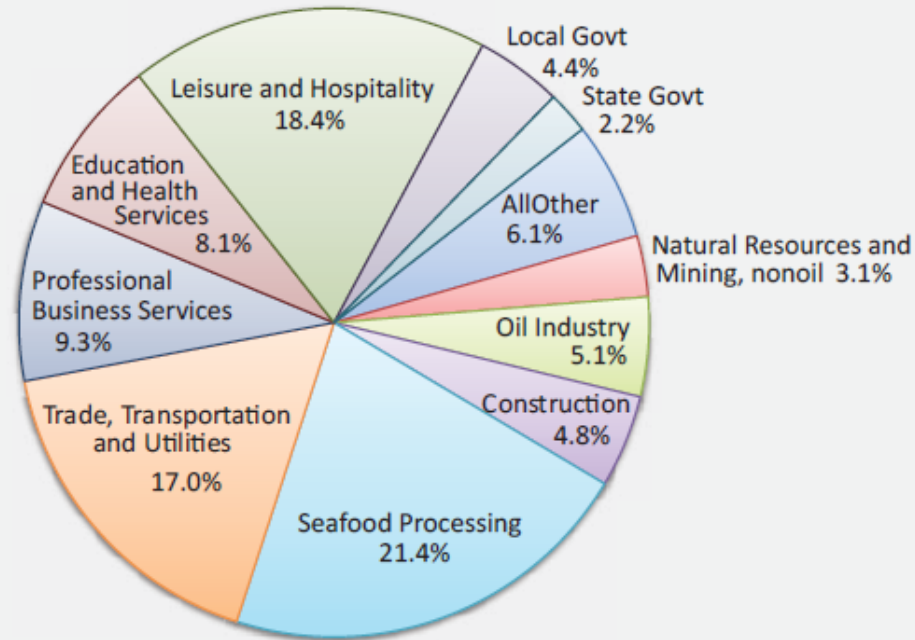
2 Resident and Nonresident Wages Alaska, 2007 to 2017



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Nonresidents work in a wide range of industries

4 Nonresident Workers by Industry Alaska, 2017



Note: Percentages may not add to 100 due to rounding.

*"All other" includes nonseafood manufacturing, information, financial activities, public administration, other services, and unclassified industries.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

The share of nonresident workers and wages varies widely by industry

5 Workers and Wages, Major and Selected Industry Categories Alaska, 2017

Industry	Total		Nonresident			
	Workers	Wages (mil)	Workers	Percent	Wages (mil)	Percent
Agriculture, Forestry, Fishing, and Hunting	2,511	\$57.9	1,196	47.6%	\$27.1	46.7%
Mining	17,198	\$1,748.5	5,886	34.2%	\$552.0	31.6%
Oil and Gas Extraction	3,869	\$704.6	1,099	28.4%	\$195.9	27.8%
Oilfield Services*	9,070	\$698.1	3,248	35.8%	\$239.9	34.4%
Utilities	2,586	\$200.3	123	4.8%	\$6.9	3.4%
Construction	22,706	\$1,065.1	4,062	17.9%	\$145.3	13.6%
Manufacturing	29,391	\$664.1	19,086	64.9%	\$322.5	48.6%
Seafood Processing	24,477	\$454.0	18,248	74.6%	\$303.2	66.8%
Wholesale Trade	7,167	\$347.2	740	10.3%	\$24.0	6.9%
Retail Trade	46,396	\$1,130.6	7,109	15.3%	\$93.9	8.3%
Transportation and Warehousing	25,362	\$1,260.0	6,511	25.7%	\$317.1	25.2%
Air Transportation	7,490	\$352.9	1,864	24.9%	\$65.5	18.6%
Information	7,067	\$394.4	754	10.7%	\$27.6	7.0%
Finance and Insurance	8,119	\$476.5	619	7.6%	\$20.7	4.3%
Real Estate, Rental and Leasing	7,034	\$228.1	757	10.8%	\$18.0	7.9%
Professional, Scientific, and Technical Services	15,865	\$865.8	3,518	22.2%	\$173.0	20.0%
Management of Companies and Enterprises	2,392	\$179.8	182	7.6%	\$9.6	5.3%
Administrative Support/Waste Management and Remediation	16,989	\$541.3	4,177	24.6%	\$105.3	19.4%
Educational Services	2,926	\$74.8	632	21.6%	\$7.0	9.4%
Health Care and Social Assistance	54,036	\$2,474.0	6,259	11.6%	\$244.3	9.9%
Arts, Entertainment, and Recreation	7,548	\$98.8	2,492	33.0%	\$23.7	24.0%
Accommodation and Food Services	42,319	\$689.4	13,212	31.2%	\$157.3	22.8%
Accommodation	13,037	\$226.6	6,201	47.6%	\$78.7	34.7%
Food Services and Drinking Places	28,150	\$446.9	6,590	23.4%	\$73.6	16.5%
Other Services	12,680	\$380.1	1,902	15.0%	\$34.7	9.1%
Other/Unknown	705	\$13.5	264	37.4%	\$3.3	24.8%
Local Government	50,916	\$1,935.2	3,783	7.4%	\$90.8	4.7%
State Government	25,342	\$1,264.1	1,857	7.3%	\$50.4	4.0%
Total	407,255	\$16,089.5	85,121	20.9%	\$2,454.4	15.3%

Notes: Data exclude the self-employed, fishermen and other agricultural workers, and private household workers. For estimates of fish harvesting employment, go to labor.alaska.gov/research/seafood/seafood.htm.

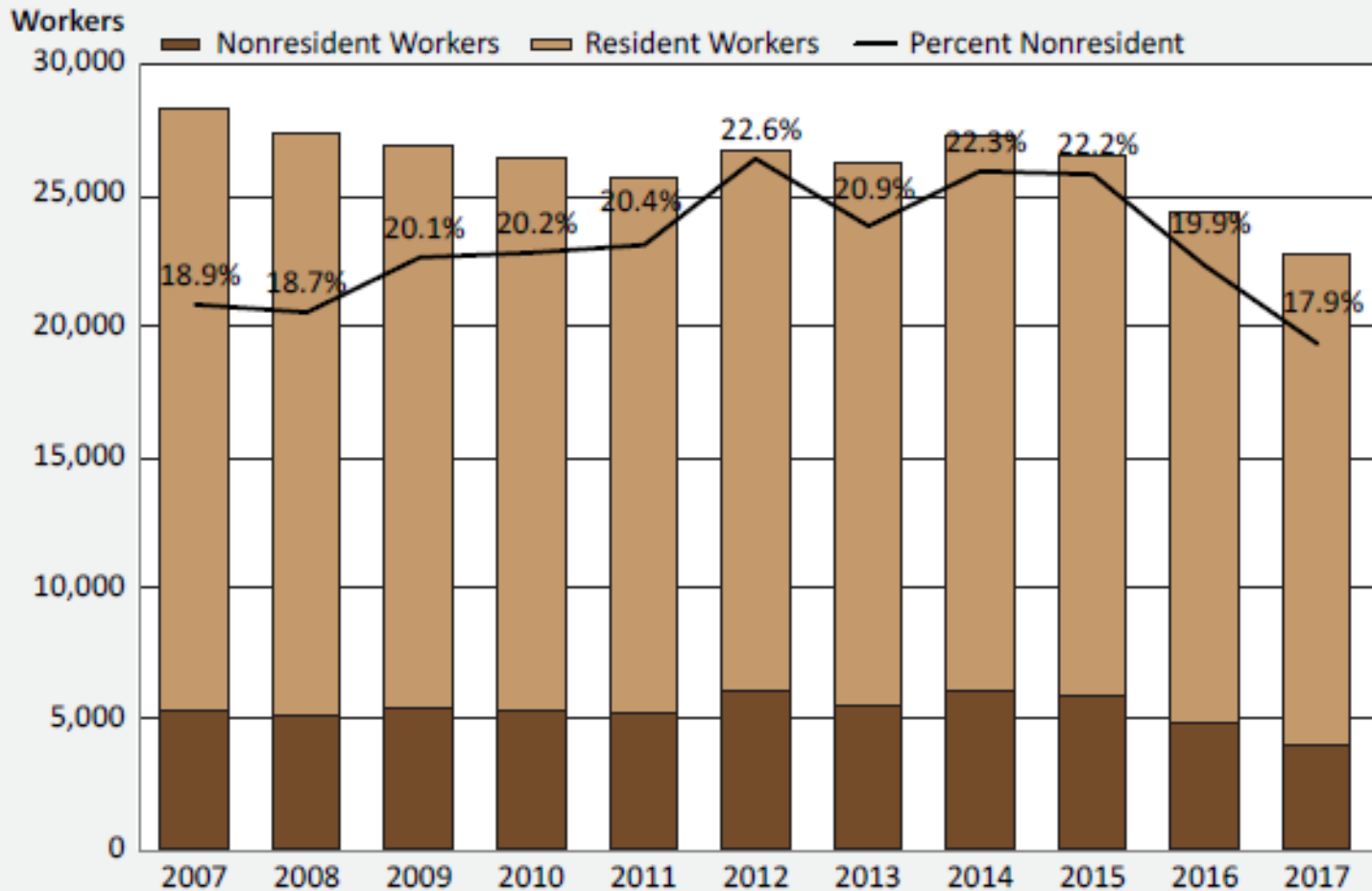
*This industry category includes support activities for oil and gas drilling and related occupations.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

8

Construction Industry Workers

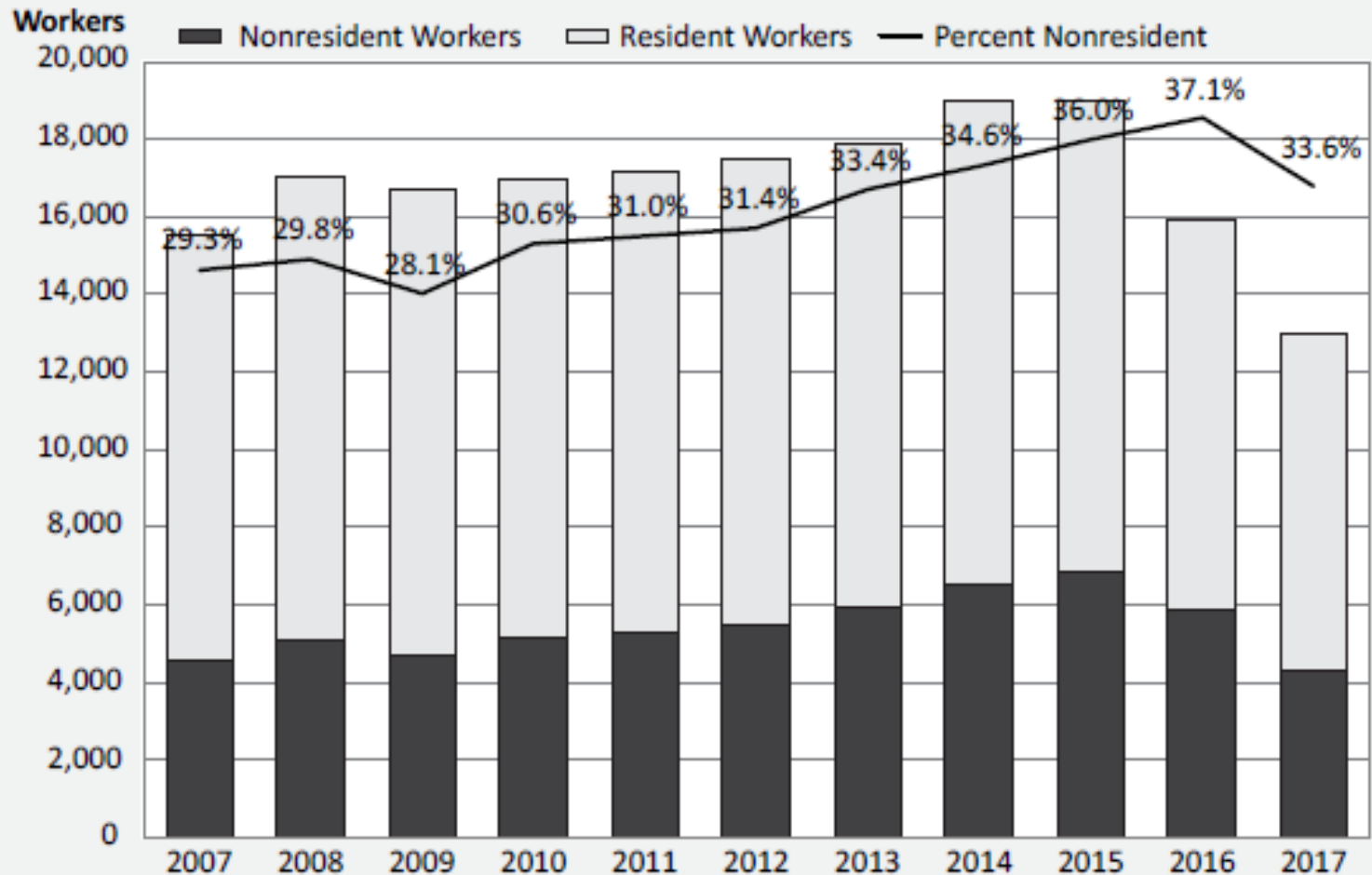
Alaska, 2007 to 2017



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

6 Oil Industry Workers

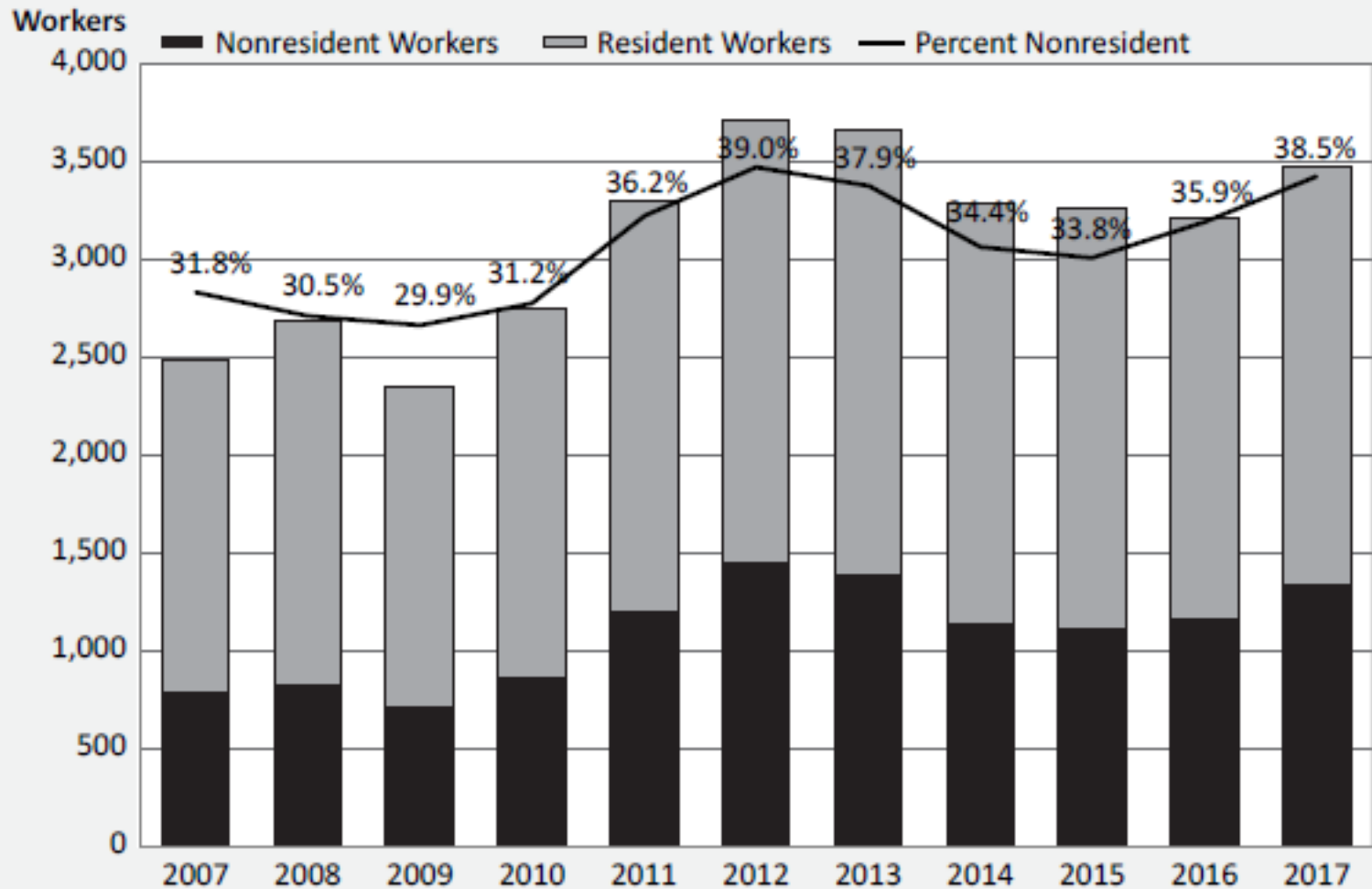
Alaska, 2007 to 2017



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

13 Metal Mining Workers

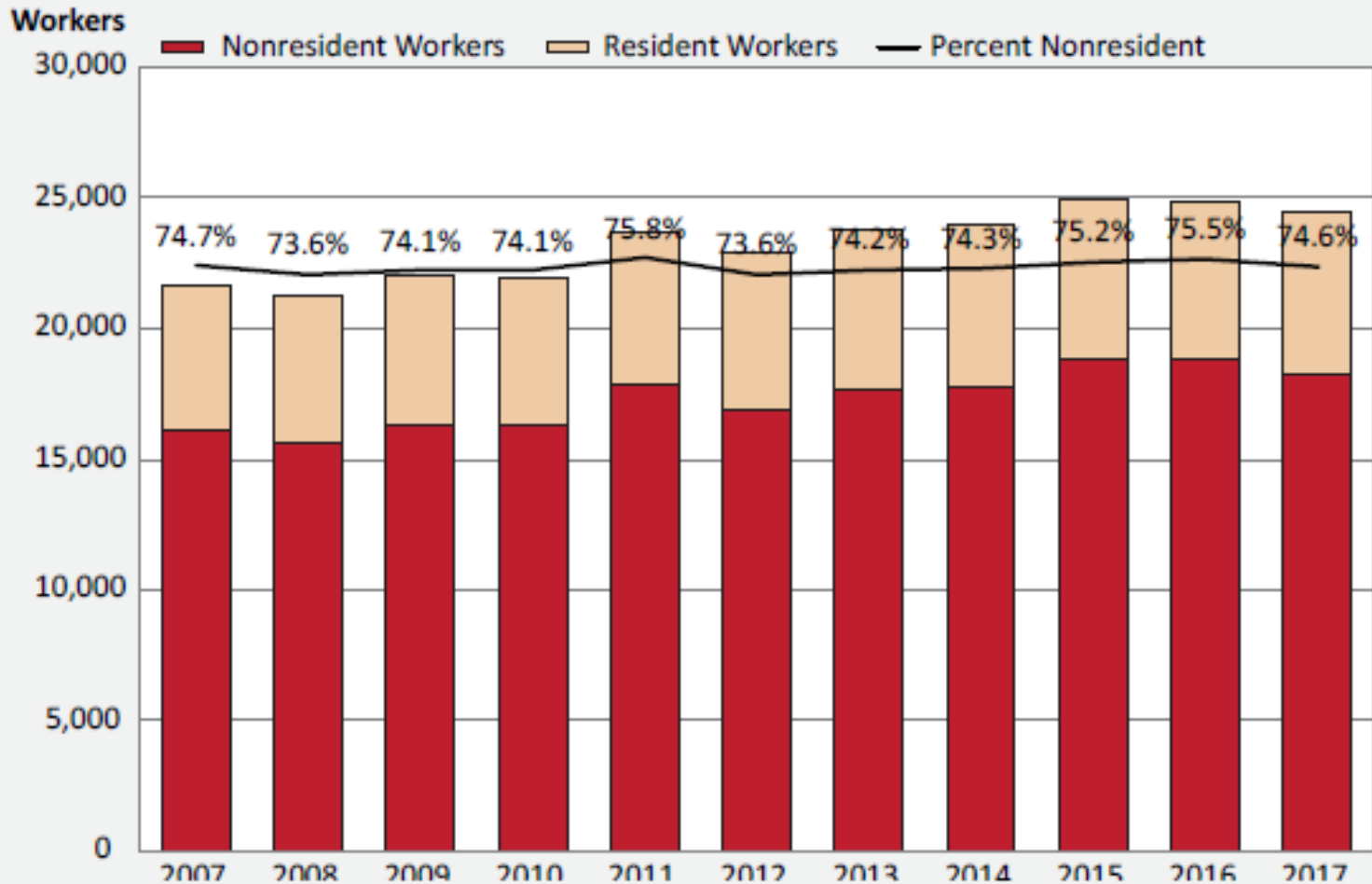
Alaska, 2007 to 2017



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

10 Seafood Processing Workers

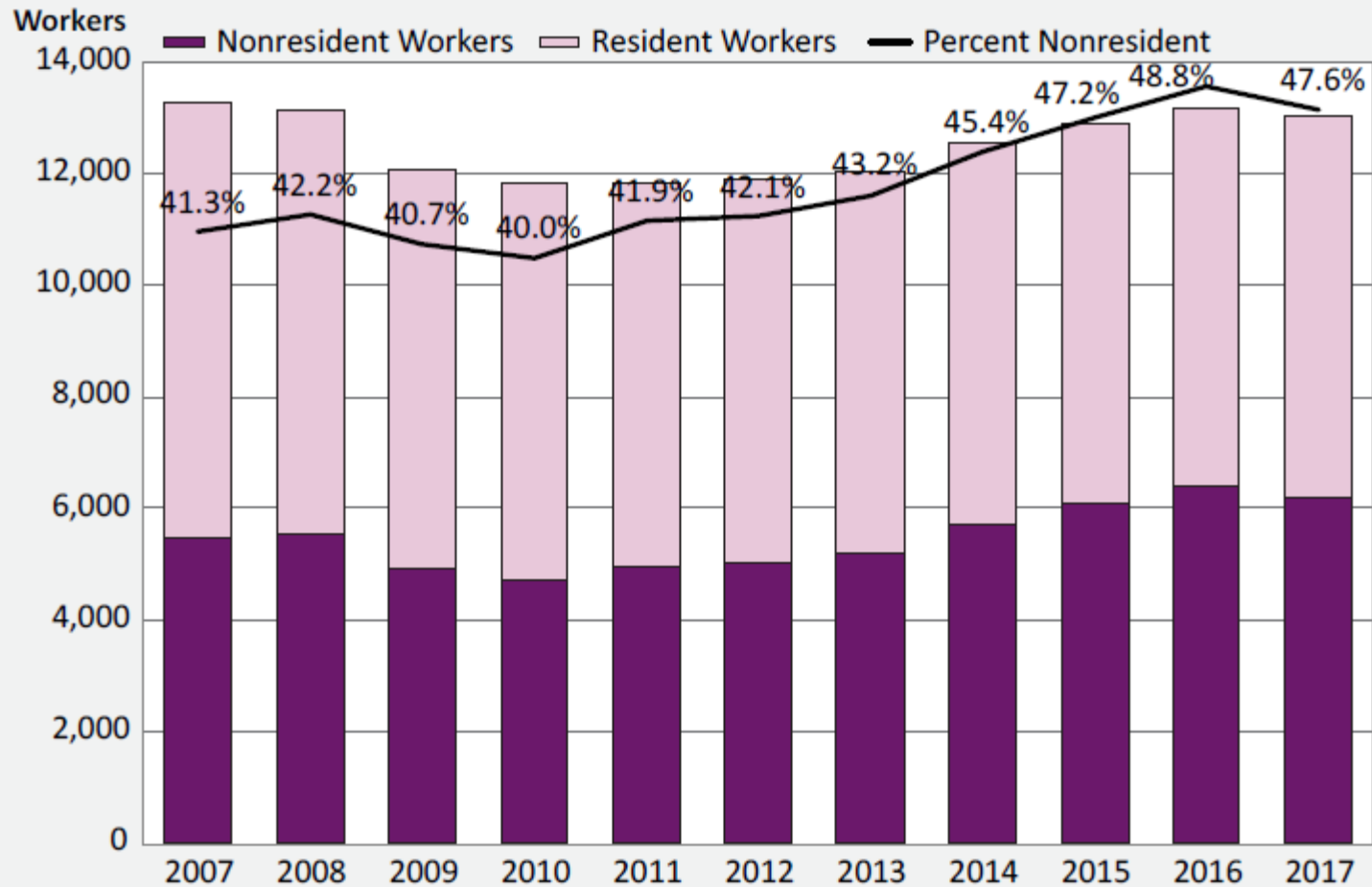
Alaska, 2007 to 2017



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

17 Accommodation Workers

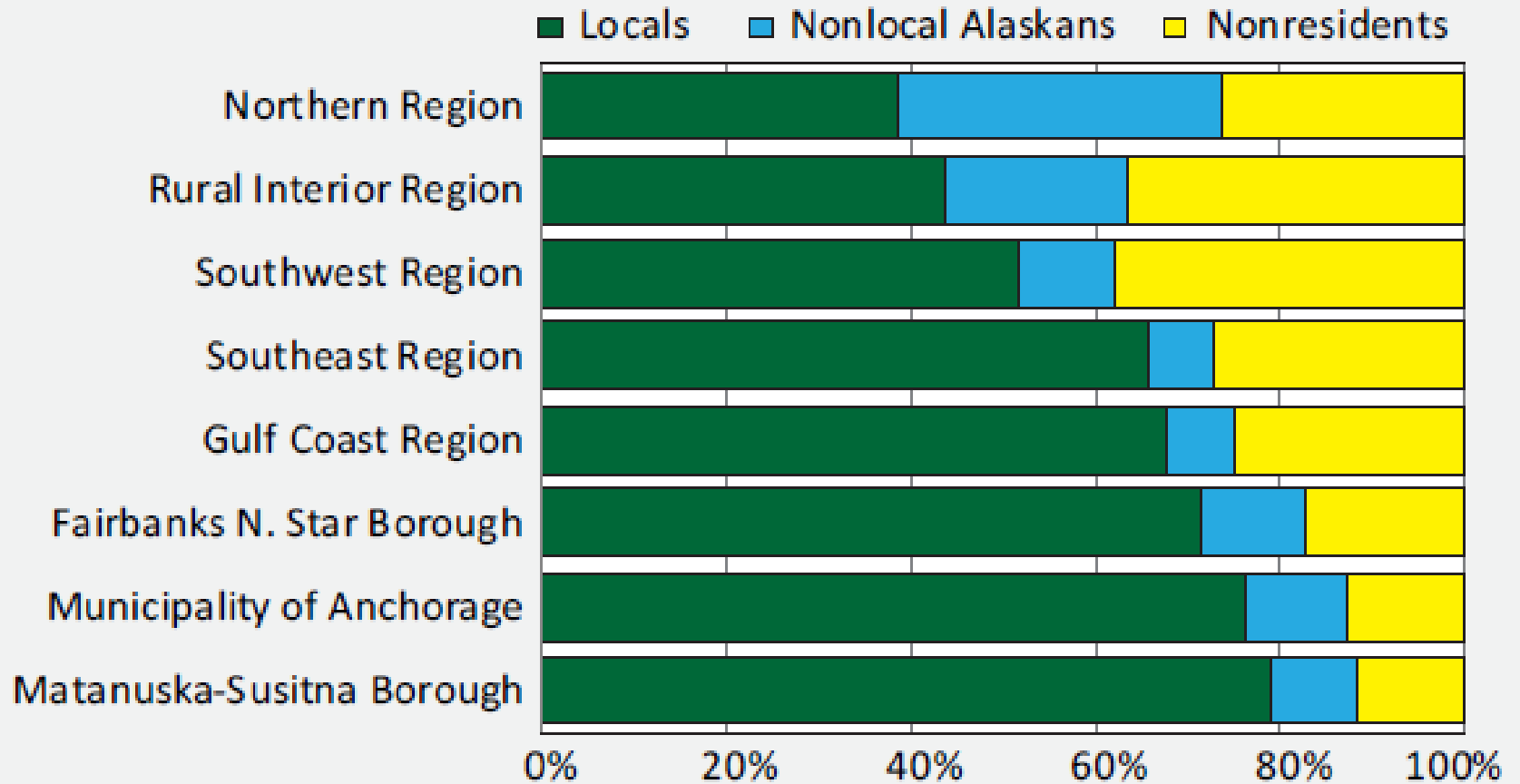
Alaska, 2007 to 2017



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

24 Worker Residency by Region

Alaska, 2017



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Alaska Gross State Product (GSP) data . . .

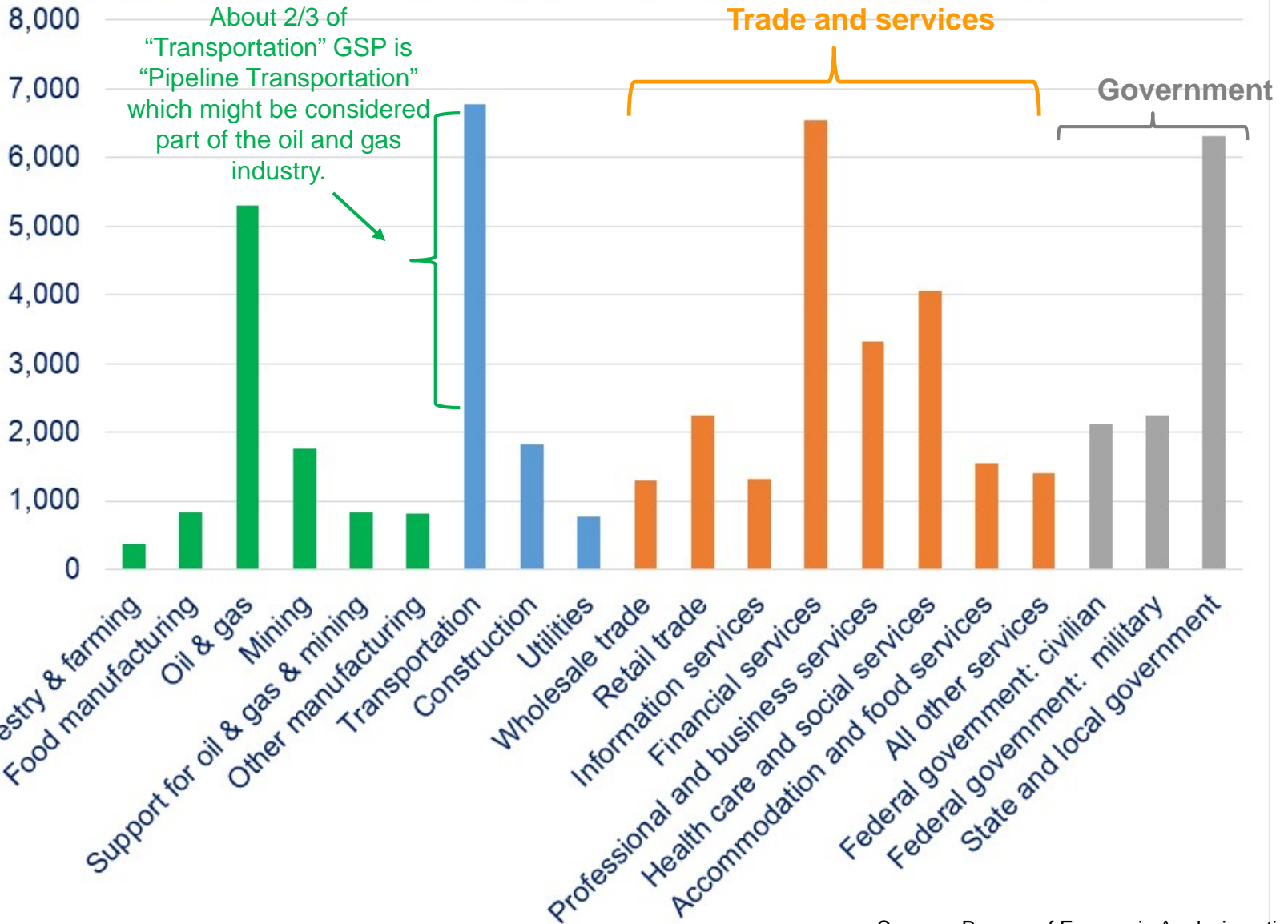
- Gross State Product (GSP) is the estimated value of all goods and services produced in Alaska by the market sector of the economy.

*GSP = total value of goods and services produced in Alaska
- minus the cost of inputs purchased from outside Alaska*

- Also called Gross Domestic Product (GDP)
- How is GSP calculated?
 - For private industries: Value of sales – Costs
 - For government: What government costs
- Gross State Product is affected by both physical production and prices.
- The federal Bureau of Economic Analysis (BEA) estimates Gross State Product for each state, including Alaska.
- BEA's Gross State Product estimates exclude the value of unpaid work and subsistence hunting and fishing.

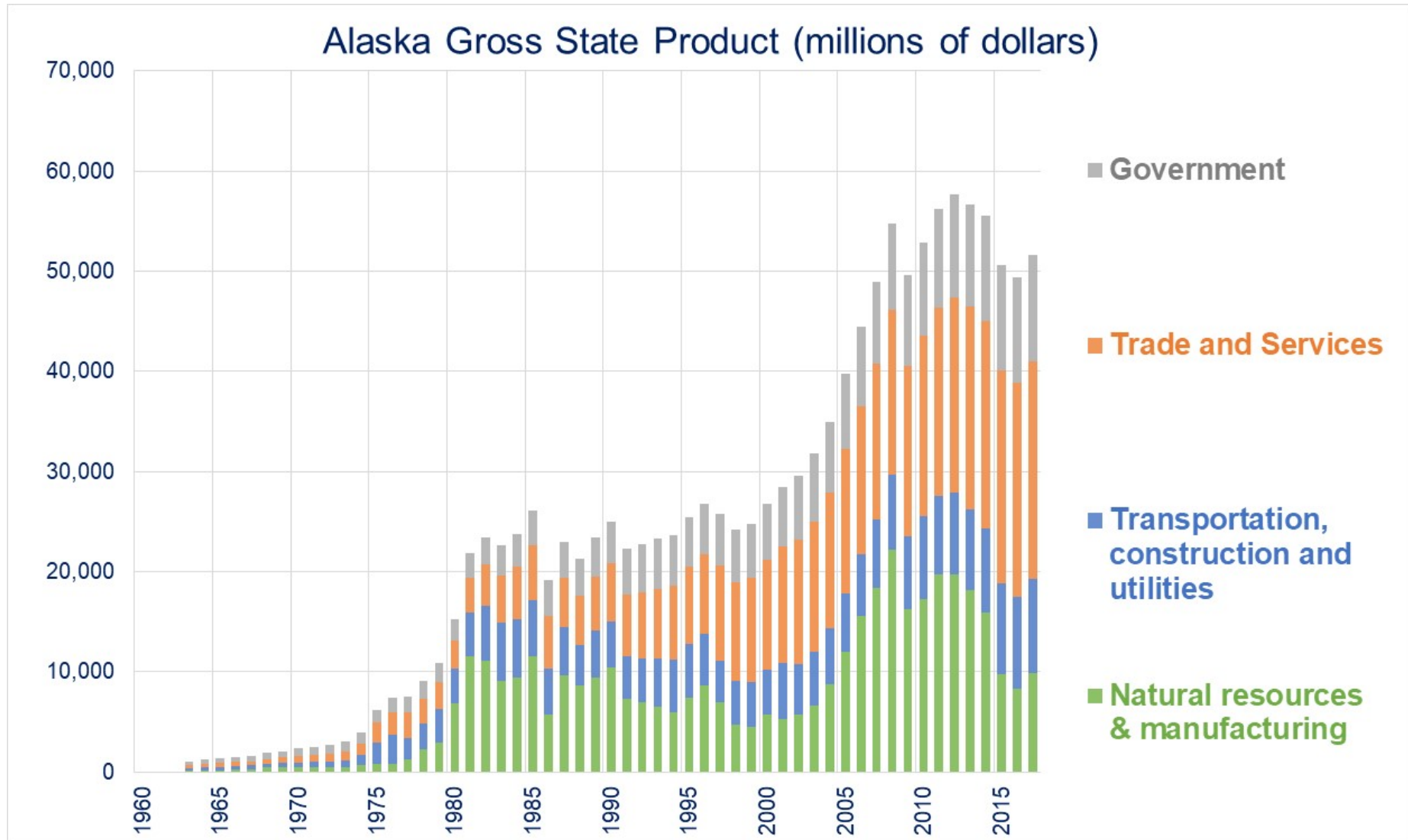
Alaska Gross State Product

Alaska Gross State Product by Sector & Industry, 2017 (millions of dollars)

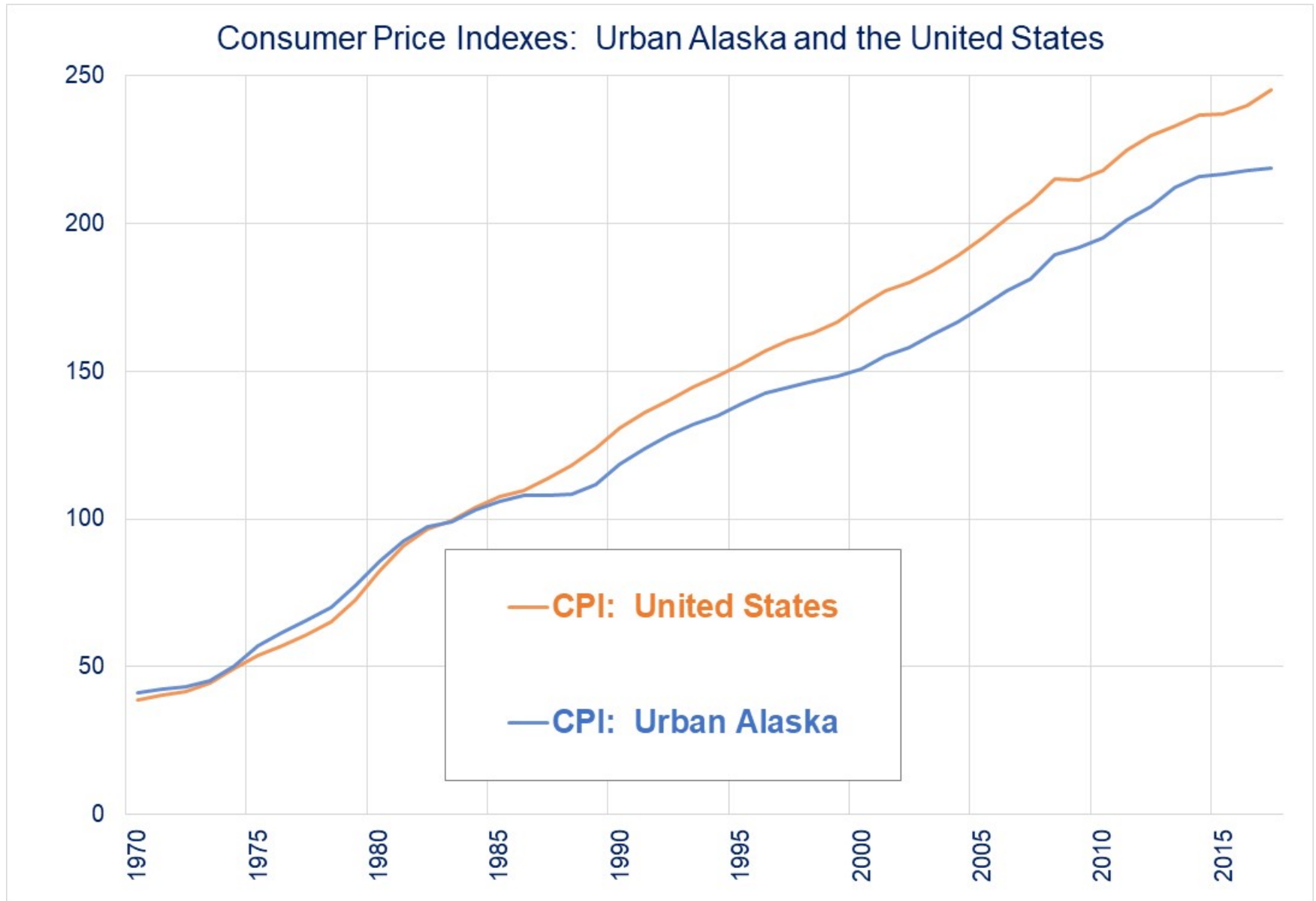


Alaska Gross State Product has grown dramatically over the past 50 years!

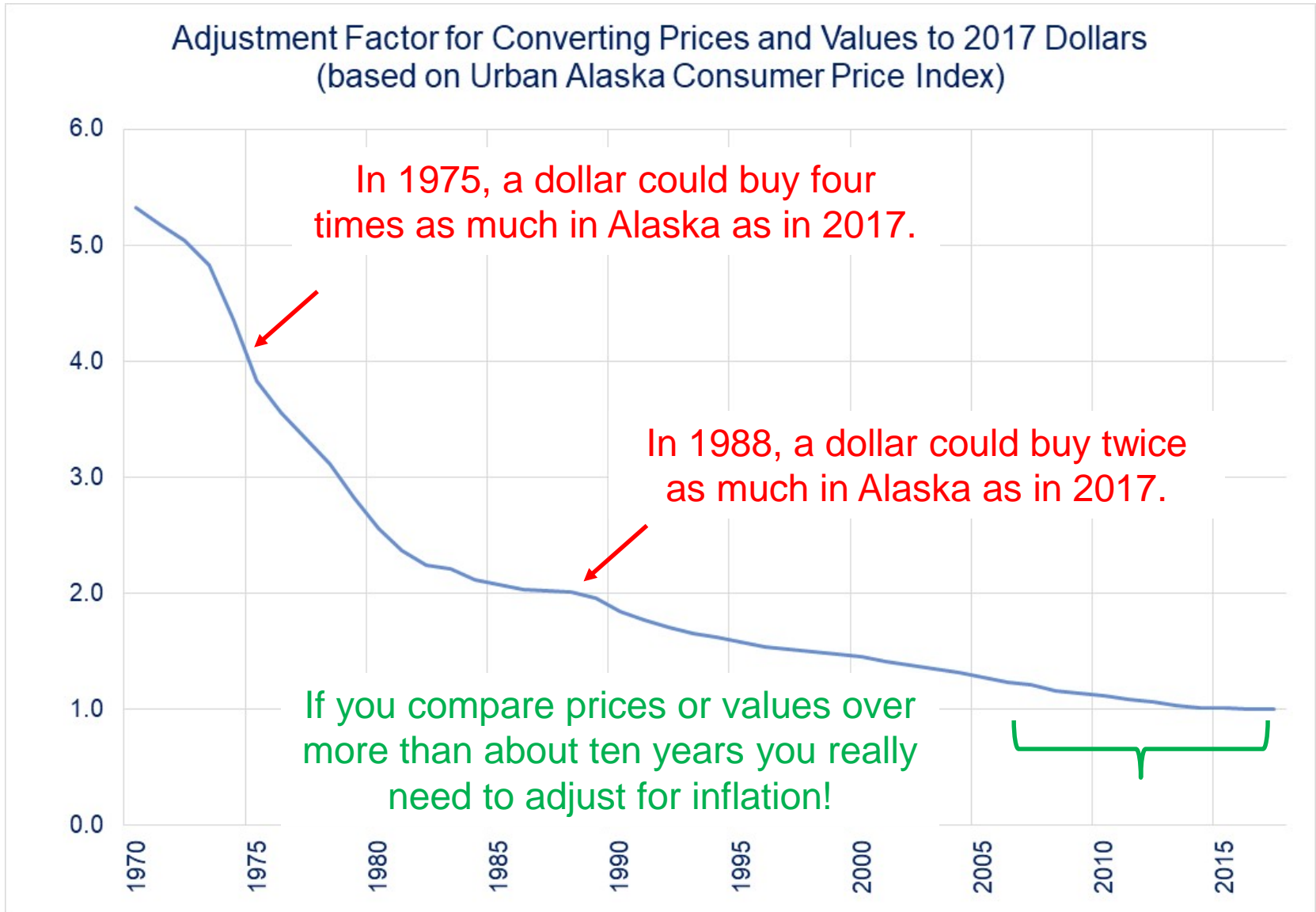
But . . .



When you compare prices or values over long periods of time, you have to adjust for inflation.

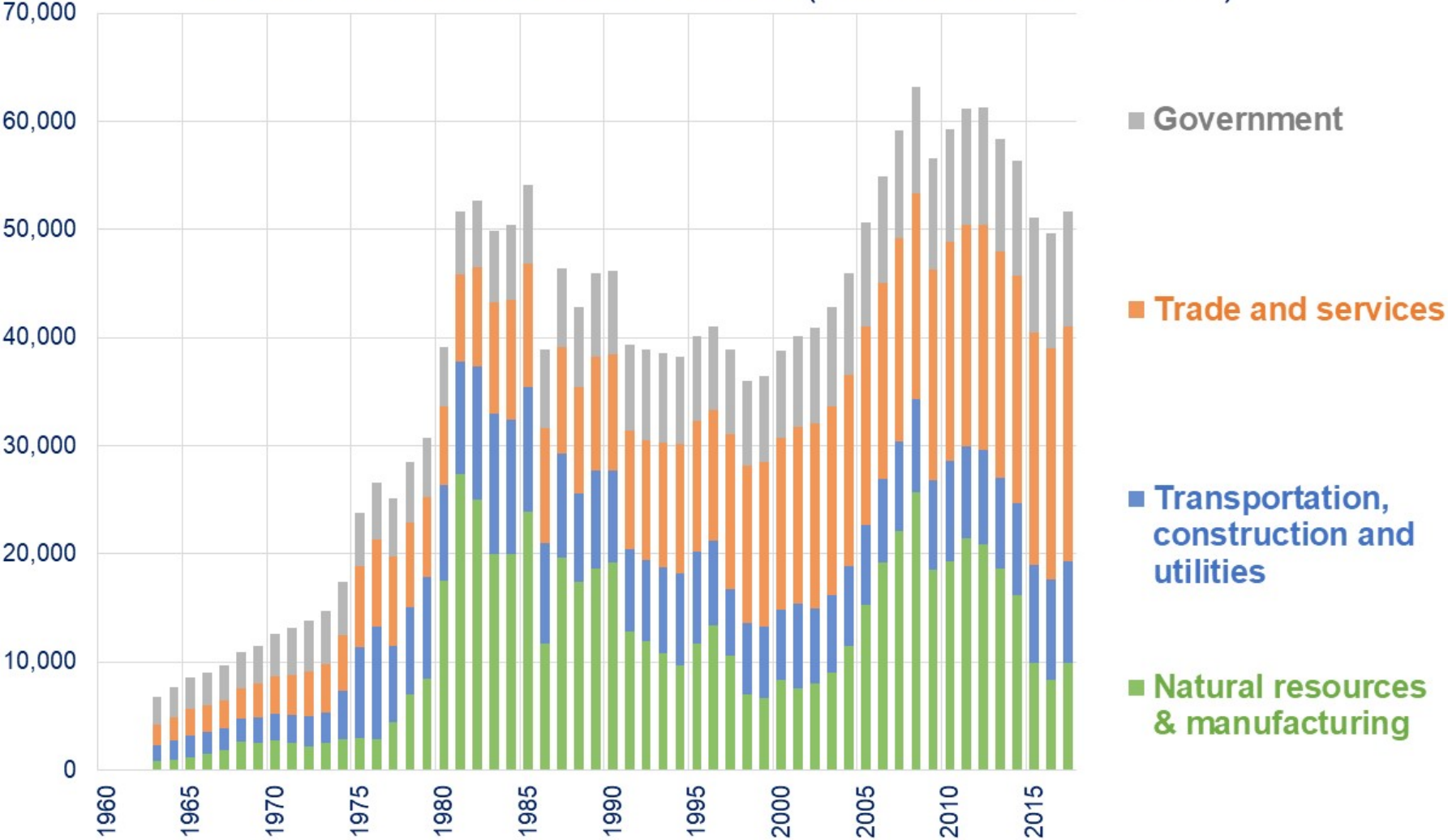


There is no single or obvious “best” way to adjust for inflation when measuring Alaska prices and values.
For this course I use the Urban Alaska Consumer Price Index.



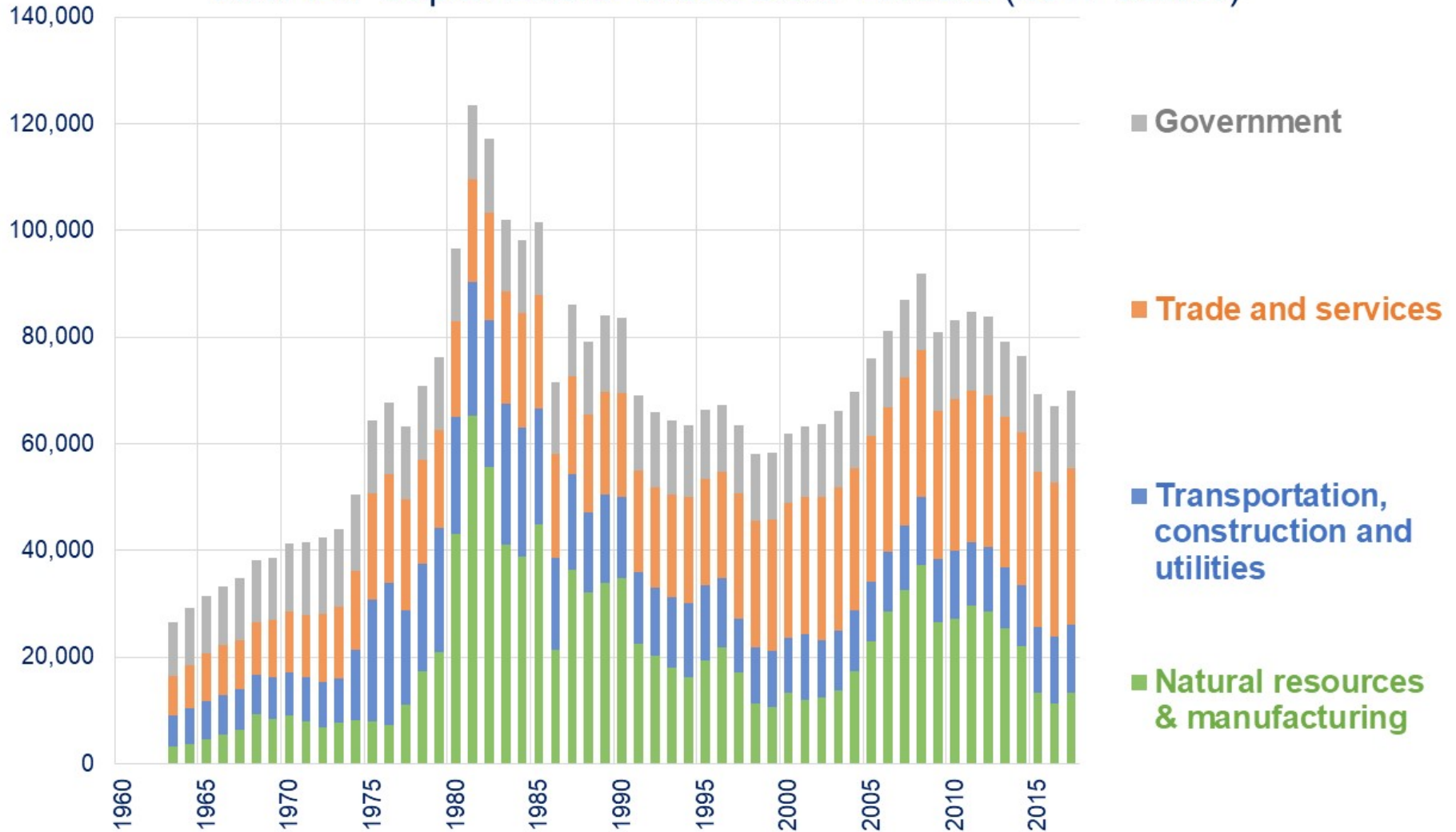
After adjusting for inflation, the growth in Alaska GSP is not as impressive.

Real Alaska Gross State Product (millions of 2017 dollars)

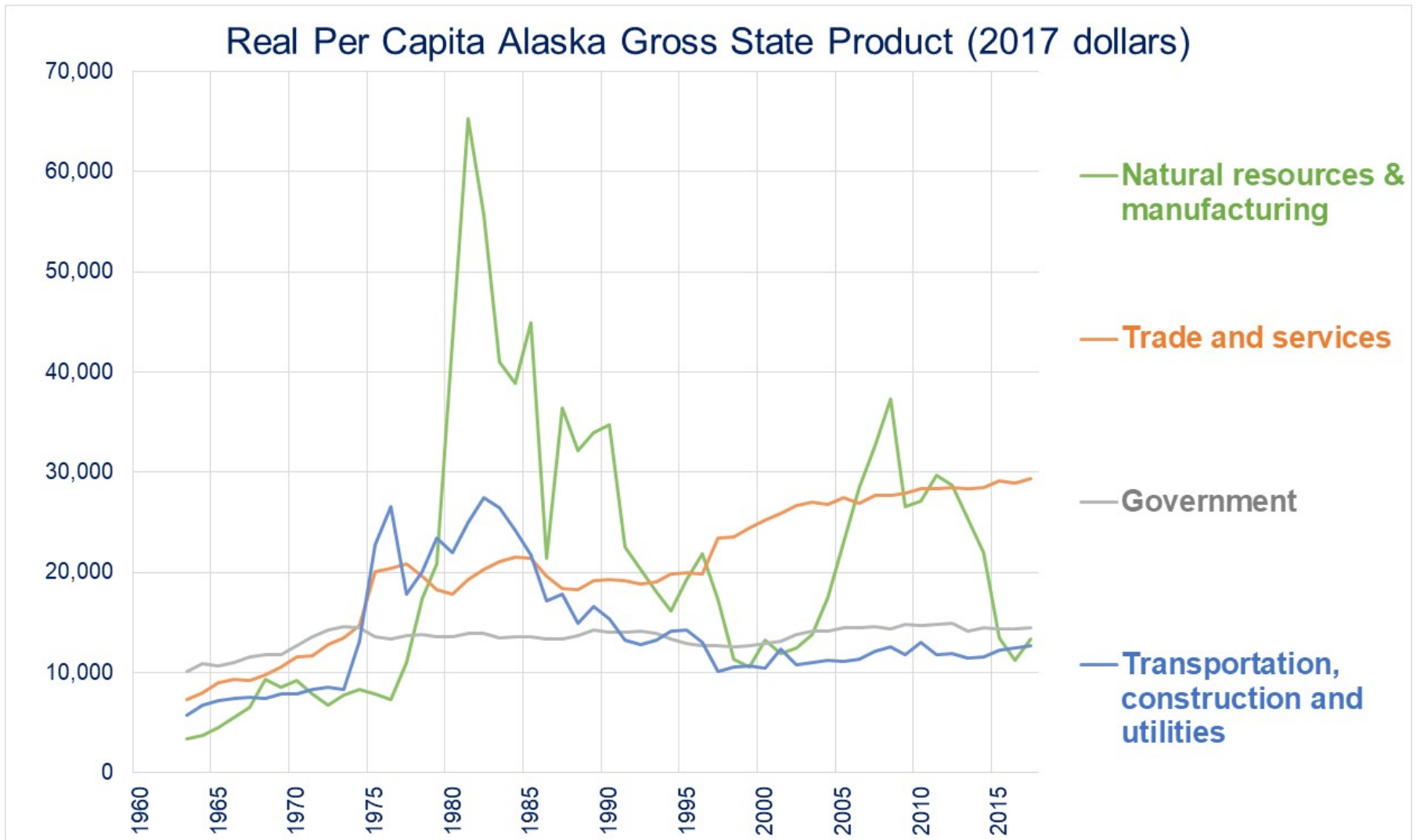


After adjusting for both inflation and population growth, we see a very different trend in “real per capita GSP”

Real Per Capita Alaska Gross State Product (2017 dollars)



The dramatic changes in real per capita GSP in **natural resources and manufacturing** have been driven by dramatic changes in the value of Alaska oil production.

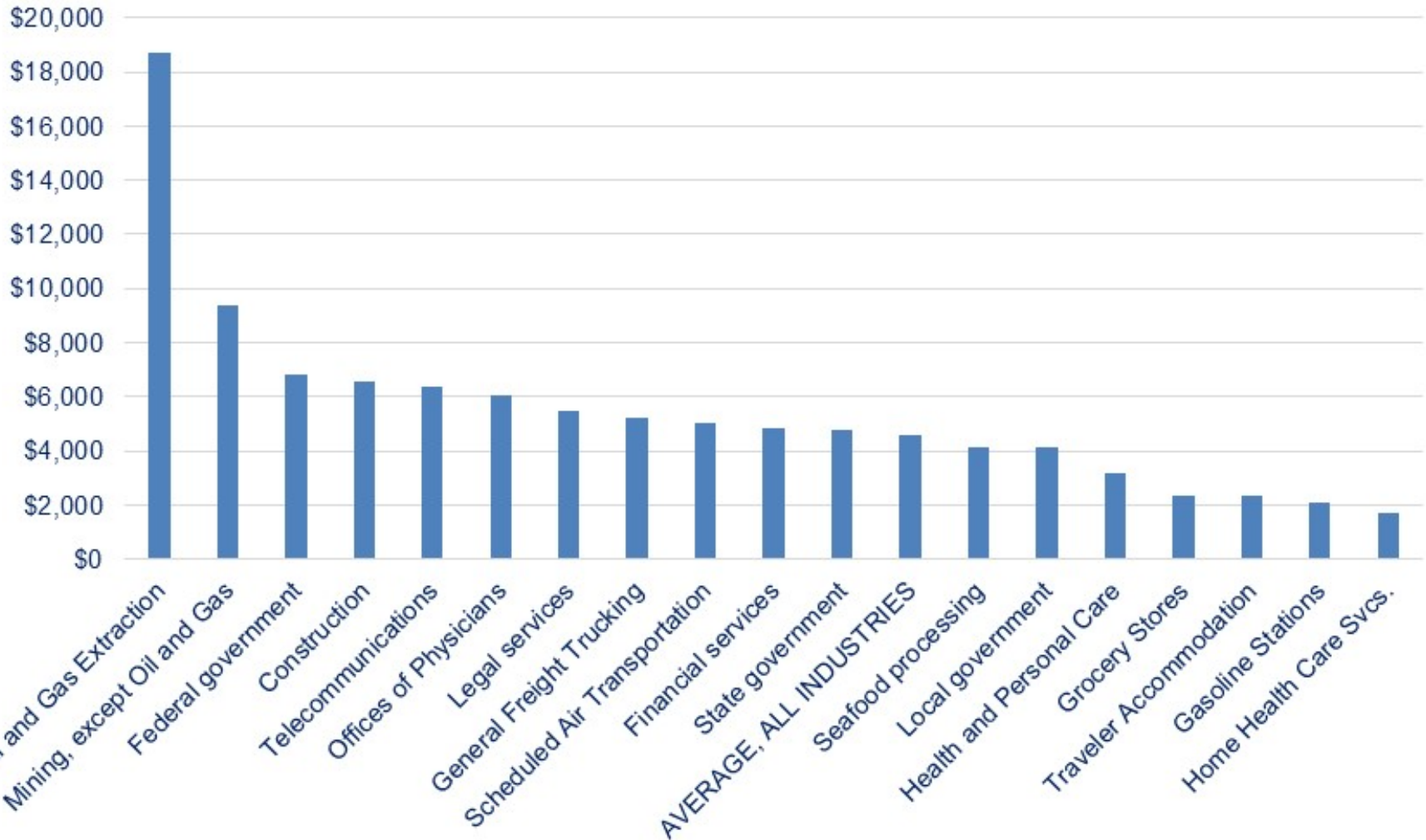


Alaska earnings and personal income data . . .

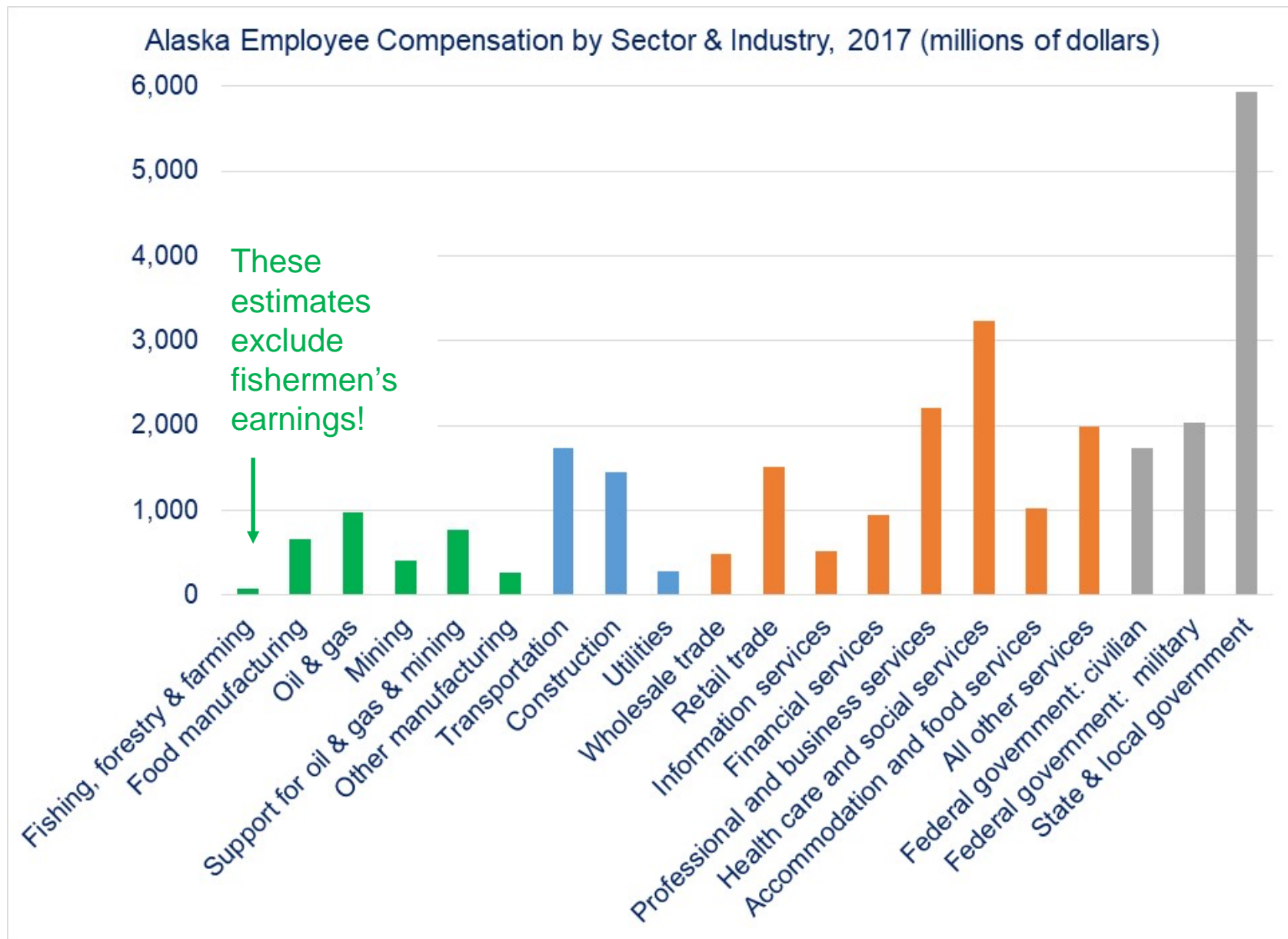
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- Wage and salary earnings data exclude earnings of:
 - Self-employed people
 - Commercial fishermen
 - Unpaid work at home (cooking, cleaning, child care, etc.)
 - Subsistence hunting and fishing.
- Earnings data are typically by place of work and include earnings of non-residents
- Personal income includes not only earnings but other kinds of income:
 - Pensions
 - Rents
 - Stock dividends
 - Transfers including Permanent Fund Dividends, welfare, etc.

Average annual earnings vary widely between different industries . . .

Average Monthly Wages in Selected Alaska Industries, 2018

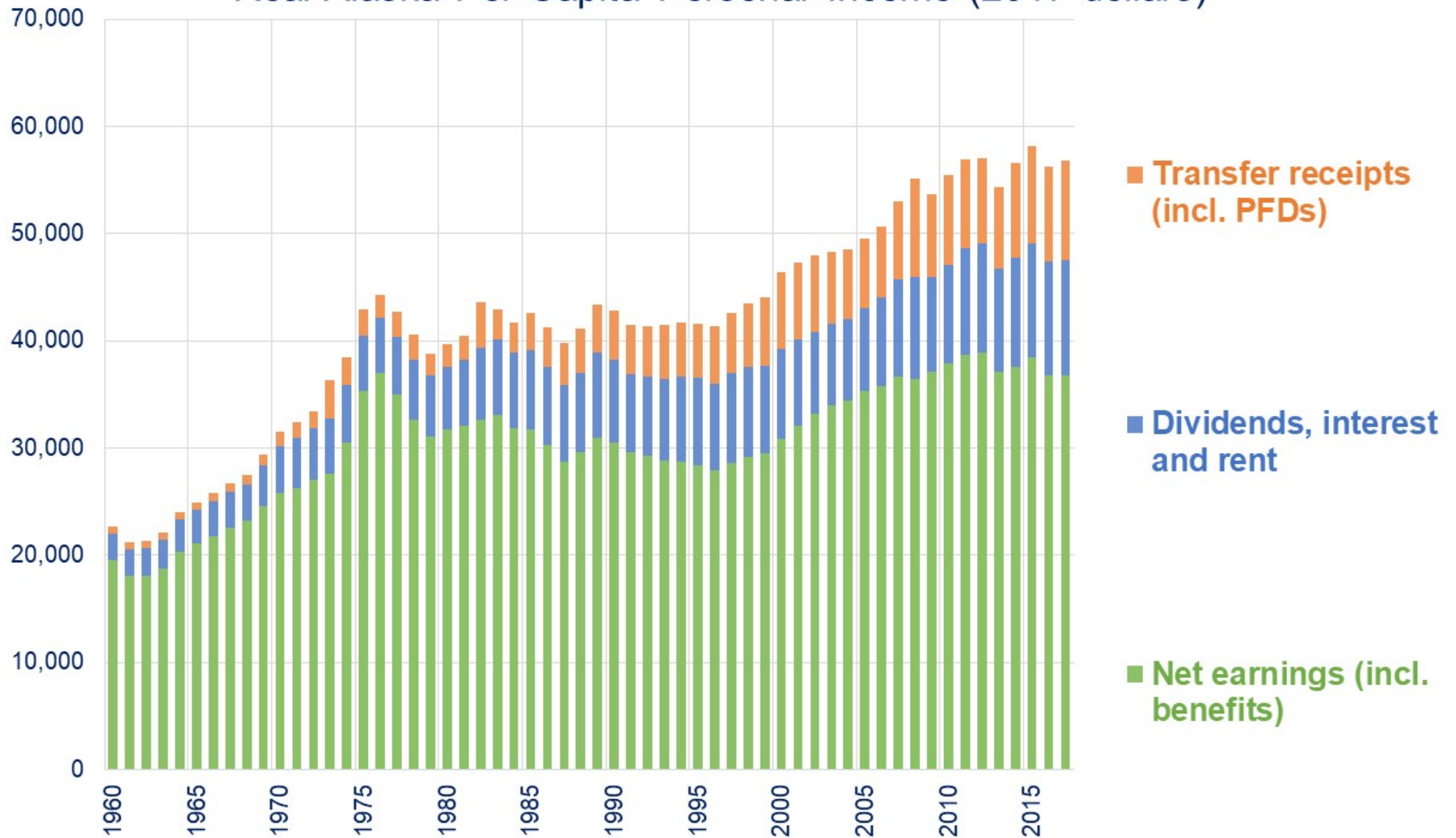


Because average annual earnings differ between industries, the relative scales of different industries differ for employment and earnings.



Non-wage income accounts for a significant share of Alaska income

Real Alaska Per-Capita Personal Income (2017 dollars)



Alaska ranks second among US states in equality of income distribution

5 Alaska Income Equality is 2nd BY STATE, 2017

	<u>Gini Index*</u>
Utah	0.423
Alaska	0.424
Wyoming	0.433
Iowa	0.438
Nebraska	0.439
New Hampshire	0.439
Hawaii	0.446
Wisconsin	0.447
Idaho	0.448
South Dakota	0.449
Indiana	0.45
Minnesota	0.452
Maine	0.453
Maryland	0.453
Vermont	0.453
Kansas	0.454
Montana	0.454
Colorado	0.455
North Dakota	0.455
Washington	0.456
Oregon	0.459
Nevada	0.461
Missouri	0.462



Ohio	0.464
Oklahoma	0.466
Arizona	0.467
Michigan	0.467
Virginia	0.467
West Virginia	0.469
Rhode Island	0.472
Arkansas	0.473
North Carolina	0.476
Alabama	0.477
Kentucky	0.478
New Mexico	0.478
Pennsylvania	0.478
Texas	0.478
Mississippi	0.479
New Jersey	0.479
South Carolina	0.48
Delaware	0.481
U.S.	0.482
Illinois	0.482
Tennessee	0.482
Georgia	0.483
Massachusetts	0.485
Florida	0.486
California	0.487
Connecticut	0.494
Louisiana	0.494
New York	0.546



*The Gini index is the most common measure of income equality, where 0 represents exact equality and 1 would mean one household has all the wealth.

Source: U.S. Census Bureau, 2017
Median Household Income